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

City of Rio Rancho
Name of MS4

Xavier | Pettes | NPDES Project Manager
Name of Contact Person (First) | (Last) | (Title)

(505) 891-5045 | xpettes@rrnm.gov
Telephone (including area code) | E-mail

3200 Civic Center Circle NE
Mailing Address

Rio Rancho | New Mexico | 87144
City | State | ZIP code

What size population does your MS4(s) serve? 87,521 NPDES number NMR04A007

What is the reporting period for this report? (mm/dd/yyyy) From Jul 1, 2016 to Jun 30, 2017

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	
Rio Grande NM-2105.1_00	E. coli	☒ Yes	☐ No	☒ Yes	☐ No
Rio Grande NM-2105.1_00	PCB in fish tissue	☐ Yes	☒ No	☐ Yes	☒ No
Rio Grande NM-2105.1_00	PCB in water column	☐ Yes	☒ No	☐ Yes	☒ No
Rio Grande NM-2105.1_00	Gross Alpha	☐ 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, Construction Waste, Illicit Discharges, Household Hazardous Waste, Septic & Sanitary Sewer Systems, General Stormwater Pollution

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?

Pet waste, Construction Waste, Illicit Discharges, Household Hazardous Waste, Septic & Sanitary Sewer Systems, General Stormwater Pollution

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.

See attached - Middle Rio Grande Stormwater Quality Outcomes Report for FY 2016-17

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. 50

D. How many of the sites identified in 4.C did you inspect during this reporting period? 50

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

Private and public construction sites are inspected in accordance with the current construction general permit.

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

If Yes, based on what criteria? Construction sites grading within or adjacent to a watercourse defined as a major facility.

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	0	No Authority	☐
☒ Yes	Administrative fines	0	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	N/A		

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?

CGP/Municipal Code violations: 1) Inadequate perimeter control prior to earth disturbing activities; 2) Construction and Domestic Waste/Chapter 50-Solid Waste; and 3) Delayed NOI submittals

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

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. 7

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?

7

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? 7

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

Spill concerns located near storm drain inlets or near outfalls are investigated immediately. Dry Weather Outfall Screening is conducted annually

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? 1

K. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? 1

L. How often do municipal employees receive training on the illicit discharge program? As needed

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: None

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

C. If Yes, at what frequency are inspections conducted? bi-weekly

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

CoRR PRCS Management Practices and Maintenance Procedures include: fertilizer, pesticides and herbicide application; trash pickup and disposal, and proper storage, containment and cleanup of hazardous waste. DSD ENG SOPs include:

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?

Facilities near or adjacent to a watercourse defined as a major stormwater facility

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?

As needed and for new hires

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?

All new and re-development projects are reviewed to meet or exceed minimum stromwater quality requirements identified in the current MS4 Permit, municipal code, and development manual

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.)?

All new and re-development projects are reviewed to meet or exceed minimum stromwater quality requirements identified in the current MS4 Permit, municipal code, and development manual

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;//rrnm.gov/1438/Development-Process-Manual --Volume II--

G. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection? 15

H. How many of the plans identified in 7.G were approved? 15

I. How many privately owned permanent stormwater management practices/facilities were inspected during the reporting period? 1

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? 90 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? As needed

8. Program Resources

A. What was the annual expenditure to implement MS4 permit requirements this reporting period? 100,000.00

B. What is next year's budget for implementing the requirements of your MS4 NPDES permit? 100,000.00

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:	General Fund	Amount $		OR %	100
Source:		Amount $		OR %	
Source:		Amount $		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)? 1.15

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

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
See Attached	Public Education and Outreach/Publici	Signed Agreement
See Attached	Wet Weather Monitoring	Signed Agreement
See Attached	Technical Advisory Group	Signed Agreement

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
Various (EPA approved analyte list)	2016	Qualifying Events (up to 7)	2
Various (EPA approved analyte list)	2014	Wet Season, annually	8
please refer to attached Annual Report			
or AMAFCA web site for additional			
information			

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.

Given the data collected (1 year, 4 samples) by the Compliance Monitoring Cooperative (CMC), observable trends have not yet been identified. CMC monitoring memos are included as attachments to this Annual Report.

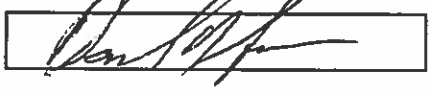
10. Additional Information

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 

David Serrano, P.E., Engineering Division Ma

Name of Certifying Official, Title

11/28/2017

Date (mm/dd/yyyy)

NOI Section	ID	Permit Activity Description	Proposed Plan	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Permit Effective Date	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Milestone Implementation Schedule	Responsible Personnel
	3	**Part I.C - Special Conditions**										
	4	**Compliance with Water Quality Standards – Dissolved Oxygen & Part I.C.1.d and Endangered Species Act (ESA) Requirements - Dissolved Oxygen Strategy - Part I.C.3.a**										
Not Included in NOI	5	According to the requirements in Part I.C.1.d and Part I.C.3.a.(ii), certain permittees shall revise the May 1, 2012 Strategy to continue taking measures to address concerns regarding discharges to the Rio Grande by implementing controls to eliminate conditions that cause or contribute to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. The permittee shall, as part of this revised strategy, complete the following activities [activities are listed in sections below]. Activities listed are a combination of permit activities in Part I.C.1.d - Special Conditions, Compliance with Water Quality Standards, Phase I Dissolved Oxygen Program & Part I.C.3.a - Dissolved Oxygen Strategy in Receiving Waters of the Rio Grande.	This section of the permit is specific to COA and AMAFCA. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								
Not Included in NOI	6	Part I.C.1.d.(i) Identify (or continue identifying) structural elements, natural or man-made topographical and geographical formations, MS4 operations activities, or oxygen demanding pollutants contributing to reduced dissolved oxygen in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data;	This section of the permit is specific to COA and AMAFCA. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								
Not Included in NOI	7	Part I.C.1.d.(ii) Continue implementing controls, and updating/revising as necessary, to eliminate structural elements or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for dissolved oxygen in waters of the United States;	This section of the permit is specific to COA and AMAFCA. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								
Not Included in NOI	8	Part I.C.1.d.(iii) Continue sampling for DO and temperature in the North Diversion Channel (NDC) Embayment until the data indicate the discharge does not exceed applicable DO water quality standards in waters of the United States. This coincides with the requirements in Part I.C.3.a.(ii).(a), the revised strategy shall include: A. A Monitoring Plan describing all procedures necessary to continue conducting continuous monitoring of DO and temperature in the NDC Embayment and at 1 location in the Rio Grande downstream of the mouth of the NDC within the action area (e.g., Central Bridge). B. A Quality Assurance and Quality Control (QA/QC) Plan describing all standard operating procedures, quality assurance and quality control plans, maintenance and implementation schedules that will assure timely and accurate collection and reporting of water temperature, DO, oxygen saturation, and flow. The QA/QC plan should include all procedures for estimating oxygen data when any oxygen monitoring equipment fail.	This section of the permit is specific to COA and AMAFCA. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								

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Not Included in NOI	9	(iv) Submit a revised strategy to FWS for consultation and EPA for approval within a year of the effective date of the permit and progress reports with the subsequent Annual Reports. Progress reports to include: (a) Summary of data. (b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. Including summary of findings of the assessment required in Part I.C.1.d.(i). (c) Conclusions drawn, including support for any determinations. (d) Activities undertaken to eliminate MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. (e) Account of stakeholder involvement. in addition, to meet Part I.C.3.a.(ii).(b) requirements, an annual incidental take report must be submitted as well as all data collected (including provisional oxygen and water temperature data, and associated metadata), transferred, stored, summarized, and evaluated shall be included in the Annual Report.	This section of the permit is specific to COA and AMAFCA. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								
Not Included in NOI	10	According to the requirements in Part I.C.3.a.(ii), the permittees shall ensure that actions to reduce pollutants or remedial activities selected for the NDC Embayment and its watershed are implemented such that there is a reduction in frequency and magnitude of all low oxygen stormwater discharge events that occur in the Embayment or downstream in the MRG as indicated in Table 1.c. Actions to meet the year 3 measurable goals must be taken within 2 years from the effective date of the permit. Actions to meet the year 5 measurable goals must be taken within 4 years from the effective date of the permit.	This section of the permit is specific to COA and AMAFCA. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								
Not Included in NOI	11	According to the requirements in Part I.C.3.b, the permittees (COA and AMAFCA) shall provide: A. An Annual Incidental Take Report to EPA and the Service that includes the following information: beginning and end date of any qualifying stormwater events, DO values and water temperature in the NDC Embayment, DO values and water temperature at a downstream monitoring station in the MRG, flow rate in the NDC, mean daily flow rate in the MRG, evaluation of oxygen and temperature data as either anoxic or hypoxic using Table 2 of the BO, and estimate the number of silvery minnows taken based on Appendix A of the BO. Electronic copy of The Annual Incidental Take Report should be provided with the Annual Report required under Part III.B no later than December 1 for the proceeding calendar year.	This section of the permit is specific to COA and AMAFCA. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								

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Not Included in NOI	12	According to the requirements in Part I.C.3.b, the permittees (COA and AMAFCA) shall provide: B. A summary of data and findings with each Annual Report to EPA and the FWS. All data collected (including provisional oxygen and water temperature data, and associated metadata), transferred, stored, summarized, and evaluated shall be included in the Annual Report. If additional data is requested by EPA or the FWS, the COA and AMAFCA shall provide such information within two weeks upon request. The revised strategy required under Part I.C.3.a.(ii),the Annual Incidental Take Reports required under Part I.C.3.a.(ii).(b).A, and Annual Reports required under Part III.B can be submitted to FWS via e-mail nmesfo@fws.gov and Joel lusk@fws.gov, or by mail to the New Mexico Ecological Services field office, 2105 Osuna Road NE, Albuquerque, New Mexico 87113.	This section of the permit is specific to COA and AMAFCA. CORR has no role or responsibility with regard to this section of the permit.	Not Applicable								

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	13	**Compliance with Water Quality Standards – PCBs - Part I.C.1.e**										
Not Included in NOI	14	According to the requirements in Part I.C.1.e, the permittee shall address concerns regarding PCBs in channel drainage areas specified in Part I.C.1.e.(vi) by developing or continue updating/revising and implementing a strategy to identify and eliminate controllable sources of PCBs that cause or contribute to exceedances of applicable water quality standards in waters of the United States.	This section of the permit is specific to COA, AMAFCA and Bernalillo County. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								
Not Included in NOI	15	The progress reports shall include: (i) Summary of data. (ii) Findings regarding controllable sources of PCBs in the channel drainages area specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the US via the discharge of municipal stormwater. (iii) Conclusions drawn, including supporting information for any determinations. (iv) Activities undertaken to eliminate controllable sources of PCBs in the drainage areas specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the US via the discharge of municipal stormwater including proposed activities that extend beyond the 5 year permit term. (v) Account of stakeholder involvement in the process. (vi) Channel Drainage Areas: The PCB strategy required in Part I.C.1.e is only applicable to: COA and AMAFCA Areas: San Jose Drain & North Diversion Channel Bernalillo Co. Areas: Adobe Acres Drain, Alameda Outfall Channel, Paseo del Norte Outfall Channel, & Sanchez Farm Drainage Area.	This section of the permit is specific to COA, AMAFCA and Bernalillo County. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								
Not Included in NOI	16	A cooperative strategy to address PCBs in the COA, AMAFCA and Bernalillo County's drainage areas may be developed between Bernalillo County, AMAFCA, and the COA. If a cooperative strategy is developed, the cooperative strategy shall be submitted to EPA within 3 years from the effective date of the permit and submit a progress report with the fourth and with subsequent Annual Reports, Note: COA and AMAFCA must continue implementing the existing PCB strategy until a new Cooperative PCB Strategy is submitted to EPA.	This section of the permit is specific to COA, AMAFCA and Bernalillo County. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								

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	17	**Compliance with Water Quality Standards – Temperature - Part I.C.1.f**										
Not Included in NOI	18	According to the requirements in Part I.C.1.f, the permittees must continue assessing the potential effect of stormwater discharges in the Rio Grande by collecting and evaluating additional data. If the data indicates there is a potential of stormwater discharges contributing to exceedances of applicable temperature water quality standards in waters of the United States, within thirty (30) days such as findings, the permittees must develop and implement a strategy to eliminate conditions that cause or contribute to these exceedances.	This section of the permit is specific to COA and AMAFCA. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								
Not Included in NOI	19	The strategy must include: (i) Identify structural controls, post construction design standards, or pollutants contributing to raised temperatures in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data; (ii) Develop and implement controls to eliminate structural controls, post construction design standards, or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for temperature in waters of the United States; and	This section of the permit is specific to COA and AMAFCA. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								
Not Included in NOI	20	(iii) Provide a progress report with the first and with subsequent Annual Reports. The progress reports shall include: (a) Summary of data. (b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States. (c) Conclusions drawn, including supporting information for any determinations. (d) Activities undertaken to reduce MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States. (e) Accounting of stakeholder involvement.	This section of the permit is specific to COA and AMAFCA. CORR has no role or responsibility with regard to this section of the permit.	**Not Applicable**								

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	21	**Discharges to Impaired Waters With Approved TMDLs - Part I.C.2.b.(i) and TABLE 1.a - TMDL Bacteria Program- Part I.C.2.b.(iii)**										
Not Included in NOI	22	According to the requirements in Part I.C.2.b.(i), if the permittee discharges to an impaired water body with an approved TMDL (see MS4 Permit, Appendix B), where stormwater has the potential to cause or contribute to the impairment, the permittee shall include in the SWMP controls targeting the pollutant(s) of concern along with any additional or modified controls required in the TMDL and this section. As stated in the Permit, Appendix B, a bacteria TMDL for the Middle Rio Grande was approved by the New Mexico Water Quality Control Commission on April 13,2010, and by EPA on June 30, 2010. The new TMDL modifies: 1) the indicator parameter for bacteria from fecal coliform to E. coli, and 2) the way the WLAs are assigned The SWMP and required annual reports must include information on implementing any focused controls required to reduce the pollutant(s) of concern as described below:	A bacteria TMDL for the Middle Rio Grande was approved by the New Mexico Water Quality Control Commission on April 13, 2010, and by EPA on June 30, 2010. CORR's proposed plans for compliance with the Permit activities are described in the sections below.	CORR's measurable goals for compliance with the Permit activities are described in the sections below.								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	23	(a) Targeted Controls: The SWMP submitted with the first annual report must include a detailed description of all targeted controls to be implemented, such as identifying areas of focused effort or implementing additional BMPs that will be implemented to reduce the pollutant(s) of concern in the impaired waters. As required in Part I.C.2.b.(i).(e),the permittee shall include focused BMPs addressing the five areas below: A. Sanitary Sewer Systems (improve sanitary sewers; fix lift stations; identify and implement O&M procedures; improve violation reporting; and prevent overflows); B. On-site Sewage Facilities (address failing systems and inadequate maintenance of On-Site Sewage Facilities); C. Illicit Discharges and Dumping (effort to reduce waste sources of bacteria; for ex., septic systems, grease traps, and grit traps); D. Animal Sources (management programs to identify and target sources such as zoos, pet waste, and horse stables); E. Residential Education (bacteria from residential sites; fats, oils, and grease clogging sanitary sewer lines and resulting overflows; decorative ponds; and pet waste).	CORR's proposed plan for targeted controls for bacteria include: A. Sanitary Sewer Systems - Targeted Controls: CORR will address this area through educational and public outreach through its involvement with the MRGSWQT. B. On-site Sewage Facilities - CORR's Utility Operations Section is responsible for reporting and repairing leaks in the right-of-way, analyze water quality information; maintanance of water, wastewater, and reuse water contracts; and maintains Federal and State Permits associated with utility facilities. C. Illicit Discharges and Dumping - Targeted Controls: CORR has a robust IDDE Program. In the IDDE program, CORR has focused on illegal dumping of solid waste/refuse and removal of solid waste from sub watersheds. In addition, KRRB has an annual contract to address IDDE cleanup. D. Animal Sources - Targeted Controls: CORR will continue its focus on reducing pet waste with its involvement in the MRGSWQT educational outreach "Scoop the Poop" campaign. E. Residential Education - Targeted Controls: CORR will address this area through educational and public outreach through its involvement with the MRGSWQT.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities or planned activities where educational materials are distributed. • CORR will address the Illicit Discharge and Dumping through its IDDE Program, refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for additional information. • The Utility Operations Section will continue coordination with the NPDES Project Manager; informing CORR and SSCAFCA of any sewer overflows that impact CORR/SSCAFCA facilities.								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and Utility Operation Division
Not Included in NOI	24	(b) Measurable Goals: For each targeted control, the SWMP must include a measurable goal and an implementation schedule describing BMPs to be implemented during each year of the permit term. The value of the measurable goal must be based on one of the options presented in Part (No Suggestions).(i).(c) related to the WLA. Where the impairment is for bacteria, the permittee must, at minimum comply with the activities and schedules described in Table 1.a of Part I.C.2.b.(iii).	CORR's measurable goals for targeted controls for bacteria include: A. Sanitary Sewer Systems and B. On-site Sewage Facilities - Measurable goals - Track illicit Discharges and illegal dumping, identify possible hot spots. C. Illicit Discharges and Dumping - Measurable goals - Refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for measurable goals. D. Animal Sources - Measurable goals - 1. MRGSWQT educational outreach - Through the MRGSWQT, pet waste will be targeted through the "Scoop the Poop" campaign. E. Residential Education - Measurable goal - 1. MRGSWQT educational outreach - CORR will continue to collaborate with the MS4 permittees to improve upon the existing public education and outreach program. Program target pollutants include pet waste and trash/debris. The MRGSWQT continue to expand upon its education programs, media campaigns, printed materials including brochures, public presentations/events, giveaways, display booth/kiosk, signage at select locations, website and Facebook page.	• CORR will address the Illicit Discharge and Dumping through its IDDE Program, refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for additional information. This IDDE program includes illicit discharge monitoring by CORR staff and contractors, internal coordination of information provided by the public and tracking and documentation procedures. • CORR will continue to participat in MRGSWQT "Scoop the Poop" public information campaign. • CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities or planned activities related to targeting pet waste sources and residential education targeting bacteria sources.								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT

NOI Section	ID	Permit Activity Description	Proposed Plan	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Permit Effective Date	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Milestone Implementation Schedule	Responsible Personnel
Not Included in NOI	25	According to the requirements in Part I.C.2.b.(i).(f), the permittee shall monitor or assess progress in achieving measurable goals and determining the effectiveness of BMPs, and shall include documentation of this monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A. The permittee may use the following methods either individually or in conjunction to evaluate progress towards the measurable goal and improvements in water quality as follows: A. Evaluating Program Implementation Measures or B. Assessing Improvements in Water Quality Progress towards achieving the measurable goal shall be reported in the annual report. Annual reports shall report the measurable goal and the year(s) during the permit term that the MS4 conducted additional sampling or other assessment activities.	CORR will assess and evaluate the program and progress in achieving the measurable goals listed above by tracking the number of educational outreach opportunities conducted and tracking the number of people reached through the educational outreach program. In addition, CORR will conduct compliance monitoring to monitor and test for E. coli. This sampling will be done in accordance with Part III.A of the MS4 Permit and will help with a water quality assessment of the overall watershed related to E. coli. The proposed plan for this program is described in the Wet Weather Monitoring Program portion of this SWMP. SEE APPENDIX F.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will track the number of educational outreach opportunities conducted and list the number of people reached through the educational outreach program. • CORR will conduct stormwater monitoring in accordance with Table 10, Wet Weather Monitoring Program, Part III.A.1. The goals and plan for this program are described in the Wet Weather Monitoring Program portion of this SWMP.								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT
Not Included in NOI	26	If, by the end of the 3rd year from the effective date of the permit, the permittee observes no progress toward the measurable goal either from program implementation or water quality assessments, the permittee shall identify alternative focused BMPs that address new or increased efforts towards the measurable goal. As appropriate, the MS4 may develop a new approach to identify the most significant sources of the pollutant(s) of concern and shall develop alternative focused BMPs (this may also include information that identifies issues beyond the MS4's control). These revised BMPs must be included in the SWMP and subsequent annual reports. Where the permittee originally used a measurable goal based on an aggregated WLA, the permittee may combine or share efforts with other MS4s discharging to the same impaired stream segment to determine an alternative sub-measurable goal for the pollutant(s) of concern for their respective MS4s, as described in Part I.C.2.b.(i).(c).B above. Permittees must document the proposed schedule for the development and subsequent adoption of alternative measurable goals for the pollutant(s) of concern for their respective MS4s and associated assessment of progress in meeting those individual goals.	CORR will annually assess and evaluate the program and progress in achieving the measurable goals listed above. If, by the end of the 3rd year from the effective date of the MS4 Permit, the City observes no progress toward the measurable goals either from program implementation or water quality assessments, CORR will reevaluate the program and identify alternative focused BMPs that address new or increased efforts towards the measurable goals.	• If, by the end of the 3rd year from the effective date of the MS4 Permit, CORR observes no progress toward the measurable goals either from program implementation or water quality assessments, CORR will reevaluate the program and identify alternative focused BMPs that address new or increased efforts towards the measurable goals.								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	27	From Table 1.a, Identify potential significant sources of the pollutant of concern entering your MS4.	In 2014-2015, AMAFCA contracted with a consultant to restudy the bacteria within the Middle Rio Grande, specifically to evaluate the bacteria data over the recent history to report the trend analysis and the impact to the Rio Grande. The report for this study - Middle Rio Grande Rio Grande E. coli Analysis and Research report for AMAFCA by water quality on-call engineer (CDM Smith) - is included in the 2015 Annual Report, Attachment II.A.	• AMAFCA, with its co-permittees from the 2012 MS4 Phase I Permit, have completed several studies related to identifying potential significant sources of the pollutant of concern entering the MRG Watershed MS4 area. The results of these studies will be used to guide the overall program plan and goals.	Fully Implemented:			**December 22, 2014**	**April 22, 2016**	**16**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and TAG
Not Included in NOI	28	From Table 1.a, Develop (or modify an existing program- for prior permittees under NMS000101) and implement a public education program to reduce the discharge of bacteria in municipal stormwater contributed by (if applicable) by pets, recreational and exhibition livestock, and zoos.	As stated above, CORR will continue its focus on reducing pet waste through continued involvement with the MRGSWQT educational outreach "Scoop the Poop" campaign.	• CORR will contribute and participate in the MRGSWQT. • CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities or planned activities related to targeting pet waste sources and residential education targeting bacteria sources.	Fully Implemented:			**December 22, 2014**	**April 22, 2016**	**16**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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Not Included in NOI	29	From Table 1.a, Develop (or modify an existing program- for prior permittees under NMS000101) and implement a program to reduce the discharge of bacteria in municipal stormwater contributed by areas within your MS4 served by on-site wastewater treatment systems.	As stated above, this is not applicable to CORR, however, CORR will address this area through educational and public outreach through its involvement with the MRGSWQT. In addition, through the IDDE Program, CORR will continue coordination with City of Rio Rancho, who will inform CORR of any sewer overflows that impact CORR facilities.	• CORR will continue membership and involvement in the cooperative MRGSWQT which will conduct educational and public outreach as well as facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to screening and notification of illicit discharges.	Fully Implemented:			**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	30	From Table 1.a, Review results to date from the Illicit Discharge Detection and Elimination program (see Part I.D.5.e) and modify as necessary to prioritize the detection and elimination of discharges contributing bacteria to the MS4.	CORR will incorporate this Permit requirement into the IDDE program, refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for additional information.	• CORR addresses this Permit activity in the IDDE Program, refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for additional information.	Fully Implemented:			**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	31	From Table 1.a, Develop (or modify an existing program- for prior permittees under NMS000101) and implement a program to reduce the discharge of bacteria in municipal stormwater contributed by other significant source identified in the Illicit Discharge Detection and Elimination program (see Part I.D.5.e).	This requirement will be addressed in conjunction with CORR's IDDE Program, refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for additional information. CORR will review its IDDE Program results annually and identify illicit discharges (specific as well as general types of discharges and/or locations of discharges) that contributed bacteria to the MS4. Strategies will be developed to address these specific or general IDDEs. Development and implementation of strategies will depend on the IDDE program results.	• CORR will review its IDDE Program results annually and identify illicit discharges that contributed bacteria to the MS4. • CORR will develop strategies to address IDDEs found to contribute bacteria. The development and implementation of strategies will depend on the results. These strategies will be reported in subsequent Annual Reports.		Fully Implemented:		**December 22, 2014**	**August 22, 2016**	**20**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	32	Include in the Annual Reports progress on program implementation and reducing the bacteria and updates their measurable goals as necessary. As required in Part I.C.2.b.(i).(d), the annual report must include an analysis of how the selected BMPs have been effective in contributing to achieving the measurable goal and shall include graphic representation of pollutant trends, along with computations of annual percent reductions achieved from the baseline loads and comparisons with the target loads.	CORR will include the MRGSWQT Outcomes Report in each Annual Report which will track the number of educational outreach opportunities conducted, list the number of people reached through the educational outreach program, summarize the activities or planned activities related to targeting pet waste sources as well as residential education targeting bacteria sources. In addition, if strategies are developed to address IDDEs found to contribute bacteria to the MS4, these will be reported in subsequent Annual Reports. CORR will report annually on compliance monitoring to monitor and test for E. coli. This reporting will be done in accordance with Part III.A (Wet Weather Monitoring Program) of the MS4 Permit and will help with a water quality assessment of the overall watershed related to E. coli. Graphical representation of E. coli trends will also be completed and reported annually.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report. • Strategies developed to address IDDEs found to contribute bacteria to the MS4 will be reported in subsequent Annual Reports. • CORR will report annually on compliance monitoring to monitor and test for E. coli. This reporting will be done in accordance with Part III.A (Wet Weather Monitoring Program) of the MS4 Permit. This will include graphical representation of E. coli trends.				**Update as necessary**			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT

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	33	**Discharges to Impaired Waters Without Approved TMDLs - Part I.C.2.b.(ii)**										
Not Included in NOI	34	According to the requirements in Part I.C.2.b.(ii), if the permittee discharges directly into an impaired water body without an approved TMDL, the permittee shall perform the following activities (described in sections below).	The Rio Grande has the following impairments, without TMDLs: • Rio Grande (Isleta Pueblo to US 550) - DO and PCBs in Fish Tissue; • Rio Grande (Alameda to US 550) - PCBs and Gross Alpha adjusted; • Rio Grande (Isleta Pueblo to Alameda) - water temperature The Tijeras Arroyo, upstream of the Four Hills Bridge, is impaired for nutrient/eutrophication. The Tijeras Arroyo, upstream of the Four Hills Bridge, is all privately owned land. CORR has no operation authority in the Tijeras Arroyo. Therefore, there are no requirements in this SWMP to comply with the activities and schedules related to Impairment for Nutrients in Table 1.b in Part I.C.2.b.(iii). CORR does monitor for nutrients through its Wet Weather Monitoring Program, see Table 10 of the SWMP.	• Impairment for Dissolved Oxygen is addressed in the Endangered Species Act (ESA) section - Part I.C.3. Phase 1 permittee requirement only. • Impairment for PCBs is addressed in Compliance with Water Quality Standards - PCBs - Part I.C.1.e. Phase 1 permittee requirement only. • Impairment for Temperature is addressed in Compliance with Water Quality Standards - Temperature - Part I.C.1.f. Phase 1 permittee requirement only. • Compliance monitoring (Part III.A) includes Gross Alpha testing. Future assessment related to the impairment will be based on results of those samples.								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division, MCM, and TAG
Not Included in NOI	35	The permittee shall: A. Determine whether the MS4 may be a source of the pollutant(s) of concern by referring to the CWA §303(d) list and then determining if discharges from the MS4 would be likely to contain the pollutant(s) of concern at levels of concern. The evaluation of CWA §303(d) list parameters should be carried out based on an analysis of existing data (e.g., IDDE Program) conducted within the permittees jurisdiction. B. Ensure that the SWMP includes focused BMPs, and corresponding measurable goals, that the permittee will implement, to reduce, the discharge of pollutant(s) of concern that contribute to the impairment of the water body. Only applicable if the permittee determines that the MS4 may discharge the pollutant(s) of concern to an impaired water body without a TMDL. The SWMP submitted with the first annual report must include a detailed description of proposed controls to be implemented along with measurable goals. C. Amend the SWMP to include any BMPs to address the pollutant(s) of concern.	Most of the impaired pollutants of concern are specifically addressed in other sections of the MS4 Program and therefore in other sections of the SWMP. Please refer to: Dissolved Oxygen and Endangered Species Act (ESA) section - Part I.C.3; PCBs are addressed in Compliance with Water Quality Standards - PCBs - Part I.C.1.e; and Temperature is addressed in Compliance with Water Quality Standards - Temperature - Part I.C.1.f. Compliance monitoring (Part III.A) includes Gross Alpha testing. The testing will allow CORR to determine background level relative to stormwater discharges. Future assessment related to this impairment will be based on results of those samples.	• Refer to other SWMP sections for: - Dissolved Oxygen is addressed in the Endangered Species Act (ESA) section - Part I.C.3. - PCBs are addressed in Compliance with Water Quality Standards - PCBs - Part I.C.1.e. - Temperature is addressed in Compliance with Water Quality Standards - Temperature - Part I.C.1.f. • Compliance monitoring (Part III.A) includes Gross Alpha testing. Future assessment and strategies related to these impairments will be based on results of the stormwater samples.							

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	36	**Endangered Species Act (ESA) Requirements - Sediment Pollutant Load Reduction Strategy - Part I.C.3.b**										
Not Included in NOI	37	According to the requirements in Part I.C.3.b, the permittee must develop, implement, and evaluate a sediment pollutant load reduction strategy to assess and reduce pollutant loads associated with sediment (e.g., metals, etc. adsorbed to or traveling with sediment, as opposed to clean sediment) into the receiving waters of the Rio Grande. The strategy must include the following elements (see sections below):	CORR's proposed plan for compliance with the Permit activities are described in the sections below.	CORR's measurable goals for compliance with the Permit activities are described in the sections below.								
Not Included in NOI	38	(i) Sediment Assessment: The permittee must identify and investigate areas within its jurisdiction that may be contributing excessive levels (e.g., levels that may contribute to exceedance of applicable Water Quality Standards) of pollutants in sediments to the receiving waters of the Rio Grande as a result of stormwater discharges. The permittee must identify structural elements, natural or man-made topo-graphical and geographical formations, MS4 operations activities, and areas indicated as potential sources of sediments and pollutants in the receiving waters of the Rio Grande. At the time of assessment, the permittee shall record any observed erosion of soil or sediment along ephemeral channels, arroyos, or stream banks, noting the scouring or sedimentation in streams. The assessment should be made using available data from federal, state, or local studies supplemented as necessary with collection of additional data. The permittee must describe, in the first annual report, all standard operating procedures, quality assurance plans to assure that accurate data are collected, summarized, evaluated and reported.	CORR will identify and investigate areas that may be contributing excessive levels of pollutants in sediment to receiving water of the Rio Grande. Structural elements, topographical and geographical formations, MS4 operations, and areas identified, and observed erosion of soil or sediment along arroyos will be recorded.	• CORR's O&M activities, which include sediment removal, will be scheduled, tracked, and evaluated for the Sediment Assessment requirement for this Permit activity. • CORR will document its procedure for sediment removal, scheduling, and tracking related to using this information for the Sediment Assessment.								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	39	(ii) Estimate Baseline Loading: Based on the results of the sediment pollutants assessment required in Part I.C.3.b.(i) above, the permittee must provide estimates of baseline total sediment loading and relative potential for contamination of those sediments by urban activities for drainage areas, sub-watersheds, Impervious Areas (IAs), and/or Directly Connected Impervious Area (DCIAs) draining directly to a surface waterbody or other feature used to convey waters of the United States. Sediment loads may be provided for targeted areas in the entire Middle Rio Grande Watershed using an individual or cooperative approach. Any data available and/or preliminary numeric modeling results may be used in estimating loads.	The data collected in the Sediment Assessment will be used by CORR for estimating baseline sediment loading to its facilities.	• CORR will utilize the data collected in the Sediment Assessment for estimating baseline sediment loading to its facilities.								

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Not Included in NOI	40	(iii) Targeted Controls: Include a detailed description of all proposed targeted controls and BMPs that will be implemented to reduce sediment pollutant loads, calculated in Part I.C.3.b.(ii) above, during the next ten (10) years of permit issuance. For each targeted control, the permittee must include interim measurable goals (e.g., interim sediment pollutant load reductions) and an implementation and maintenance schedule, including interim milestones, for each control measure, and as appropriate, the months and years in which the MS4 will undertake the required actions. Any data available and/or preliminary numeric modeling results may be used in establishing the targeted controls, BMPs, and interim measurable goals. The permittee must prioritize pollutant load reduction efforts and target areas (e. g. drainage areas, sub watersheds, IAs, DCIAs) that generate the highest annual average pollutant loads.	Analysis of the Sediment Assessment and Estimated Baseline Loading will be used by CORR to improve their program to target and prioritize sediment removal throughout the watershed. For existing facilities, CORR will begin adding a detailed description and photo for each facility to its tracking spreadsheet or program procedure.	• After analyzing the Sediment Assessment findings, CORR will improve this program and program tracking to meet the Permit activity requirements. • CORR will begin adding a detailed description and photo for each facility (each existing targeted control) to its tracking spreadsheet or program procedure.								
Not Included in NOI	41	(iv) Monitoring and Interim Reporting: The permittee shall monitor or assess progress in achieving interim measurable goals and determining the effectiveness of BMPs, and shall include documentation of this monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A.	CORR will annually assess progress for this program. CORR will monitor the volume of sediment captured by each of its facilities by measuring the volume of sediment removed from each facility. Documentation of this monitoring will be done using the tracking spreadsheet and procedure, which will be summarized in each Annual Report.	• CORR will include in each Annual Report a progress update for this program.								
Not Included in NOI	42	(v) Progress Evaluation and Reporting: The permittee must assess the overall success of the Sediment Pollutant Load Reduction Strategy and document both direct and indirect measurements of program effectiveness in a Progress Report to be submitted with the fifth Annual Report. Data must be analyzed, interpreted, and reported so that results can be applied to such purposes as documenting effectiveness of the BMPs and compliance with the ESA requirements specified in Part I.C.3.b. The Progress Report must include: (a) A list of species likely to be within the action area: (b) Type and number of structural BMPs installed; (e) Evaluation of pollutant source reduction effects; (d) Any recommendation based on program evaluation; (e) Description of how the interim sediment load reduction goals established in Part I.C.3.b.(iii) were achieved; and (f) Future planning activities needed to achieve increase of sediment load reduction required in Part I.C.3.d.(iii).	CORR will annually evaluate progress for this program. CORR will monitor the volume of sediment captured by each of its facilities by measuring the volume of sediment removed from each facility. Documentation of this monitoring will be done using the tracking spreadsheet and procedure, which will be summarized in each Annual Report.	• CORR will complete and provide to EPA with the fifth Annual Report, due Dec. 1, 2019, a Progress Report on the Sediment Pollutant Load Reduction Strategy. This Progress report will meet the Permit requirements.								
Not Included in NOI	43	(vi) Critical Habitat: Verify that the installation of stormwater BMPs will not occur in or adversely affect currently listed endangered or threatened species critical habitat by reviewing the activities and locations of stormwater BMP installation within the location of critical habitat of currently listed endangered or threatened species at the FWS website http://criticalhabitat.fws.gov/crithab/.	CORR considers critical habitat for all of its projects, working closely with the USFWS and USACE, as required, and will continue this practice related to any BMPs installed related to sediment capture and removal.	• CORR will continue its practice of coordination with the USFWS and USACE, as required, related to CORR's facility construction projects.								

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	44	**Part I.D.5 - Stormwater Management Plan (SWMP) Control Measures**										
	45	**TABLE 2: Construction Site Stormwater Runoff Control - Part I.D.5.a**										
See NOI Sections Below	46	5.a.(i) The permittee shall develop, revise, implement, and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. Permittees previously covered under permit NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit. (Note: Highway Departments and Flood Control Authorities may only apply the construction site stormwater management program to the permittees own construction projects)	CORR's Construction Site Stormwater Runoff Control Program (CSSRCP) addresses stormwater management during construction of CORR projects that result in a land disturbance of greater than or equal to one acre.	• Coordinate CSSRCP requirements (as detailed in Program and in sections below)								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
1.1	47	Development of an ordinance or other regulatory mechanism as required in Part I.D.5.a.(ii)(a)	Continue implementation and enforcement of existing CORR Municipal Code 153.35(F)(2)(d), which states ALL construction projects, both public and private, require an approved erosion control plan prior to start of construction. Erosion control plans address all phases of each project from initial grading through and including final occupancy. CORR will continue to maintain, update, implement, and enforce existing Erosion Control Ordinance to satisfy applicable permit requirements.	CORR will continue to work with the MS4 Technical Advisory Group (TAG) and other agencies to discuss and help develop and/or enhance existing regulatory mechanisms.	Full Implemented: CORR Municipal Code 153.35(F)(2)(d).			**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: Development Services Engineering Division Manager Implementation: Development Services Department
1.2	48	Develop requirements and procedures as required in Part I.D.a(ii).(b) through Part I.D.a(ii).(h). These Permit sections include requirements for CORR to implement and enforce requirements for construction site operators to 1) implement appropriate erosion and sediment control BMPs - Part I.D.a(ii).(b) and 2) control waste at the construction site that may cause adverse impacts to water quality - Part I.D.a(ii).(c). Permit sections also include requirements to develop procedures for site plan review which incorporate consideration of potential water quality impacts - Part I.D.a.(ii).(d); receipt and consideration of information submitted by the public - Part I.D.a.(ii).(e); site inspection (during construction) and enforcement of control measures - Part I.D.a.(ii).(f); to educate and train permittee personnel and developers, construction site operators, contractors and supporting personnel - Part I.D.a.(ii).(g); and for keeping records of and tracking all regulated construction activities within the MS4 - Part I.D.a.(ii).(h).	As part of CORR's Program, CORR Project Managers will continue to review all site plans and the SWPPPs to ensure consistency with federal, state and local sediment and erosion control requirements for CORR projects. CORR staff performs and will continue to perform incremental reviews of all CORR projects during design to assure quality control and design efficiency. CORR will require submittal of required SWPPP inspection reports from a qualified inspector to the project manager. In addition, construction site SWPPPs will continue to be discussed at weekly construction meetings to ensure appropriate inspections and any needed corrective measures are implemented. CORR will maintain records of all CORR-led projects disturbing at least one acre within its rights-of-way. This will include CORR's CSSRCP records, including NOIs, NOI tracking, inspection reports, non-conformance documents, and training documents.	• Review site plans and the SWPPPs for CORR-owned projects disturbing at least one acre in order to consider potential water quality impacts and ensure consistency with federal, state and local sediment and erosion control requirements. Ensure SWPPPs for projects are developed by qualified individuals. • Conduct pre-construction meetings on CORR-owned construction projects disturbing at least one acre prior to beginning earth-disturbing activities in order to discuss the SWPPP, NOI and BMPs. • CORR will post a contact phone number at all required construction sites. • In a cooperative effort with SSCAFCA, the DSD ENG reviews private development that has a direct connection to CORR facilities for projects disturbing at least one acre. Review includes stormwater conveyance, water quality and erosion control. • CORR will maintain records of all CORR-owned construction projects disturbing at least one acre within its rights-of-way.	Fully Implemented:			**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
1.3	49	Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres as required in Part I.D.a.(iii)	As part of CORR's Program, CORR Project Managers will continue to require field inspections by qualified individuals on CORR construction projects which disturb at least one acre at the Construction General Permit required inspection frequency. At a minimum, CORR staff will inspect each project An inspection form has been developed and will be used for all inspections. Should the contractor fail to operate, maintain and repair the BMPs and control measures, CORR staff have the contractual authority to temporarily suspend work, withhold/stop payment, or terminate the contract should such issues go uncorrected.	• CORR will complete the inspections for 100% of the active construction sites under contract by CORR which disturb at least one acre. • CORR will develop a SWPPP inspection form and will track all MS4 inspections using a tracking spreadsheet. • CORR will maintain copies of the completed MS4 inspection forms. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande.	Fully Implemented:			**December 22, 2014**	**December 22, 2016**	**24**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

NOI Section	ID	Permit Activity Description	Proposed Plan	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Permit Effective Date	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Milestone Implementation Schedule	Responsible Personnel
1.4	50	Coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.a.(iv). Planning documents include, but are not limited to: comprehensive or master plans, subdivision ordinances, general land use plan, zoning code, transportation master plan, specific area plans, such as sector plan, site area plans, corridor plans, or unified development ordinances.	CORR does not have jurisdiction over the planning, review, permitting, or approval of non-CORR public and private construction activities. Therefore, CORR's program is limited to CORR-owned properties.	• CORR will continue regular coordination amongst engineering staff and to verify that BMPs are in place to control erosion during construction on CORR-owned projects.	Fully Implemented:			**December 22, 2014**	**February 22, 2016**	**14**		
1.5	51	Evaluation of GI/LID/Sustainable practices in site plan reviews as required in Part I.D.a.(v). The site plan review must include an evaluation of opportunities for use of GI/LID/ Sustainable practices and when the opportunity exists, encourage project proponents to incorporate such practices into the site design to mimic the pre-development hydrology of the previously undeveloped site. For purposes of this permit, pre-development hydrology shall be met according to Part I.D.5.b of this permit (consistent with any limitations on that capture). Include a reporting requirement of the number of plans that had opportunities to implement these practices and how many incorporated these practices.	CORR will preform a Development Manual review to assess opportunities for the use of GI/LID sustainable practices. CORR will continue to encourage use of sustainable practices during the review phase of projects within CORR's right-of-ways. CORR will encourage an evaluation of sustainable GI/LID practice opportunities within the watershed. CORR, the reporting requirement of the number of plans that had opportunities to implement these practices and how many incorporated these practices also does not apply.	• CORR will annually report the number of plans that were reviewed within CORR's right-of-ways that had opportunities to implement GI/LID/Sustainable practices and how many incorporated these practices.	Fully Implemented:			**December 22, 2014**	**February 22, 2016**	**14**		N/A
Not Included in NOI	52	Update the SWMP document and annual report as required in Part I.D.5.a.(vi) and in Part I.D.5.a.(vii)	CORR will include in each annual report a summary of the number and frequency of site reviews and inspections activities that are conducted annually and cumulatively during the permit term.	• Annually evaluate and revise the CSSRCP, as necessary, to ensure that CORR's Program meets the MS4 Permit requirements. • Include in each annual report a summary of the number and frequency of site reviews and inspection activities that are conducted annually and cumulatively during the permit term.				**Update as necessary**				Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
1.6	53	Enhance the program to include the elements in Part I.D.5.a.(viii) through part I.D.5.a.(x). These include: (viii) Use of stormwater educational materials; (ix) Develop or update existing construction handbooks; and (x) construction inspections may be carried out in conjunction with other inspections and use a screening prioritization process.	The National Pollutant Discharge Elimination System Manual - Storm Water Management Guidelines for Construction and Industrial Activities is endorsed by the City of Rio Rancho, and its use is encouraged for any development that has the potential to generate stormwater through either construction or industrial activities with exposure to stormwater. CORR will continue to use stormwater educational materials, either developed locally or provided by EPA, NMED environmental, public interest, trade organizations, and/or other MS4s. CORR will work with other MS4s through the TAG to enhance the program to include program elements in Part I.D.5.a.(viii) through Part I.D.5.a.(ix).	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities where educational materials were dispersed and shared with the public. • CORR will continue to attend and participate in the TAG to exchange information with other MS4s regarding potential program enhancements.				**Update as necessary**				Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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	54	**TABLE 3: Post-Construction Stormwater Management in New Development and Redevelopment- Part I.D.5.b**										
See NOI Sections Below	55	Part I.D.5.b.(i) The permittee must develop, revise, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. Permittees previously covered under NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit. (Note: Highway Departments and Flood Control Authorities may only apply the post-construction stormwater management program to the permittees own construction projects).	Fully Implemented - CORR, Development Manual, Vol. II Section 5.F., Erosion and Stormwater Pollution Control and Section 8.D.1.C.2 Erosion Protection and Stormwater Pollution Prevention Practices. A) Project owners and the owners contractor shall complete federal USEPA Notice of Intent (NOI) prior to commencement of any construction project disturbing 1 or more acres of land area. B) Stormwater Pollution Prevention Plan (SWPPP) and accompanying federal USEPA administrative procedures shall meet the guidelines and procedures outlined in the current 2012 edition of the NPDES Manual Stormwater Management Guidelines for Construction Activities.	Track and enforce CORR Development Manual and federal USEPA NOI procedures for new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4.								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.1	56	Development of strategies as required in Part I.D.5.b.(ii).(a). Strategies which include a combination of structural and/or non-structural best management practices (BMPs) to control pollutants in stormwater runoff.	CORR will compile conceptual design examples of structural BMP's for implementation on development and redevelopment sites to treat 90th and 80th percentile storms respectively. Sources include: NPDES MS4 Manual, EPA BMP Design Guide, and EPA Technical Report #832-R14-007. CORR will continue to include both structural and non-structural BMPs to control pollutants in stormwater runoff from CORR owned facilities.	• CORR will continue to include both structural and non-structural BMPs to control pollutants in stormwater runoff from CORR owned facilities.	Fully Implemented:			**December 22, 2014**	**February 22, 2016**	**14**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.2	57	Development of an ordinance or other regulatory mechanism as required in Part I.D.5.b.(ii)(b)	CORR will review existing Erosion Control/Storm Drainage ordinance and outline need for ordinance modification to address GI/LID requirements. Perform concurrent review of CORRs Development Process Manual to assess need for design modification to address stormwater quality design standards. CORR will continue to work with the MS4 Technical Advisory Group (TAG) and other agencies to discuss and help develop regulatory mechanisms.	• CORR will continue to work with the MS4 Technical Advisory Group (TAG) and other agencies to discuss and help develop regulatory mechanisms.				**December 22, 2014**	**December 22, 2017**	**36**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.3	58	Implementation and enforcement, via the ordinance or other regulatory mechanism of site design standards as required in Part I.D.5.b.(ii).(b).	CORR will review existing Erosion Control/Drainage Ordinance, implement and enforce to the maximum extent practicable.	• CORR will develop strategies to administratively or contractually address post-construction peak flow runoff from new development and redevelopment projects within CORR's jurisdiction and/or right of ways to the extent allowable under State, Tribal, or local law.				**December 22, 2014**	**December 22, 2018**	**48**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.4	59	Ensure appropriate implementation of post-construction structural controls as required in Part I.D.5.b.(ii).(c) and Part I.D.5.b.(ii).(d).	Preform a review of the Development Process Manual to assess needs for pre-construction BMP review, BMP inspection , and post-construction maintenance. For watershed cooperative elements, CORR is a member of the MS4 TAG cooperative group and will exchange information regarding training opportunities for staff as well as technical information in that group context.	• Ensure post-construction program requirements are constantly reviewed as appropriate to incorporate improvements in control techniques.		Fully Implemented:		**December 22, 2014**	**June 22, 2017**	**30**		

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2.5	60	Develop procedures as required in Part I.D.5.b.(ii). (e) - for educational program for project developers; Part I.D.5.b.(ii). (f) - for site inspections and enforcement for long-term operation, maintenance, and repair of BMPs; Part I.D.5.b.(ii). (g) - for control of discharge related to pesticides, herbicides, and fertilizer; and Part I.D.5.b.(ii). (h) - for review and update of the post-construction program.	I.D.5.b.(ii).(e) - As a cooperative program, CORR contributes to the MRGSWQT, which includes training on GI/LID and sustainability practices. This is achieved by sponsoring conferences featuring GI/LID lectures, such as the Land and Water Summit. Reporting on the MRGSWQT activities will be part of TABLE 8: Public Education and Outreach on Stormwater Impacts - Part I.D.5.g. I.D.5.b.(ii).(f) - CORR is responsible for all long term inspection, operation, maintenance, and repair of its own facilities. CORR will perform inspections, maintenance and repair on a pre and post-monsoon cycle. I.D.5.b.(ii).(g) - CORR will only allow certified staff or professionally licensed contractors to apply herbicides within CORR right-of-way (CORR does not apply pesticides or fertilizers in its operations). This is covered in TABLE 4 - Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations - Part I.D.5.c. I.D.5.b.(ii).(h) - CORR's routine O&M activities address post-construction stormwater management at all CORR facilities. CORR will continue to participate in the cooperative called the Middle Rio Grande Storm Water Quality Team (MRGSQT), along with the City of Albuquerque, NMDOT, AMAFCA, City of Rio Rancho, Sandoval County and Town of Bernalillo and any other entities joining the cooperative.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize, if applicable, the activities where educational materials were dispersed and shared with project developers.				**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.6	61	Coordinate internally with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/ activities within the permit area as required in Part I.D.5.b.(iii) related to developed hydrology mimicking pre-development hydrology.	Fully Implemented - CORR requires all construction projects to adhere to the following design standard: CORR Development Manual, Vol. II, Storm Drainage Release Rate - The maximum discharge from developed property in the event of a 100 year 6 hour storm shall be the amount of the historic or pre-developed runoff in all watersheds in the City of Rio Rancho.	• CORR will coordinate internally on studies and projects for MS4 Permit compliance with developed hydrology mimicking pre-development hydrology. CORR will abide by the NM OSE rule and plan/design its facilities to drain within 96 hours per the OSE requirements.	Fully Implemented: CORR requires all construction projects to adhere to the following design standard: CORR Development Manual, Vol. II, Storm Drainage Release Rate - The maximum discharge from developed property in the event of a 100 year 6 hour storm shall be the amount of the historic or pre-developed runoff in all watersheds in the City of Rio Rancho.			**December 22, 2014**	**December 22, 2015**	**12**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.7	62	As required in Part I.D.5.b.(iv), the permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices.	CORR will assess existing codes, ordinances, planning documents and other applicable regulations for impediments to the use of GI/LID/Sustainable practices. The NM OSE regulates the water delivery to the Rio Grande in order to meet water delivery requirements to Texas; therefore, CORR's objective is to design its facilities to drain within 96 hours per the OSE requirements.	• CORR will assess existing codes, ordinances, planning documents and other applicable regulations for impediments to the use of GI/LID/Sustainable practices that CORR has jurisdiction over		Fully Implemented:		**December 22, 2014**	**December 22, 2016**	**24**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.8	63	As required in Part I.D.5.b.(iv), develop and submit a report of the assessment findings on GI/LID/Sustainable practices.	CORR will conduct a GI/LID/Sustainavle assessment.	• CORR will develop and submit a report of the assessment findings on GI/LID/Sustainable practices. This will be completed in by March 2017 and submitted to the EPA with the Annual Report, due Dec. 1, 2017.		Fully Implemented:		**December 22, 2014**	**March 22, 2017**	**27**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.9	64	Estimation of the number of acres of IA and DCIA as required in Part I.D.5.b.(vi).	CORR will estimate the IA and DCIA within regulated jurisdiction and/or right of way.	• CORR will estimate the IA and DCIA within regulated jurisdiction and/or right of way. This will be done annually as part of the Annual Report preparation. This will be a cooperative effort with other Middle Rio Grande MS4s.		Fully Implemented:		**December 22, 2014**	**June 22, 2017**	**30**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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2.10	65	Inventory and priority ranking as required in Part I.D.5.b.(vii) for MS4-owned property and infrastructure (including public right-of-way) that may have the potential to be retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges to and from its MS4.	CORR will continue to keep an inventory and develop a priority ranking of CORR owned properties and facilities that may have the potential for retrofitted control measures and stormwater quality facilities and BMPs. CORR will continue to meet with area MS4s to discuss areas requiring drainage and water quality retrofits, project priorities, and multi-agency funding. Internally, using the Project Schedule, water quality projects and water quality retrofit projects will be prioritized. CORR will evaluate the existing BMPs based on their effectiveness and capacity in order to identify where additional BMPs are needed. CORR will continue to invite all MS4s to the series of meetings for project planning on infrastructure retrofitting. CORR is also a member of the MS4 TAG cooperative group. The NM Office of the State Engineer (OSE) regulates the water delivery to the Rio Grande in order to meet water delivery requirements to Texas; therefore, CORR's objective is to design its facilities to drain within 96 hours per the OSE requirements.	• CORR will continue to meet with agencies within its jurisdiction to discuss the areas requiring drainage and water quality retrofitting within the Middle Rio Grande Watershed, project priorities, and multi-agency funding contributions. • CORR will utilize the Project Schedule to prioritize water quality projects and water quality retrofit projects. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande. • CORR will evaluate the existing BMPs within its most urbanized watershed, the Montoyas Arroyo watershed, based on their effectiveness and capacity. These studies will provide the basis for determining where additional BMPs may be required within this watershed.				**December 22, 2014**	**June 22, 2018**	**42**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.11	66	Incorporate watershed protection elements into regular planning or policy documents as required in Part I.D.5.b.(viii). As applicable to each permittee's MS4 jurisdiction, policy and/or planning documents must include the following: (a) A description of master planning and project planning procedures to control the discharge of pollutants to and from the MS4. (b) Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within each watershed, by controlling the unnecessary creation, extension and widening of impervious parking lots, roads and associated development. (c) Identify environmentally and ecologically sensitive areas that provide water quality benefits and serve critical watershed functions within the MS4 and ensure requirements to preserve, protect, create and/or restore these areas are developed and implemented during the plan and design phases of projects in these identified areas.	For CORR projects, watershed protection elements will be incorporated when feasible into drainage management plans, as appropriate, in order to identify watersheds which can be retrofitted with regional water quality facilities. Part I.D.5.b.(viii).(c) - During planning of CORR projects, environmentally and ecologically sensitive areas that provide water quality benefits are considered.	• CORR will participate in meetings for project planning of infrastructure retrofitting either on a watershed wide or regional scale. • For projects led by CORR, watershed protection elements will be incorporated into Drainage Management Plans, as appropriate, in order to identify watersheds which potentially can be retrofitted with regional water quality facilities.		Fully Implemented:		**December 22, 2014**	**June 22, 2017**	**30**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.11	67	Continuation of incorporate watershed protection elements into regular planning or policy documents as required in Part I.D.5.b.(viii). (d) Implement stormwater management practices that minimize water quality impacts to streams, including disconnecting direct discharges to surface waters from impervious surfaces such as parking lots. (e) Implement stormwater management practices that protect and enhance groundwater recharge as allowed under the applicable water rights laws. (f) Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges. (g) Develop and implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils. (h) The program must be specifically tailored to address local community needs (e.g. protection to drinking water sources, reduction of water quality impacts) and must be designed to attempt to maintain pre-development runoff conditions.	Part I.D.5.b.(viii).(e) - The NM OSE regulates the water delivery to the Rio Grande in order to meet water delivery requirements to Texas; therefore, CORR's objective is to design its facilities to drain within 96 hours per the OSE requirements. Part I.D.5.b.(viii).(f) - CORR projects, to the extent feasible, will seek to avoid or prevent hydromodification of streams and other water bodies caused by CORR projects. Part I.D.5.b.(viii).(g) - For CORR projects, CORR strives, to the extent possible, to protect native soils, prevent topsoil stripping, and prevent compaction of soils. This will be incorporated into a written procedure.	• CORR will develop a written procedure that includes applicable watershed protection elements in Part I.D.5.b.(viii).(g) as required in the MS4 Permit and as applicable to CORR. • CORR will continue to contribute and participate in the MRGSWQT, which supports programs tailored to address local community needs and are designed to attempt to maintain pre-development runoff conditions.		Fully Implemented:		**December 22, 2014**	**June 22, 2017**	**30**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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Not Included in NOI	68	Update the SWMP document and annual report as required in Part I.D.5.b.(ix) and Part I.D.5.b.(x). The following information must be included in each annual report: (a) Include a summary and analysis of all maintenance, inspections and enforcement, and the number and frequency of inspections performed annually. (b) A cumulative listing of the annual modifications made to the Post-Construction Stormwater Management Program, and (c) According to the schedule presented in Table 3, the permittee must: A. Report the number of MS4-owned properties and infrastructure that have been retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges. B. As required in Part I.D.5.b.(vi), report the tabulated results for IA and DCIA and its estimation methodology.	As required in Part I.D.5.b.(x).(a), CORR tracks all crew activity related to maintenance of all water quality structures. A summary of the information will be included in each annual report. (c)A. As required in Part I.D.5.b.(x).(c).A, CORR will report on properties and infrastructure within CORR jurisdiction that have been retrofitted with control measures designed to control frequency, volume and peak intensity of stormwater discharges. (c)B. CORR will support other MRG permittees with their IA and DCIA reporting requirements in Part I.D.5.b.(x).(c).B.	• CORR will continue to track all maintenance activity related to maintenance of all CORR owned water quality structures. A summary of the information will be included in each annual report. • CORR will include a cumulative list of retrofitted CORR facilities in each annual report. • CORR will continue to provide MRG permittees with information to support their IA and DCIA reporting requirements to EPA.				**Update as necessary**				
2.12	69	Enhance the program to include the elements in Part I.D.5.b.(xi) and Part I.D.5.a.(xii). These include: (xi) Use of stormwater educational materials; (xii) Develop or update existing construction handbooks; and (x) participate in watershed planning efforts to aid with BMP selection and planning.	CORR will continue to use stormwater educational materials, either developed locally or provided by EPA, NMED environmental, public interest, trade organizations, and/or other MS4s. CORR will work continue to participate in the watershed-planning efforts with other MS4s in order to publish the ICIP annually. CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities where educational materials were dispersed and shared with the public. • CORR will continue to contribute and participate in the MRGSWQT, which supports post-construction programs. • CORR will participate in any meetings regarding watershed planning efforts. CORR will continue to produce and publish the CORR ICIP annually. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande.				**Update as necessary**				Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering and MRGSWQT

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	70	**TABLE 4: Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations - Part I.D.5.c**										
3.1	71	Develop or update the Pollution Prevention/Good House Keeping program to include the elements in Part I.D.5.c.(i). Elements include: employee training program to incorporate pollution prevention and good housekeeping, including a tracking procedure (Part I.D.5.c.(i).(a)); O&M activities, schedules, and long term inspections procedures for structural and non-structural stormwater controls (Part I.D.5.c.(i).(b)); Controls for reducing or eliminating the discharge of pollutants from City owned facilities (Part I.D.5.c.(i).(c)) Procedures for properly disposing of waste removed from CORR facilities (sediment, floatables, and other debris) (Part I.D.5.c.(i).(d)); and procedures to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices (Part I.D.5.c.(i).(e)).	The City is currently reviewing existing employee training programs targeting pollution prevention and good housekeeping techniques with all City departments. The City will determine whether existing training programs are designed to meet the requirements of Part I.D.5.c.(i). The City will then develop/enhance the training programs targeting requirements of Part I.D.5.c.(i) including a tracking procedure that ensures employee turnover is considered. The City will develop a pollution prevention and good housekeeping annual workshop/training for municipal employees responsible for operations and maintenance of the pertinent City facilities.	• The City will then develop/enhance the training programs targeting requirements of Part I.D.D.c.(i) including a tracking procedure that ensures employee turnover is considered. • The City will develop a pollution prevention and good housekeeping annual workshop/training for municipal employees responsible for operations and maintenance of the pertinent City facilities.		Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2016**	**18**		
3.2	72	Enhance the program to include the elements in Part I.D.5.c.(ii). These include: (a) Develop or update the existing list of all stormwater quality facilities by drainage basin, including location and description;	The City is completing an inventory of City owned stormwater quality facilites by drainage basin. The City will then udpate the inventory of facilites with GIS locations and provide descriptions for each.			Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	73	(b) Develop or modify existing operational manual for de-icing activities addressing alternate materials and methods to control impacts to stormwater quality;	The City is currently reviewing existing operations pertaining to de-icing activities. Once a review of the exising opertations is completed the City will develop or modify the opoerations for de-icing. The City will consider alterante materials and methods to control impacts to stormwater quality.			In-Process - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	74	(c) Develop or modify existing program to control pollution in stormwater runoff from equipment and vehicle maintenance yard;	The City is currently reviewing existing programs in place that control stormwater runoff from equiment and vehicle maintenance. Once a review of existing programs is complete the City will develop or modify the programs.			In-Process - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	75	(d) Develop or modify existing street sweeping program. Assess possible benefits from changing frequency or timing of sweeping activities or utilizing different equipment for sweeping activities;	The City is currently reviewing our existing street sweeping program. Once a review of existing programs is complete the City will develop or modify the program per (Part I.D.5.c.(ii).(d)).			In-Process -		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	76	(e) A description of procedures used by permittees to target roadway areas most likely to contribute pollutants to and from the MS4 (i.e., runoff discharges directly to sensitive receiving water, roadway receives majority of de-icing material, roadway receives excess litter, roadway receives greater loads of oil and grease);	The City will inventory roadways within the City that are most likely to contribute pollutants to and from the City. The City will target the identified roadways and develop procudures to reduce pollutants per (Part I.D.5.c.(ii).(e)).			In-Process -		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	77	(f) Develop or revise existing standard operating procedures for collection of used motor vehicle fluids (at a minimum oil and antifreeze) and toxics (including paint, solvents, fertilizers, pesticides, herbicides...) used in permittee operations;	The City will review exising standard operating procedures for collection of used motor vehicle fluids and toxins used in City operations. Once a review is complete the City with develop or revise standard operating procedures in an effort to reduce pollutants per (Part I.D.5.c.(ii).(f)).			In-Process - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	78	(g) Standard operating procedure for disposal of accumulated sediments, floatables, and debris;	The City will review exising standard operating procedures for disposal of accumulated sediment, floatables and debris. Once a review is complete the City with develop or revise standard operating procedures in an effort to reduce pollutants per (Part I.D.5.c.(ii).(g)).			Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	79	(h) litter source control program, include targeted public awareness campaign;	The City will develop or revise a litter source control program including public awareness and targeting the City residents			Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		

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3.2	80	(i) Develop or review and revise, as necessary, the criteria, procedures and schedule to evaluate existing flood control devices, structures and drainage ways to assess the potential of retrofitting to provide additional pollutant removal from stormwater. Implement routine review to ensure new and/or innovative practices are implemented where applicable.	The City will review existing flood control facilities and develop criteria, procedures and schedule to evaluating per (Part I.D.5.c.(ii).(i)).			Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	81	j) Enhance inspection and maintenance programs by coordinating with maintenance personnel to ensure that a target number of structures per basin are inspected and maintained per quarter;	The City will review existing flood control facilities and the structures associated with each and develop a program to enhance inspection and maintenance of the structures per (Part I.D.5.c.(ii).(j)).			Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	82	(k) Enhance the existing program to control the discharge of floatables and trash from the MS4 by implementing source control of floatables in industrial and commercial areas;	The City will review existing program for the control the discharge of floatables and trash from the City. The City will enahnce existing the existing program per (Part I.D.5.c.(ii).(k)).			Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	83	(l) Include in each annual report, a cumulative summary of retrofit evaluations conducted during the permit term on existing flood control devices, structures and drainage ways to benefit water quality. Update the SWMP to include a schedule (with priorities) for identified retrofit projects;	The City will develop a program to track the retorfit evaluations conducted and include in the annual report as well as update the City SWMP with a schedule per (Part I.D.5.c.(ii).(l)).			Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	84	(m) Flood management projects: review and revise, as necessary, technical criteria guidance documents and program for the assessment of water quality impacts and incorporation of water quality controls into future flood control projects. The criteria guidance document must include the following elements: A. Describe how new flood control projects are assessed for water quality impacts. B. Provide citations and descriptions of design standards that ensure water quality controls are incorporated in future flood control projects. C. Include method for permittees to update standards with new and/or innovative practices. D. Describe master planning and project planning procedures and design review procedures.	The City will review and revise technical criteria guidance documents and program per (Part I.D.5.c.(ii).(m)).			Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		
3.2	85	(n) Develop procedures to control the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied, by the permittee's employees or contractors, to public right-of-ways, parks, and other municipal property. The permittee must provide an updated description of the data monitoring system for all permittee departments utilizing pesticides, herbicides and fertilizers.	The City will develop or revise procedures to control the discharge of pollutants per (Part I.D.5.c.(ii).(n)), including providing an updated descripion of the data monitoring system for all City departments.			Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		
3.3	86	Develop or update a list and a map of industrial facilities owned or operated by the permittee as required in Part I.D.5.c.(iii).	Review and update inventory of municple facilities and operations.		Fully Implemented: Map complete.			**December 22, 2014**	**June 22, 2016**	**18**		
Not Included in NOI	87	Update the SWMP document and annual report as required in I.D.5.c.(iv) and Part I.D.5.c.(v). The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.c.(i) throughout Part I.D.5.c.(iii) and its corresponding measurable goal. The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.						**Update as necessary**				

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	88	**TABLE 5: Industrial and High Risk Runoff - Part I.D.5.d**										
4	89	As described in Part I.D.5.d, the permittees shall: (i) control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi). If no such industrial activities are in a permittees jurisdiction, that permittee may certify that this program element does not apply.	Permit requires this element for Class A permittees only. CORR is a Class B permittee.	**Not Applicable**								

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	90	**TABLE 6: Illicit Discharges and Improper Disposal - Part I.D.5.e**										
See NOI Sections Below	91	As described in Part I.D.5.e.(i), the permittee shall develop, revise, implement, and enforce a program to detect and eliminate illicit discharges (as defined at 40 CFR 122.26(b)(2)) entering the MS4. Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit. The permittee must (see required items listed below):	CORR has developed a program to detect and eliminate illicit discharges. The program elements, as they relate to the permit requirements, are described in detail below. Fully Implemented - See SWMP Appendix G - IDDE Priority Reconnaissance and Ivestication Map.	• The CORR NPDES Project Manager will continue to review, revise, and implement the Illicit Discharge Detection and Elimination Program requirements. • CORR will update their current written procedure for this program element. • CORR is pursuing developing a cooperative program elements for this program.								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
5.1	92	Mapping as required in Part I.D.5.e.(i).(a). Develop, if not already completed, a storm sewer system map, showing the names and locations of all outfalls as well as the names and locations of all waters of the United States that receive discharge from those outfalls. Identify all discharges points into major drainage channels draining more than twenty (20) percent of the MS4 area;	CORR will update existing GIS based target area map. Identifying illicit discharge locations through layering of zoning, industry codes (NAICS), storm drain conveyance/ponds, and land use. Update discharge points into major drainage channels draining more than twenty (20) percent of the jurisdictional area. SEE APPENDIX E and G.	• CORR will continue to keep this maintenance map up-to-date for CORR facilities and other MS4 permittee facilities, as information is provided. Cooperation with other MS4s will continue related to this map.	Fully Implemented - See SWMP Appendix E and G.			**December 22, 2014**	**February 22, 2016**	**14**		Program Lead: NDPES Project Manager Implementation: Development Services Department Engineering, Recorder and GIS Section, and Consultant
5.2	93	Ordinance (or other control method) as required in Part I.D.5 .e.(i)(b).	CORR will review existing ordinances.	• As necessary, draft amendments to existing ordinance prohibiting non-stormwater discharges into the MS4.		Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		Program Lead: NDPES Project Manager Implementation: Development Services
5.3	94	Develop and implement a IDDE plan as required in Part I.D.5.e.(i).(c). The permittee must include the following elements in the plan: A. Procedures for locating priority areas likely to have illicit discharges including field test for selected pollutant indicators (ammonia, boron, chlorine, color, conductivity, detergents, E. coli, enterococci, total coliform, fluoride, hardness, pH, potassium, conductivity, surfactants), and visually screening outfalls during dry weather; B. Procedures for enforcement, including enforcement escalation procedures for recalcitrant or repeat offenders; C. Procedures for removing the source of the discharge; D. Procedures for program evaluation and assessment; and E. Procedures for coordination with adjacent municipalities and/or state, tribal, or federal regulatory agencies to address situations where investigations indicate the illicit discharge originates outside the MS4 jurisdiction.	CORR will continue to implement its IDDE program. CORR will continue to perform periodic visual inspections of outfalls to CORR-owned properties. CORR is pursuing developing a cooperative program for this Permit element.	• CORR will continue implementing the existing IDDE program. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to the IDDE program. • CORR will begin developing a written procedure for this program element. • CORR is pursuing developing a cooperative program for this program element with permittees located within CORR's jurisdiction.		Revision/Update in Progress - Estimated Completion December 2017		**December 22, 2014**	**June 22, 2017**	**30**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
5.4	95	Develop an education program as required in Part I.D.5.e.(i).(d). Develop an education program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials. The permittee shall inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.	CORR will continue to participate in the MRGSQT and collaborate with the MS4 permittees to provide educational information regarding storm water quality to the community. This information will promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials. This program informs the public of hazards associated with illicit discharges and improper waste disposal, as well as proper ways to dispose of hazardous wastes.	• CORR will continue its involvement with and financial support of BEMP and RiverXchange through the MRGSWQT. • CORR will work with the MRGSWQT to inform the general public of the hazards associated with illegal discharges and improper disposal of waste. • The MRGSWQT Outcomes Report will be submitted in the Annual Report. • CORR will continue an in-house training program for its administrative, engineering and field employees regarding illegal discharges and improper disposal of waste.	The Middle Rio Grande Stormwater Quality Team has published outreach material "Keep the Rio Grand - Reduce Stormwater Pollution at Home!" CORR			**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT
5.5	96	Establish a hotline as required in Part I.D.5.e.(i).(e).	Fully Implemented - CORR encourages public involvement and participation by reporting all City Code violations. A) Reporting on the City website or mobile App. Report Rio Rancho is a free, intuitive online and smartphone application that allows residents and businesses of Rio Rancho to identify environmental concerns; and report them to the appropriate city department. B) Contrating City departments directly. Residents may contact departments directly to report environmental issues or request services. In both instances, each depart is responsible to respond to employee and public reports, and track concerns as required by the individual department protocols.	• CORR will continue to respond to the information received from this application integral to the IDDE program.	Fully Implemented: Report Rio Rancho App/Website has a NEW report type "Envirionmental Concern" which tracks Illicit Discharge of Waste, Surface Sewage/Failed Septic Systems and Water Waste.			**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: NPDES Project Manager Implementation: Information Technologies / Public Works Records & GIS

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5.6	97	Investigate suspected significant/severe illicit discharges as required in Part I.D.5.e.(i).(f). Investigate suspected significant/severe illicit discharges within forty-eight (48) hours of detection and all other discharges as soon as practicable; elimination of such discharges as expeditiously as possible; and, requirement of immediate cessation of illicit discharges upon confirmation of responsible parties. Illicit Discharge is defined in 40 CFR 122.26(b)(2)as "Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities."	CORR will continue its policy of investigation of suspected significant/severe illicit discharges within forty-eight (48) hours of detection/reporting and all other discharges as soon as practicable. CORR plans to continue removing/treating such discharges as expeditiously as possible and requiring immediate cessation of illicit discharges upon confirmation of responsible parties. CORR will continue its procedures for illicit discharge investigation and use of its IDDE Incident Report Form. "Illicit discharge" also covers illegal or improper disposal or dumping of wastes into CORR facilities. For CORR, "illicit discharges" typically fall into two categories: (1) liquid discharge, or (2) solid discharge (dumped trash, debris, dirt/sediment, tires). Liquid discharges are considered urgent in order to quickly determine if they are significant/severe illicit discharges and are investigated within forty-eight (48) hours of detection. Solid discharge are investigated and identified for clean-up during watershed clean-up events.	• CORR will continue its policy of investigation of suspected significant/severe illicit discharges within 48 hours of detection and all other discharges as soon as practicable. • CORR will continue investigation and documentation of all applicable illicit discharge complaints (using IDDE Incident Report Form) received through the Report Rio Rancho website/app, as well as other complaints received directly by CORR staff through e-mail, phone, or observation. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to investigation of illicit discharges. • CORR will develop a written procedure for this program element and develop an electronic field form for gathering applicable information regarding reported IDDE.	Fully Implemented:			**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
5.7	98	Review complaint records and develop a targeted source reduction program as required in Part I.D.5.e.(i).(g). Review complaint records for the last permit term and develop a targeted source reduction program for those illicit discharge /improper disposal incidents that have occurred more than twice in two (2) or more years from different locations.	CORR will continue its policy of reviewing complaint records. In addition, complaint records that are determined to be illicit discharges will be added to the CORR GIS database. The location, date, type of illicit discharge, and source (if known) will be documented. To meet the Permit requirements in Table 1.a (Part I.C.2), regarding discharges to impaired waters with a TMDL (E. coli), CORR's review of complaint records will include a focus on illicit discharges contributing bacteria to the MS4. CORR will develop a targeted source reduction program for those illicit discharge/improper disposal incidents that have occurred more than twice in 2 or more years from different locations. CORR has in place a cooperative arrangement with the City of Rio Rancho for notification of illicit discharges.	• CORR will continue its policy of reviewing complaint records. This will include a focus on illicit discharges contributing bacteria to the MS4. • Annually, CORR will reevaluate its targeted source reduction program. Potential future targets will be determined and cooperative efforts for targeted source reduction programs with MRGSWQT members will be considered. • CORR will continue adding illicit discharge complaint records for the permit term to the CORR GIS database to help identify sources and trends. • CORR continue developing a cooperative for this program element.	Fully Implemented:			**December 22, 2014**	**December 22, 2015**	**12**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
Not Included in NOI	99	As required in Part I.D.5.e.(ii), the permittee shall address the following categories of non-stormwater discharges or flows (e.g., illicit discharges) only if they are identified as significant contributors of pollutants to the MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(90)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water. Note: Discharges or flows from fire fighting activities are excluded from the effective prohibitions against non-stormwater and need only be addressed where they are identified a significant sources of pollutants to water of the United States).	Any such discharge that is identified as a significant contributor of pollutants to the CORR MS4, or is causing or contributing to a water quality standards violation, will be addressed as an illicit discharge pursuant to Part I.D.5.e of the MS4 Permit. The Permit lists authorized non-stormwater discharges in Part I.D.5.e.(ii). Many of these authorized non-stormwater discharges are not applicable to CORR and none of these discharges are expected to be significant contributors of pollutants to the MS4.	• The CORR NPDES Project Manager will review this list annually to check that the categories of authorized non-stormwater discharges are still not considered significant contributors of pollutants to the MS4.								

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5.8	100	As required in Part I.D.5.e.(iii), the permittee must screen the entire jurisdiction at least once every five (5) years and high priority areas at least once every year. High priority areas include any area where there is ongoing evidence of illicit discharges or dumping, or where there are citizen complaints on more than five (5) separate events within twelve (12) months. The permittee must: (a) Include in its SWMP document a description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected. (b) Comply with the dry weather screening program established in Table 6 and the monitoring requirements specified in Part III.A.2. (c) If applicable, implement the priority ranking system developed in previous permit term.	CORR will continue to make progress with its IDDE activities and program, working toward the permit deadlines described for this permit activity. Much of this effort may be in coordination with MS4 permittees CORR, Sandoval County, Village of Corrales, Town of Bernalillo and NMDOT. Part I.D.5.e.(ii).(a) - IDDE screening methods, quality assurance and controls protocols, schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected will be developed in years 1-3 of the Permit. CORR has implemented a routine inspection and O&M program that includes both formal and informal inspections. These O&M inspections will be part of the IDDE screening program. Part I.D.5.e.(ii).(b) - Development of the screening procedures and protocols will comply with the dry weather screening program monitoring requirements specified in Table 6 and Part III.A.2. Due to the nature of the climate in the Middle Rio Grande, screening will consist primarily of visual inspection of outfalls to arroyo beds. Part I.D.5.e.(ii).(c) - For CORR, the priority ranking is not applicable but, as part of cooperative program, CORR will follow the cooperative priority ranking.	• CORR will develop screening procedures, protocols and plan in years 1-3 for the Permit (Dec. 22, 2014 through Dec. 22, 2017). This may be done as a cooperative program. • CORR will implement the IDDE required screening activities for a minimum of 30% of the MS4 by the end of year 4 for this Permit (Dec. 22, 2018). • CORR will complete the IDDE required screening activities for 70% the of the MS4 system by the end of year 5 for this Permit (Dec. 22, 2019). • CORR will continue membership and involvement in the cooperative MRGSWQT which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to screening for illicit discharges. • CORR is pursuing developing a cooperative for this program element, including implementing the priority ranking system.				**See Measurable Goal Schedule**				Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
5.9	101	Develop, update, and implement a Waste Collection Program as required in Part I.D.5.e.(iv).	CORR will continue to regularly collect waste within its rights-of-ways. CORR will work with Sandoval County, SSCAFCA, Town of Bernalillo, and Village of Corrales to expand the Hazardous Household Waste collection program.	• CORR will work with Sandoval County to increase the number of Household Hazardous Waste collection days hosted. • CORR will continue working with Sandoval County and SSCAFCA on watershed clean-up events		Fully Implemented:		**December 22, 2014**	**June 22, 2017**	**30**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering, Parks and Rec, KRRB
5.10	102	Develop, update and implement a Spill Prevention and Response program to prevent, contain, and respond to spills that may discharge into the MS4 as required in Part I.D.5.e.(v). The Spill Prevention and Response program shall include: (a) Where discharge of material resulting from a spill is necessary to prevent loss of life, personal injury, or severe property damage, the permittee(s) shall take, or ensure the party responsible for the spill takes, all reasonable steps to control or prevent any adverse effects to human health or the environment: and (b) The spill response program may include a combination of spill response actions by the permittee (and/or another public or private entity), and legal requirements for private entities within the permittees municipal jurisdiction.	CORR - All-Hazard Emergency Operations Plan, Annex Q - Hazardous Materials. The purpose of this annex is to provide a guide to manage a hazardous materials incident. Annex Q defines the responsibilities, duties and procedures to be followed by the Rio Rancho Police Department, Rio Rancho Fire/Rescue Department, other government agencies, and private entities regarding a hazardous materials incident occurring in Rio Rancho. The ultimate goal is to protect the population and environment from the adverse impacts of the hazardous materials incident. The terms "hazardous materials" in Annex Q includes explosive, flammable, combustible, corrosive, oxidizing and toxic materials that, when released in sufficient quantities, put the general public or environment in danger.	• CORR will continue to cooperate with overlapping jurisdictions for spill response. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) and the MRGSWQT which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to spill prevention and response.	Fully Implemented: All-Hazard Emergency Operations Plan, Annex Q - Hazardous Materials.			**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
Not Included in NOI	103	Update the SWMP document and annual report as required in Part I.D.5.e.(iii), Part I.D.5.e.(vi), and Part I.D.5.e.(vii). A description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected.	CORR will continue screening the entire jurisdiction at least once every 5 years and high priority areas at least once every year in accordance with the permit requirements. CORR's NPDES Project Manager will review the program requirements listed in Part I.D.5.e, for the above-mentioned program elements, during the Annual Report process. A review of the screening completed and the data collected will be included in the Annual Report. A strategy to implement any new program requirements will be developed as needed.	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part I.D.5.e, for the above-mentioned SWMP elements, and develop a strategy, if applicable, to implement any new program requirements. • CORR will include a review of the screening completed and the data collected will be included in the Annual Report.				**Update as necessary**				Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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5.11	104	Enhance the program to include requirements in Part I.D.5.e.(ix). The permittee may: (a) Divide the jurisdiction into assessment areas where monitoring at fewer locations still provides sufficient information; (b) Downgrade high priority areas after the area has been screened at least once and there are citizen complaints on no more than 5 separate events within a 12 month period; (c) Rely on a cooperative program with other MS4s for detection and elimination of illicit discharges and illegal dumping; (d) If cooperative program, required detection program frequencies may be based on the combined jurisdictional area rather than individual jurisdictional areas to reduce total number of screening locations; (e) After screening a non-high priority area once, adopt an "in response to complaints only" IDDE for that area (no more than 2 separate events within a 12 month period); (f) Enhance the program to utilize methodologies consistent with those described in "Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments."	Part I.D.5.e.(ix). CORR may enhance the program to include requirements in Part I.D.5.e.(ix) as needed	• CORR will document enhancements made with enhancement activities in the SWMP and Annual Report.				**Update as necessary**				Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
	105	**TABLE 7: Control of Floatables Discharges - Part I.D.5.f**										
6.1	106	As required in Part I.D.5.f.(i), the permittee must develop, update, and implement a program to address and control floatables in discharges into the MS4. The floatables control program shall include source controls and, where necessary, structural controls. Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit. The permittee shall develop or update a schedule to implement as required in Part I.D.5.f.(i).(a).	CORR will continue to implement a program to address and control floatables in discharges into the MS4. CORR will continue to install stormwater quality features to control floatables, such as ported risers, trash racks, and screened inlets in both new construction and retrofits where appropriate. SEE APPENDIX H	• The CORR NPDES Project Manager will continue to review, revise, and implement a program to address and control floatables in discharges into the MS4. CORR will develop a written procedure for this program element. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related control of floatables discharges. • CORR will continue utilizing the manual trash collection contracts. • CORR will continue cooperative watershed clean-up events with the City of Rio Rancho. • CORR is pursuing developing a cooperative program for this program element.	Revision/Update in Progress - Estimated Completion December 2017			**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
6.2	107	Estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type as required in Part I.D.5.f.(i).(b).	CORR will estimate the annual volume of floatables and trash removed from each control facility as well as to characterize the floatable type. The CORR SROW track the volume of floatables, sediment, trash, and debris removed from CORR facilities on an event basis. This tracking procedure includes the location of removal by facility and watershed.	• CORR will include in each annual report an estimate of the annual volume of floatables and trash removed from each control facility and characterize the floatable type. • CORR will continue to improve SROW staff tracking methods, allowing CORR to better and more easily determine the volume of floatables and sediment removed from each CORR facility.		Fully Implemented: IDDE Program includes a Trash Survey Form. An estimated volume of floatables and trash removal are calculated annually.		**December 22, 2014**	**June 22, 2017**	**30**		Program Lead: Streets and Right-of -Way Manager Implementation: Public Works Department
Not Included in NOI	108	Update the SWMP document and annual report as required in Part I.D.5.f.(ii) and Part I.D.5.f.(iii).	CORR's NPDES Project Manager will review the program requirements listed in Part I.D.5.f, for the above-mentioned program elements, during the Annual Report process. A strategy to implement any new program requirements or improve the compliance with program requirements will be developed as needed.	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part I.D.5.f, for the above-mentioned SWMP elements, and assess the overall success of the program and document the program effectiveness in the Annual Report.				**Update as necessary**				Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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	109	**TABLE 8: Public Education and Outreach on Stormwater Impacts - Part I.D.5.g**										
7.1	110	Develop, revise, implement, and maintain an education and outreach program as required in Part I.D.5.g.(i) and Part I.D.5.g.(ii). This comprehensive stormwater program should educate the community, employees, businesses, and the general public of hazards associated with the illegal discharges and improper disposal of waste and about the impact that stormwater discharges on local waterways, as well as the steps that the public can take to reduce pollutants in stormwater.	• Through involvement in the MRGSWQT, CORR will continue to collaborate with the MS4 permittees to improve upon the existing public education and outreach program. • The MRGSWQT has a local Public Relations consulting firm under contract to provide public education and outreach on stormwater impacts. Included in their scope is to provide an Outcomes Report to summarize the yearly outreach activities through different media and methods, target audiences and estimate of people reached. • Target pollutants include pet waste and trash/debris. These pollutants were chosen on the basis of studies conducted in the previous permit cycle. • Continue "Scoop the Poop" public outreach campaign at targeted CORR-owned facilities. • Currently, the MRGSWQT funds classroom and field education programs, media campaigns, printed materials including brochures, public presentations/events, giveaways, display booth/kiosk, signage at select locations, website and Facebook page.	• CORR will contribute and participate in the MRGSWQT. • The MRGSWQT Outcomes Report will be submitted in the Annual Report. • CORR will continue to conduct education and outreach presentations to the community specific to CORR facilities and water quality.	Fully Implemented - The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. See (Jul. 2015-Jun. 2016) Annual Report.			**December 22, 2014**	**February 22, 2016**	**14**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering, KRRB, and MRGSWQT
7.2	111	Update the SWMP document and annual report as required in Part I.D.5.g.(iii) and Part I.D.5.g.(iv). (iii) The permittee must include the following information in the SWMP document: (a) A description of a program to promote, publicize, facilitate public reporting of the presence of illicit discharges or water quality associated with discharges from MS4s; (b) A description of the education activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; & (c) A description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.g.(i) and Part I.D.5.g.(ii) and its corresponding measurable goal. (iv) The permittee must assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the Annual Report.	CORR's NPDES Project Manager will review the program requirements listed in Part I.D.5.g, for the above-mentioned program elements, during the Annual Report process. A strategy to implement any new program requirements or improve compliance with the program requirements will be developed as needed.	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part I.D.5.g, for the above-mentioned SWMP elements, and assess the overall success of the program and document direct and indirect measurements of the program effectiveness in the Annual Report.				**Update as necessary**				Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
7.2	112	Enhance the program to include requirements in Part I.D.5.g.(v) through Part I.D.5.g.(viii). (v) Where necessary to comply with the MS4 Permit, the permittee should develop a program or modify/revise an existing education and outreach program to: (a) Promote, publicize, and facilitate the use of GI/LID/Sustainability practices; and (b) Include an integrated public education program regarding litter reduction, reduction in pesticide/herbicide use, recycling, and disposal (including yard waste, hazardous waste materials, and used motor vehicle fluids), and GI/ LID/ Sustainable practices (as allowed by the NM OSE). (vi) The permittee may collaborate or partner with other MS4 operators to maximize the program and cost effectiveness of the required outreach. (vii) The education and outreach program may use citizen hotlines as a low-cost strategy to engage the public in illicit discharge surveillance. (viii) The permittee may use stormwater educational materials provided by the State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The permittee may also integrate the education and outreach program with existing education and outreach programs in the MRG area.	CORR will continue to include in its (and in the cooperative MRGSWQT) public education and outreach program: GI/LID/sustainability, litter reduction, pesticide/herbicide proper use and reduction, recycling and proper disposal, public hotline for illicit discharge reporting, classroom education on stormwater, sponsorship of professional conferences, participation in regional events, and pet waste disposal education.	• If enhancement activities are implemented, CORR will annually document progress made with these program enhancement activities.				**Update as necessary**				Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members, KRRB,

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	113	**TABLE 9: Public Involvement and Participation - Part I.D.5.h**										
8.1	114	Develop (or update), implement, and maintain a public involvement and participation plan as required in Part I.D.5.h.(ii). This plan should provide opportunities for participation in the review, modification and implementation of the SWMP; develop and implement a process by which public comments to the plan are received and reviewed by the person(s) responsible for the SWMP; and make the SWMP available to the public and to the operator of any MS4 or Tribal authority receiving discharges from the MS4.	CORR will continue its Public Involvement and Participation program to encourage public involvement in the review, modification and implementation of the CORR SWMP, as required in Part I.D.5.h.(ii).	• Post the draft SWMP, any SWMP amendments or modifications, and draft Annual Reports to CORRs NPDES Stormwater Program www.rrnm.gov/index.aspx?nid=2184 website with an explanation of the public comment period and instruction on how to submit comments. The posted documents will show redline and strikethrough of text additions and deletions and/or provide explanations for substantial changes. • A 30-day comment period will be allotted for SWMP document public review. • A 45-day comment period will be allotted for Annual Report document public review as required in Part III.B of the MS4 Permit. • Notice to the public will be done using CORRs NPDES Stormwater Program website.	Full Implemented: NOI, SWMP, Annual Report(s) are available to the public and to other operators via City of Rio Rancho Stormwater Webpage: https://rrnm.gov/2184/NPDES-Stormwater-Program			**December 22, 2014**	**December 22, 2015**	**12**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division
8.1	115	As required in Part I.D.5.h.(iii), the Public Involvement and Participation Plan shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination. The permittee must include the following elements in the plan: (a) A detailed description of the general plan for informing the public of involvement and participation opportunities, including types of activities; target audiences; how interested parties may access the SWMP; and how the public was involved in development of the SWMP; (b) The development and implementation of at least one (1) assessment of public behavioral change following a public education and/or participation event; (c) A process to solicit involvement by environmental groups, environmental justice communities, civic organizations or other neighborhoods /organizations interested in water quality-related issues; and (d) An evaluation of opportunities to utilize volunteers for stormwater pollution prevention activities and awareness throughout the area.	As allowed in this Permit section's "Program Flexibility Elements", CORR, through its involvement with the MRGSWQT, has integrated this section of the Public Involvement and Participation Program with existing education and outreach programs in the Middle Rio Grande area.	• CORR will contribute and participate in the MRGSWQT, which participates in public events and solicit public participation and feedback by way of surveys. • In targeted areas, CORR will continue to it's "Scoop the Poop" public outreach campaign.	The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. See (Jul. 2015-Jun. 2016) Annual Report			**December 22, 2014**	**December 22, 2015**	**12**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering and MRGSWQT
8.2	116	Comply with State, Tribal, and local notice requirements when implementing a Public Involvement and Participation Program as required in Part I.D.5.h.(iv). Reporting notification requirements also in Part III.D.4.	CORR will provide hard copies of all MS4 compliance reporting documents to the NMED, Pueblos of Sandia and Isleta as required here and in Part III.D.4 of the MS4 Permit. The SWMP and Annual Reports are also available on CORRs NPDES Stormwater Program www.rrnm.gov/index.aspx?nid=2184 website.	• CORR will provide hard copies of relative MS4 compliance reporting documents to the NMED, Pueblos of Sandia and Isleta as required here and in Part III.D.4 of the MS4 Permit. • CORR will continue to post the SWMP and Annual Reports on CORRs NPDES Stormwater Program www.rrnm.gov/index.aspx?nid=2184 website.	CORR has provided NOI hard copy to NMED, Pueblo of Sandia, and Pueblo of Isleta. US EPA R6 via email. CORR NOI is posted on CORRs Stormwater Program website.			**December 22, 2014**	**February 22, 2016**	**14**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division
8.3	117	Include elements as required in Part I.D.5.h.(v). The public participation process must reach out to all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local stormwater management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other preexisting programs, or participating in volunteer monitoring efforts.	As allowed in this Permit section's "Program Flexibility Elements", CORR, through its involvement with the MRGSWQT, has integrated this section of the Public Involvement and Participation Program with existing education and outreach programs in the Middle Rio Grande area. CORR will continue to include water quality information for the public at events, including public meetings. CORR may have Spanish translations of public meeting announcements and data sheets.	• CORR will continue to include (along with the cooperative MRGSWQT) water quality information for the public at events, including public meetings. Where neighborhoods include Spanish-speaking residents, CORR may have Spanish-translations available of public meeting announcements and data sheets. The educational videos on the MRGSWQT website (www.keeptheriograndе.org) all have Spanish subtitles. By attending a variety of events, at widespread locations throughout the area, and by using the leading area newspaper (Albuquerque Journal) to advertise events, The MRGSWQT ensures that a wide-range of economic and ethnic groups are reached.	The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. See (Jul. 2015-Jun. 2016) Annual Report			**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MRGSWQT

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8.4	118	Update the SWMP document and annual report as required in Part I.D.5.h.(vi), Part I.D.5.h.(vii), and Part I.D.5.h.(viii). The permittee must provide public accessibility of the SWMP and Annual Reports online via the Internet and during normal business hours at the MS4 operator's main office for public inspection and copying consistent with any applicable federal, state, tribal, or local open records requirements. Upon a showing of significant public interest, the MS4 operator is encouraged to hold a public meeting (or include in the agenda of in a regularly scheduled city council meeting, etc.) on the NOI, SWMP, and Annual Reports.	CORR's NPDES Project Manager will review the program requirements listed in Part I.D.5.h, for the above-mentioned program elements, during the Annual Report process. A strategy to implement any new program requirements or improve compliance with the program requirements will be developed as needed. CORR will provide public accessibility of the SWMP and Annual Reports online via the Internet on the following web sites: http://www.rrnm.gov/index.aspx?NID=2184 keeptheriograndorg	• As part of the Annual Report process each year, the Administrative Services Director will review the program requirements listed in Part I.D.5.h, for the above-mentioned SWMP elements, and assess the overall success of the program and document the program effectiveness in the Annual Report. • CORR will provide public accessibility of the SWMP document and most recent Annual Report online via the Internet (www.rrnm.gov/index.aspx?NID=2184) and during normal business hours at the CORR office. CORR is located at 3200 Civic Center Circle NE, Rio Rancho, NM 87144. The phone number is 505-891-5045.				**Update as necessary**				Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division
8.5	119	Enhance the program to include requirements in Part I.D.5.h.(ix).	CORR will continue to include in its (and in the cooperative MRGSWQT) public involvement and participation program: funds toward groups which include public participation, such as Boy or Girl Scouts of America, RiverXchange, and the Bosque Ecosystem Monitoring Program (BEMP).	• CORR will annually document progress made with these program enhancement activities. CORR and the MRGSWQT will continue to review, update, and enhance public involvement and participation programs.	MRGQST has continued its educational partmerships with BEMP and RiverXchange. Total budget spent on both programs = $14,692.50. See (Jul. 2015-Jun. 2016) Annual Report.			**Update as necessary**				Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

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	120	**Part III - Monitoring, Assessment and Reporting Requirements**										
	121	**TABLE 10: Wet Weather Monitoring Program - Part III.A.1**										
See NOI Sections Below	122	According to the requirements in Part III.A.1., The permittee must develop, in consultation with NMED and EPA (and affected Tribes if monitoring locations would be located on Tribal lands), and implement a comprehensive monitoring and assessment program. The permittees shall conduct wet weather monitoring to gather information on the response of receiving waters to wet weather discharges from the MS4 during both wet season (July 1 through October 31) and dry Season (November 1 through June 30). Wet Weather Monitoring shall be conducted at outfalls, internal sampling stations, and/or in-stream monitoring locations at each water of the US that runs in each entity or entities' jurisdiction(s).	Wet weather screening is synonymous with compliance monitoring. In the MS4 Permit area, stormwater runoff discharges to the Rio Grande at outfall locations via major drainage channels, storm drains and pump stations. Details for this program are provided in the SWMP sections below.	The program details and measurable goals are described below. The monitoring program will be conducted according to the approved Cooperative Monitoring Plan (submitted to EPA on June 20, 2016).								Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members
IV	123	Part III.A.3.1.b. Option B: Cooperative Monitoring Program Develop a cooperative wet weather monitoring program with other permittees in the Middle Rio Grande Watershed. The program will monitor waters coming into the watershed (upstream) and leaving the watershed (downstream). The program must include sampling for TSS, TDS, COD, BOD5, DO, oil and grease, E. coli, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and Gross alpha. Monitoring of temperature shall be also conducted at outfalls and/or Rio Grande monitoring locations. Permittees must include additional parameters from monitoring conducted under permits NMS000101, NMR040000 or/and NMR040001 whose mean values are at or above a WQS. The monitoring program must sample the pollutants for a minimum of 7 storm events per location during the permit term with at least 3 events in the wet season and 2 events in the dry season.	The cooperative monitoring program will sample the pollutants for a minimum of 7 storm events per location during the permit term with at least 3 in the events wet season and 2 events in the dry season. The wet season is defined in the permit as July 1 through October 31 and the dry season as November 1 through June 30.	• The monitoring program will follow the permit requirements for parameters tested (TSS, TDS, COD, BOD_5, DO, oil and grease, E. coli, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs, Gross alpha, and temperature). In addition, parameters from stormwater monitoring conducted under permits NMS000101, whose mean values are at or above a WQS, will also be tested. • The monitoring program will be conducted according to the approved Cooperative Monitoring Plan (submitted to EPA on June 20, 2016).								Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members
IV	124	As required in Part III.A.1. and Table 10, the permittees shall submit wet weather monitoring preference Option A or Option B to EPA (i.e., individual monitoring program vs. cooperative monitoring program) with NOI submittals.	CORR submitted its NOI in compliance with the permit requirements and schedule. CORR will participate in Option B - cooperative monitoring program.	Operation B - Cooperative Monitoring Program preference was submitted the CORR NOI on June 19, 2015. See SWMP				**December 22, 2014**	**June 22, 2015**	**6**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division
Not Included in NOI	125	Submit a detailed description of the monitoring scheme to EPA and NMED for approval. The monitoring scheme should include: a list of pollutants; a description of monitoring sites with an explanation of why those sites were selected; and a detailed map of all proposed monitoring sites. In addition, as required in Part III.A.1.h, the monitoring program must include a contingency plan for collecting additional monitoring data within the MS4 or at additional appropriate instream locations should monitoring results indicate that MS4 discharges may be contributing to instream exceedances of WQS. The purpose of this additional monitoring effort would be to identify sources of elevated pollutant loadings so they could be addressed by the SWMP.	CORR has developed, with its cooperative partners, a proposed monitoring scheme for Compliance Monitoring and has submitted this to EPA for approval (submitted to EPA on December 18, 2015).	• The monitoring program will be conducted according to the approved proposed monitoring scheme for Compliance Monitoring (submitted to EPA on December 18, 2015).	Fully Implemented: Proposed Monitoring Plan submitted on Dec. 18, 2015. See (Jul. 2015-Jun. 2016) Annual Report.			**December 22, 2014**	**December 22, 2015**	**12**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members

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Not Included in NOI	126	Submit certification that all wet weather monitoring sites are operational and begin sampling.	Once CORR, and its cooperative partners, receive approval from NMED and EPA on the proposed monitoring scheme for Compliance Monitoring (submitted to EPA on December 18, 2015), the cooperative will be able to move forward with ensuring the monitoring sites are ready to sample according to the monitoring plan. CORR is in the process of defining a cooperative program for the compliance monitoring. CORR, with its cooperative partners (still to be determined), will submit certification to EPA that all wet weather monitoring sites are operational and will begin sampling, according to the Permit requirements.	• CORR, with its cooperative partners (still to be determined), will submit certification to EPA that all wet weather compliance monitoring sites are operational and will begin sampling, according to the Permit requirements.		Fully Implemented: Wet Weather Monitoring Program is operational and ready for sampling. See (Jul. 2015-Jun. 2016) Annual Report.		**December 22, 2014**	**June 22, 2016**	**18**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members
Not Included in NOI	127	As required in Part III.A.1.e, update SWMP document and submit annual reports. The results of the Wet Weather Monitoring must be provided in each annual report.	CORR's NPDES Project Manager will review the program requirements listed in Part II.A.1, for the above-mentioned program elements, during the Annual Report process. A strategy to implement any new program requirements or improve compliance with the program requirements will be developed as needed. The Wet Weather Monitoring results obtained from July 1st to June 30th will be submitted in each Annual Report on Discharge Monitoring Report (DMR) forms as required in Part III.D.1. CORR will submit "after action" reports on sample events with the Annual Report.	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part III.A.1, for the above-mentioned SWMP elements, and assess the overall success of the program and document the program effectiveness in the Annual Report. • The Wet Weather Monitoring results obtained from July 1st to June 30th will be submitted in each Annual Report on Discharge Monitoring Report (DMR) forms as required in Part III.D.1.	EPA Form 3320-1 DMR submitted with (Jul. 2015-Jun. 2016) Annual Report. No sample collected. Sampling plan for the Middle Rio Grande Collaborative Monitoring Group was not approved by EPA until 06/22/16. No storm events occurred between 06/22/2016 and 06/30/2016.			**Annually**			Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

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	128	**Dry Weather Discharge Screening of MS4 - Part III.A.2**										
Not Included in NOI	129	According to the requirements in Part III.A.2., Each permittee shall identify, investigate, and address areas within its jurisdiction that may be contributing excessive levels of pollutants to the Municipal Separate Storm Sewer System as a result of dry weather discharges (i.e., discharges from separate storm sewers that occur without the direct influence of runoff from storm events, e.g. illicit discharges, allowable non-stormwater, groundwater infiltration, etc.). Due to the arid and semi-arid conditions of the area, the dry weather discharges screening program may be carried out during both wet season (July I through October 31) and dry season (November 1 through June 30). Results of the assessment shall be provided in each annual report.	The program details and measurable goals are described below and In Table 6 - Illicit Discharge and Improper Disposal.	The program details and measurable goals are described below and in Table 6 - Illicit Discharge and Improper Disposal.				**Screen the entire jurisdiction at least once (1) every five (5) years and high priority areas at least once (1) a year. ***High priority areas include areas where there are ongoing evidence of ID, or where there are citizen complaints on more that five (5) separate events within twelve (12) months***				Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division
Not Included in NOI	130	This program may be coordinated with the illicit discharge detection and elimination program required in Part I.D.5.e. The dry weather screening program shall be described in the SWMP and comply with the schedules contained in Part I.D.5.e.(iii). The permittee shall: a) Include sufficient screening points to adequately assess pollutant levels from all areas of the MS4. b) Screen for, at a minimum, BOD_5, sediment or a parameter addressing sediment (e.g., TSS or turbidity), E. coli, Oil and Grease, nutrients, any pollutant that has been identified as cause of impairment of a waterbody receiving discharges from that portion of the MS4, including temperature. c) Specify the sampling and non-sampling techniques to be issued for initial screening and follow-up purposes. d) Perform monitoring only when an antecedent dry period of at least 72 hours after a rain event greater than 0.1 inch in magnitude is satisfied. Monitoring methodology shall consist of collecting a minimum of 4 grab samples spaced at a minimum interval of 15 minutes each.	There are no perennial streams in the Albuquerque area that contribute to the Rio Grande. As such, the dry weather screening program serves a dual purpose as an illicit discharge screening analysis. CORR will continue with the existing Dry Weather Screening program in place while working cooperatively to develop illicit discharge screening procedures and plan, as required in part I.D.5.e.(iii). The existing Dry Weather Screening program includes visual screening of arroyos. Should any discharge be present in a quantity sufficient for analysis, it will be screened for BOD5, sediment (e.g., TSS or turbidity), E. coli, Oil and Grease, and nutrients. Any discharge collected will be a grab sample according to the Permit monitoring methodology.	• Visual screening results will be included in CORR's Annual Report when provided. • CORR will continue with the existing Dry Weather Screening program while working cooperatively to develop illicit discharge screening procedures and plan, as required in part I.D.5.e.(iii). • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to screening for illicit discharges.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Feb. 10, 2016. No discharges observed during screening. See IDDE Program Binder.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on June 16, 2017. No discharges observed during screening. See IDDE Program Binder.						Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

NOI Section	ID	Permit Activity Description	Proposed Plan	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Permit Effective Date	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Milestone Implementation Schedule	Responsible Personnel
	131	**Floatables Monitoring - Part III.A.3**										
Not Included in NOI	132	According to the requirements in Part III.A.3., The permittees shall establish locations for monitoring/assessing floatable material in discharges to and/or from their MS4. A cooperative monitoring program may be established in partnership with other MS4s to monitor and assess floatable material in discharges to and/or from a joint jurisdictional area or watershed basis. Floatable material shall be monitored at least twice per year at priority locations and at minimum of one (1) stations (Class B Permittee). The amount of collected material shall be estimated in cubic yards. a) Identify one (1) station to monitor and assess floatable material type.	CORR will continue to monitor floatable material and the amount collected in participation with the MS4 co-permittees. CORR will monitor floatable material in the flood pool of the Tract 17 pond in the City of Rio Rancho. This will be done in conjunction with the requirements in TABLE 7: Control of Floatables Discharges - Part I.D.5.f. CORR monitors and tracks collection of floatables at XX CORR facilities.	• CORR will continue to monitor floatable material and estimate the amount collected at least twice per year at a minimum of 1 station. • All floatable material will be taken to a local landfill for disposal.		Monitoring and assessment of floatable material was conducted at seven (7) drainage facilities between March and April, 2017		**Monitor at least (1) station at least twice per year at priority locations.**			
	133	**Industrial and High Risk Runoff Monitoring - Part III.A.4**										
4	134	The permittees shall monitor stormwater discharges from Type 1 and 2 industrial facilities which discharge to the MS4 provided such facilities are located in their jurisdiction. (Note: if no such facilities are in the permittees jurisdiction, the permittee must certify that this program element does not apply).	Activity removed from CORR's SWMP. This permit item is applicable to Class A permittees only.	**Not Applicable**								

Weston Solutions, Inc.
3840 Commons Ave. NE
Albuquerque, NM 87109
505-837-6520 Fax 505-837-6550
www.westonsolutions.com

October 6, 2017

Mr. Xavier Pettes
NPDES Project Manager
City of Rio Rancho
3200 Civic Center Circle
Rio Rancho, NM 87144

RE: NPDES AND MS4 ENGINEERING SUPPORT SERVICES SCOPE OF WORK AND COST ESTIMATE FOR GOOD HOUSEKEEPING EVALUATION FOR CITY OF RIO RANCHO STREETS & RIGHT OF WAY DIVISION STORM WATER POLLUTION PREVENTION PLAN (SWPPP) DRAFTING AND TRAINING.

Dear Mr. Pettes:

Weston Solutions, Inc. (Weston) is pleased to provide the City of Rio Rancho (City) with this scope of work for MS4 permit support services related to Municipal Good Housekeeping activities. As presented below, Weston will provide environmental compliance services for the Streets and Right of Way (ROW) yards located at 2704 Iris Road NE, 2016 Idalia Rd NE (Kim Road Yard), Acano Circle NE ROW Stockpiles (SW quadrant of Northern Blvd NE and Unser Blvd NE), and 2301 Campus Blvd NE backfill stockpile in Rio Rancho. Activities will include inspection of yards, preparation of one (1) Storm Water Pollution Prevention Plan (SWPPP) and a training session for the facility stormwater management team. These will be compliant with the requirements of the Middle Rio Grande Watershed Based Municipal Separate Storm Sewer (MRG WBP MS4) Permit issued December 22, 2014.

SCOPE OF WORK

Streets and ROW SWPPP

The following tasks describe each compliance activity in further detail:

- Task 1: Initial SWPPP Good Housekeeping Inspection and Existing Operations Review
- Task 2: Compliance Memo and Recommendations
- Task 3: Drafting SWPPP for Streets and ROW
- Task 4: SWPPP Training

Task 1: Initial SWPPP Good Housekeeping Inspection

Weston will perform an initial site visit to the Streets and ROW division yards and conduct interviews with the Department of Streets personnel to obtain up-to-date information relevant to determining the need for a SWPPP. This information includes, but is not limited to:

- Facility descriptions and contact info
- Designating a Storm Water Pollution Prevention Team (PPT)
- Maps and Site Plans
- Potential storm water pollution sources at each site location
- Industrial activities that occur at each location if any
- Potential locations for spills and leaks
- Obtain impacted water discharge history
- Any non-storm water discharge documentation
- Salt storage at any given facility
- Hazardous products that are currently stored on site and existing storage capacity

- Gather information on training programs, maps, spill response plans and existing operating procedures
- Established spill response procedures and emergency contractors
- Obtain spill/leak history
- Ascertain site drainage and receiving waters
- Verify facility map details and note any possible changes

Task 2: Compliance Memo and Recommendations
Upon completion of the site visit, Weston will provide a summary of findings and actions necessary to achieve compliance with the MS4 permit. The Streets staff can use this information as a basis to modify operations or equipment at the facility prior to the completion of any necessary SWPPP.

Task 3: Drafting SWPPP for Streets and ROW
Weston will develop Best Management Practices (BMPs) designed to specifically address the activities at each location that are potential sources of storm water pollution. Weston will also address the following Storm Water Control Measures with suggestions on improvement:

- Overall good housekeeping
- Minimizing exposure
- Spill prevention and response
- Erosion and sediment controls
- Management of impacted runoff
- Salt storage piles or any piles containing salt
- Employee Training
- Non-storm water discharges
- Waste, garbage and floatable debris management
- Dust generation and vehicle tracking of industrial materials

Weston will develop one (1) comprehensive "Good Housekeeping" SWPPP for Streets and ROW which is compliant with the MRG WBP MS4 permit. Weston will transmit an electronic draft of the SWPPP for the City's review and comment. Weston will incorporate the City's comments or contact the reviewer if further discussion is needed. Once all comments/issues are resolved, Weston will submit two (2) hard copies of the final SWPPP and one (1) CD containing the electronic files for all related documents. The final hard copies will be delivered in a 3-ring binder to facilitate the collection and organization of required facility documentation by the City staff until the next plan revision.

Task 4: SWPPP Training
Under the MS4 permit, storm water pollution prevention training for permitted City facilities must occur at least annually. Weston will plan, coordinate, and conduct a single training session for facility supervisors and other appropriate City staff. The training session will be provided in a "Train the Trainer" format to prepare one or more individuals representing each facility (preferably Pollution Prevention Team Members) to provide training to staff within their organization. The training will address the following:

- Overall goals of storm water pollution prevention
- Elements of the SWPPP
- Applicable non-structural BMPs
- Materials management
- Spill response procedures

We will also prepare a PowerPoint presentation and experienced staff will deliver the training. The PowerPoint used for the training will be provided to each participant on CD for use in training operational staff. This will facilitate training for small groups and individuals including new employees or temporary contractors.

COST

The Weston team will perform the above work and bill the City on a Time & Materials basis for a total budget of $15,114.25 including NMGRT.

Subtask	Labor	Expenses	Total Estimated Cost*
Task 1: Initial SWPPP and SPCC Good Housekeeping Inspection	$3,380	$15.00	$3,395.00
Task.2: Compliance Memos and Recommendations	$2,280		$2,280.00
Task 3: SWPPP for Streets and ROW	$6,000		$6,000.00
Task 4: SWPPP Training	$2,380	$15.00	$2,395.00
Total, Exclusive of NMGRT			$14,070.00
NMGRT (7.4375% on Labor Cost))			$1,044.23
GRAND TOTAL			15,114.23

Upon receiving notice to proceed, Weston expects to complete this work on the following schedule:

Item	Deliverable	Schedule
Initial SWPPP Inspection	Copy of inspection form	14 calendar days from NTP
Compliance Memos and Recommendations	Compliance Memo	14 calendar dDays from Inspection date
Draft SWPPP	Electronic (.pdf) delivery of draft SWPPP	30 calendar days from delivery of Compliance Memo
Respond to Comments and Finalize SWPPP	2x hard copies and 1x DVD of final SWPPP	14 calendar days after receiving comments
SWPPP Training	PowerPoint and Quiz	Within 3 months of delivering final SWPPP

ASSUMPTIONS

The assumptions used in developing this scope and cost estimate are as follows:

- A representative of the City will escort the Weston Solutions team during the facility site visits and inspections.
- Development of the SWPPP does not include preparation of Standard Operating Procedures. Development of these documents can be completed with authorization of additional scope and funding.
- No additional follow up or corrective action facility inspections are included in this scope of work.

Weston appreciates the opportunity to provide professional consulting services to you, and we look forward to assisting you with this project. Please contact me at (505) 837-6566 or by email at Brad.Sumrall@WestonSolutions.com if you have any questions or need additional information.

Sincerely,
WESTON SOLUTIONS, INC.

L. Brad Sumrall, PE
Albuquerque Operations Manager

RioRancho
City of Vision

Development Services Department
Engineering Division
3200 Civic Center Circle NE
Rio Rancho, NM 87144

October 10, 2017

Mr. L. Brad Sumrall, P.E.
Weston Solutions Inc.
3840 Commons Ave. NE
Albuquerque, NM 87109

RE: **Notice to Proceed – NPDES & MS4 compliance to provide good housekeeping evaluation for streets & right-of-way division SWPPP**

Dear Mr. Sumrall:

The purpose of this letter is to authorize your firm to begin all engineering services for the above-mentioned project.

Services shall be performed based on Weston Solutions October 6, 2017 Task Order. This Notice to Proceed applies to work of value not to exceed the amounts listed in the attached City of Rio Rancho Purchase Order (180798). It will be the responsibility of the Weston Solutions, Inc. to obtain written approval from the City Engineering Division Manager, David Serrano prior to proceeding with work in excess of this amount.

Please feel free to contact me with questions or comments by phone at 505-891-5059 or by e-mail at dserrano@rrnm.gov.

Sincerely,

David D. Serrano, P.E.
Engineering Division Manager

Enclosed:
City of Rio Rancho Purchase Order (No. 180798)

cc: Jamie Marrufo, DPW Engineering Section Manager

CITY OF RIO RANCHO

PURCHASE ORDER

PAGE: 1

P.O. NO.: 180798

DATE: 10/06/17

Send Invoice to:
FINANCIAL SERVICES
3200 CIVIC CENTER CIRCLE NE
RIO RANCHO, NEW MEXICO 87144
Phone (505) 891-5010
Fax (505) 891-5762

TO: WESTON SOLUTIONS INC
PO BOX 405163
ATLANTA, GA 30384-5163

SHIP TO: City of Rio Rancho-Purchasing
DEVELOPMENT SERVICES
3200 CIVIC CENTER CIRCLE
NE, SUITE 130
RIO RANCHO, NM 87144

VENDOR NO.
5825

NOTES:
1. **Federal Tax I.D. Number is required for payment.**
2. **If unable to fill at prices shown, or meet delivery day, please advise immediately.**
3. **All items subject to terms and conditions on reverse unless a contract number is referenced below.**

DELIVER BY	SHIP VIA	F.O.B.	TERMS
10/13/17			NET

CONFIRM BY	CONFIRM TO	REQUISITIONED BY
STEPHEN MITCHELL		ANTHONY CARAVELLA

FREIGHT	CONTRACT NO.	ACCOUNT NO.	PROJECT	REQ. NO.	REQ. DATE
		10150304343207		67734	10/06/17

LINE NO.	QUANTITY	UOM	ITEM NO. AND DESCRIPTION	UNIT COST	EXTENDED COST
1	14070.00	DL	PROFESSIONAL SERVICES FOR NPDES & MS4 COMPLIANCE TO PROVIDE GOOD HOUSEKEEPING EVALUATION FOR STREETS & RIGHT OF WAY DIVISION STORMWATER POLLUTION PREVENTION PLAN (SWPP)	1.0000	14070.00
2	1044.23	DL	NMGRT @ 7.4375%	1.0000	1044.23
				SUB-TOTAL	15114.23
				TOTAL	15114.23

REMARKS:
SCOPE AND PRICING PER SCOPE OF WORK DATED 10/6/17
PROFESSIONAL SERVICES SHALL NOT EXCEED $60,000.00
ONLY ITEMS AUTHORIZED OFF THIS CONTRACT MAY BE PURCHASED OFF THIS PURCHASE ORDER.
****ATTENTION VENDOR: PURCHASE ORDER NUMBER MUST BE PRESENT ON INVOICE****

The City of Rio Rancho New Mexico ★ 1981 ★

Authorized By:

Purchasing Department
Tax Exempt No. 01-142626-008

Weston Solutions, Inc.
3840 Commons Ave. NE
Albuquerque, NM 87109
505-837-6520 Fax 505-837-6550 www.westonsolutions.com

November 13, 2017

Jason Gallegos, Manager
Streets/Right of Way Division
City of Rio Rancho Public Works Department
3200 Civic Center Circle NE
Rio Rancho, NM 87144
Via email: jgallegos@rrnm.gov

RE: CITY OF RIO RANCHO MS4 PERMIT NOVEMBER 2017 INITIAL STORMWATER PERMIT COMPLIANCE INSPECTION

Dear Mr. Gallegos:

Thank you for facilitating the initial stormwater inspections performed at your facilities by Weston Solutions, Inc. (Weston) on November 7, 2017. The inspection was conducted in conformance with the requirements of the Middle Rio Grande Watershed Based Municipal Separate Storm Sewer System (MS4) Permit and will facilitate the drafting of a Storm Water Pollution Prevention Plan (SWPPP) for your facilities. **The purpose of this letter is to inform you of the results of the inspection performed at your facility on November 7, 2017 and to identify opportunities for improvement to existing operations.**

The purpose of the inspections was to fulfill the compliance inspection requirements of the MS4 Permit and to evaluate measures that should be implemented for an effective SWPPP. The inspection was an opportunity to observe potential stormwater pollution issues at your facility and to determine appropriate best management practices (BMPs) to include in your facility's SWPPP. Deficiencies and Permit compliance issues observed during the inspection are summarized in the attached table along with recommendations that may assist your facility in achieving a higher level of compliance, increased stormwater pollution prevention, and improved good housekeeping. For the Campus Blvd. Stockpiles and Right of Way Stockpiles, recommendations are provided should the facilities remain in their current states.

The MS4 requires that actions taken to address stormwater management concerns be documented. **Please review the concerns identified in the attached table and provide an emailed response within 30 days as to how each concern was or will be addressed.** A copy of your responses will be placed in your SWPPP once it has been completed. Please also retain a copy of your responses for your records.

If you have questions, please contact Kathryn Hayden at Kathryn.Hayden@westonsolutions.com or (505) 837-6525.

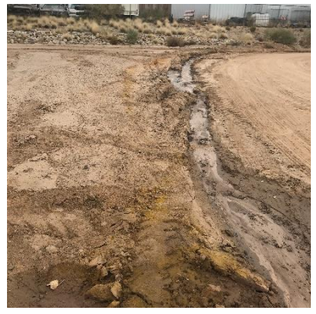
Sincerely,

L. Brad Sumrall, P.E.
Weston Solutions, Inc.

cc: David Serrano, dserrano@rrnm.gov
Jamie Marrufo, jmarrufo@rrnm.gov
Xavier Pettes, xpettes@rrnm.gov

Stormwater Compliance Issues and Deficiencies at the City of Rio Rancho Streets and Right of Way Yard

November 7, 2017

Major Compliance Issues/Deficiencies			
Activity/Area of Concern	**Comments**	**Recommendations**	**Photographs**
SWPPP	Facility does not have a SWPPP	None - SWPPP is currently being developed.	-
Used Battery Management	Used batteries were stored outside on a pallet	Used and new batteries must be stored indoors or on secondary containment and under cover. A better place to store batteries would be inside the maintenance garage. Alternatively, outdoor storage bins/structures for used batteries are available.	
Vehicle Wash Area	Wash water has formed channel discharging from facility and into SSCAFCA's pond which directs vehicle wash water to the storm system	Fill should be used to eliminate the channel. The wash area should be temporarily regraded to direct water to an existing lined impoundment. Ultimately, the wash area should be paved and water should be routed through the oil water separator then to the lined impoundment.	  
	Evidence of herbicides/pesticides being washed out in the vehicle wash area which currently discharges off-site	This practice should cease. Herbicides and pesticides should not be allowed to enter the stormwater system.	

Runoff Control	No runoff prevention present	The perimeter of the facility should be bermed to prevent stormwater that has come into contact with potential pollutants stored along the perimeter of the facility from entering the off-site stormwater system.	  
Salt Storage	Salt was being stored in a manner that allowed runoff into the storm system	Salt pile should be bermed or a wattle should be placed between the salt pile and the stormwater outfall. Ideally, the salt pile should be under a cover or tarp.	
Storm Drains	Debris present in storm drains	Clear materials from storm drains and work to keep them free of debris. Add wattles to outfalls to prevent debris and sediment from entering off-site storm system.	 

Oil Water Separator	Unable to maintain oil water separator	Uncover oil water separator access and service so that it functions properly and no longer backs up into maintenance garage. Route outlet pipe to the lined impoundment or make sure the outlet has not been covered with concrete.	
Minor Non Compliance Issues/Deficiencies			
Activity/Area of Concern	**Comments**	**Recommendations**	**Photographs**
Solid Waste Management	Dumpster lids were opened, plug was missing, and corrosion was present	Dumpster should be replaced due to corrosion. Lids should remain closed when dumpster is not in use and drain should be equipped with plug to prevent discharge of impacted water.	  

Minor Spills	Small oil spills/staining were observed	Dirt areas with oil contamination should be scraped up and properly disposed of. Dirt/absorbent on paved areas should also be scraped up and disposed of with contaminated dirt.	      

Labeling	520 Engine oil tank was missing a label	Add label to front of tank to clearly indicate tank contents.	
	No label on 5 gallon buckets	Add label to 5 gallon buckets to clearly indicate contents.	
Spill Kits/Spill Response Plan	No dedicated spill kits or spill response plan	Dedicated spill kits should be placed where spills can potentially occur. At a minimum, dedicated spill kits should be placed near the oil tanks in the maintenance garage and by the used oil tote. A spill response plan with instructions, emergency contact information, and a facility map should be posted near the spill kit. A spill response plan will be included in the facility SWPPP.	-
Material Storage	Recyclable metal stored on ground	Metal should be stored on pallets where possible to prevent contact with stormwater and reduce the potential for rust to enter storm system.	

	55 gallon drums of used antifreeze stored on pallet	Move the two antifreeze drums to secondary containment. Liquid stored outside should be stored on secondary containment and away from storm drains.	
	Trial deicer stored on ground and near arroyo	Deicer tote should be moved to some sort of secondary containment and way from storm system.	
	Piles of roadway construction materials uncovered	Piles of materials should be covered to reduce stormwater pollution potential.	  

	Some Crafco boxes were not stored under cover	Pallets should be moved so that all boxes of Crafco are under cover.	
Equipment Storage	Hydraulic hoses leaking fluids	Bags with absorbent should be placed over hydraulic hoses to control drips/leaks.	  
	Tires stored on ground	Tires should be stored off ground (on pallets) and under cover if possible.	

Recommendations			
Activity/Area of Concern	**Comments**	**Recommendations**	**Photographs**
Labeling	Outdoor storage cabinet was labeled ‘Flammable Gas’	Cabinet labeling should represent what is stored inside the cabinet (hydraulic oil, engine oil, gasoline, etc.). May consider organization of the cabinet contents.	

			 
	Label on diesel exhaust fluid (DEF) was not where it could be seen easily	Add a label to the front of the DEF tote or to the wall above the tote.	
Spill/Leak Containment	Hoses leading from oil and transmission fluid tanks free	Ends of hoses leading from tanks should be stored in some sort of containments (like middle tank's hose in photo) to prevent oil and transmission fluid spills/leaks.	
Sediment Control	No sediment control at outfalls	Consider adding wattles to outfalls to prevent sediment from leaving site.	-
SPCC Plan	Large quantities of oil observed	Inventory oil storage capacity to ensure it is less than 1,320 gallons and SPCC plan is not required. SPCC Plan is required if oil storage capacity is greater than 1320 gallons.	-

Stormwater Compliance Issues and Deficiencies at the City of Rio Rancho Kim Road Yard

November 7, 2017

Compliance Issues/Deficiencies			
Activity/Area of Concern	**Comments**	**Recommendations**	**Photographs**
SWPPP	Facility does not have a SWPPP	None - SWPPP is currently being developed	-
Good housekeeping	Trash observed at site	Clean up trash in southeast corner of site.	
Runoff Control	Berm issues at southeast edge of stormwater pond	Rebuild berm along southeast edge of stormwater pond.	
Sediment Control	No sediment control at outfalls	Consider adding wattles to outfall to prevent sediment from filling in the stormwater pond.	-

Stormwater Compliance Issues and Deficiencies at the City of Rio Rancho Right of Way Stockpiles

November 7, 2017

Compliance Issues/Deficiencies			
Activity/Area of Concern	**Comments**	**Recommendations**	**Photographs**
SWPPP	Facility does not have a SWPPP	None - SWPPP is currently being developed	-
Good housekeeping	Trash observed at site	Clean up trash at site.	 
Runoff Control	Berms absent at south end of site	Rebuild berm along southern site perimeters.	
	No runoff controls at site exit and exit	Add runoff controls at site access points to maintain sediment onsite or consider surrounding stockpiles with silt fences or covering stockpiles with tarps.	

*Note: These are actions that would be required if the site were to be included in the SWPPP. If the stockpiles are moved as planned, priority should be given to moving the millings at the south end of Acano Cir.

Stormwater Compliance Issues and Deficiencies at the City of Rio Rancho Campus Blvd Stockpiles

November 7, 2017

Compliance Issues/Deficiencies			
Activity/Area of Concern	**Comments**	**Recommendations**	**Photographs**
SWPPP	Facility does not have a SWPPP	None - SWPPP is currently being developed	-
Good housekeeping	Trash observed at site	Clean up trash at site.	
Runoff Control	Silt fence missing/collapsed in several locations	Replace silt fence around the stockpiles.	 
Erosion/Sediment Control	Erosion at inactive portion of site may contribute to sediment in stormwater	Stabilize inactive portion of the site with some sort of erosion control device/blanket/vegetation.	 

*Note: These are actions that would be required if the site were to be included in the SWPPP. If the stockpiles are moved as planned, entire site should be revegetated for erosion control.

Contract No. 17-DS-087
Services Agreement
Assistance with NPDES MS4 General Permit NMR04A000

THIS AGREEMENT (Agreement) is made and entered into by and between the City of Rio Rancho (City), a municipal corporation and political subdivision of the State of New Mexico, and Weston Solutions, Inc. (Contractor), a Pennsylvania corporation, as of the date indicated below.

WHEREAS, the City has a need for assistance with technical and regulatory permit compliance tasks associated the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sew System (MS4) General Permit No. NMR04A000; and

WHEREAS, the Contractor submitted a task order regarding services to be provided resulting in the scope of services, labor and direct cost fee proposal, attached hereto as Exhibit A and incorporated by reference; and

WHEREAS, the City wishes to engage the Contractor to provide the services described in Exhibit A.

NOW, THEREFORE, in consideration of the premises and the respective obligations set forth herein, the parties agree as follows:

1. ENGAGEMENT; SCOPE

The City hereby engages the Contractor to provide the services described in Exhibits A attached hereto.

2. TERM; TERMINATION

(a) Unless sooner terminated, this Agreement will be effective for a period of one (1) year with the option to annually renew for three additional years. In no event shall the term of this Agreement exceed four years.

(b) Notwithstanding anything to the contrary contained herein, the City may terminate this Agreement at any time by giving the Contractor such written notice as may be reasonable under the circumstances. Upon receipt of such written notice, the Contractor shall cease all work undertaken hereunder, except as may be necessary to provide for an orderly transition of such work. The Contractor may terminate this Agreement at any time with 60 days written notice to the City.

(c) Upon any termination of this Agreement, the Contractor shall provide a final invoice to the City, showing all costs incurred but unpaid, and the City shall pay such costs, as shown therein. The Contractor shall forthwith deliver all files, reports, and other materials concerning the services provided, maintained or controlled by the Contractor at the time of such termination, subject to all applicable federal and state law.

(d) The Contractor shall have no claim, right or cause of action against the City for termination of this Agreement by City in accordance with the provisions of this paragraph, except as may be otherwise expressly provided with respect to the Contractor's earned but unpaid costs as of the date of such termination.

(e) Nothing herein shall be construed as relieving the Contractor from liability to the City for damages sustained by the City as a result of a breach of this Agreement by the Contractor, and the City

may withhold any payments otherwise due to the Contractor as a set-off against all or part of such damages, until such time as the exact amount of damages due the City from the Contractor is determined and that amount paid to (and/or withheld by) the City in full.

3. COMPENSATION AND PAYMENT

For services rendered hereunder, the Contractor shall invoice the City monthly for services provided in accordance with the Contractor's fee schedule included in Exhibit A. Contractor shall submit monthly invoices to the City showing the amount of compensation due, the amount of any New Mexico gross receipts taxes and the total amount payable. Payment of undisputed amounts shall be due and payable thirty (30) days after the City's receipt of the invoice.

4. RELATIONSHIP OF PARTIES

The Contractor (and each agent, employee and contractor employed or engaged by the Contractor to fulfill the Contractor's obligations hereunder) shall be an independent contractor performing professional services for the City and not an employee of the City or an agent of the City for any purpose beyond the specific engagement for services set forth herein. As independent contractors, the Contractor and its agents and employees shall not qualify for or receive any employee benefits from the City, including but not limited to leave, retirement, insurance, bonding, use of City vehicles, or any other benefits afforded to City employees.

5. STANDARD OF PERFORMANCE

The Contractor agrees and represents that it has the personnel, experience and knowledge necessary to qualify it for the particular duties to be performed under this Agreement. Contractor shall perform the work described herein in accordance with the standard of care for performance of the Services in accordance with generally accepted professional standards and practices as applied to similar projects performed under similar conditions prevailing in the community where services are rendered at the time such advice, consultation and/or services are provided by Contractor.

6. DELIVERABLES AND USE OF DOCUMENTS

All work, work product, and deliverables produced under contract with the City shall remain the exclusive property and shall inure to the benefit of the City as work for hire; the Contractor shall not use, sell, disclose or obtain any other compensation for such work for hire. In addition, the Contractor may not, with regard to all work, work product, deliverables or work for hire required by this Agreement, apply for in its name or otherwise, any copyright, patent or other property right and acknowledges that any such property right created or developed remains the exclusive right of the City.

7. EMPLOYEES AND SUBCONTRACTORS

The Contractor shall be solely responsible for payment of wages, salary or benefits to any and all employees or contractors retained by the Contractor in the performance of the Services. Contractor agrees to indemnify, defend and hold harmless the City for any and all claims that may arise from the Contractor's relationships to its employees and subcontractors.

8. INSURANCE

The Contractor shall procure and maintain, at its own expense, all necessary or appropriate insurance coverage for itself and its agents and employees. The Contractor shall provide to the City, a certificate of insurance or declarations page demonstrating compliance with the foregoing.

9. ASSIGNMENT AND DELEGATION

The Contractor shall not delegate or subcontract any portion of the services to be performed hereunder without the prior written approval of the City or customary in the provision of the Contractor's services. Nor shall the Contractor assign or transfer any interest in this Agreement without the prior written consent of the City; provided, however, that, notwithstanding the foregoing, amounts due hereunder from the City to the Contractor may be assigned to a bank or trust company. Notwithstanding anything to the contrary contained herein, no assignment or transfer of funds and/or the Contractor's right to payment hereunder shall bind the City to pay any person other than the Contractor for services provided hereunder.

10. RECORDS AND AUDIT

The Contractor shall maintain appropriate accounts and records to adequately identify and account for all services provided and costs chargeable to the City hereunder and such other records as may be required by law. Subject to applicable federal and state law, such records will be made available to the City and/or its authorized representative(s) during regular business hours, upon reasonable request, and will be retained for two (2) years after the termination of this Agreement, unless provided otherwise by the City in writing.

11. APPROPRIATIONS

The City's obligations under this Agreement and all amounts payable hereunder are contingent upon sufficient appropriations therefor by the City's Governing Body. If sufficient appropriations are not made, the City shall notify the Contractor of the termination of this Agreement in accordance with the provisions of paragraph 2, above.

12. CONFIDENTIALITY

Any confidential information provided to or developed by the Contractor in the performance of this Agreement shall be kept confidential and shall not be revealed or made available to any person by the Contractor without the prior written approval of the City.

13. COMPLIANCE WITH LAWS AND POLICIES; CONFLICT OF INTEREST

(a) In the performance of their obligations hereunder, the parties shall obey and abide by all applicable laws, rules and regulations, and with all applicable ordinances, polices and procedures.

(b) The Contractor hereby covenants, warrants and represents that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its services under this Agreement. Without limiting the generality of the foregoing, the Contractor shall comply with all applicable legal or regulatory provisions concerning conflicts of interest.

(c) Both parties shall abide by all applicable federal and state laws, rules, regulations, and executive orders pertaining to equal employment opportunity; pursuant thereto, shall assure that no person shall, on the grounds of race, color, national origin, sex, age, or disability, be excluded from employment

with, participation in, be denied the benefits of or be otherwise subjected to discrimination under, any program or activity performed under this Agreement; and to promptly take appropriate steps to correct any deficiency that may be found to occur in compliance with such laws and rules.

14. RELEASE; INDEMNITY

By its receipt of final payment of all amounts due under this Agreement, the Contractor shall release the City, and its officers and employees, from all liabilities, claims, and obligations whatsoever, arising from or under this Agreement. The Contractor shall indemnify and defend the City and hold the City harmless for and from any and every claim, action, liability, loss, damage or suit, arising from the fault of the Contractor in performing (or omitting to perform) services hereunder.

15. FORCE MAJEURE

Neither the City nor the Contractor shall be liable for any delay in the performance of this Agreement, nor for any other breach, nor for any loss or damage arising from uncontrollable forces such as fire, theft, storm, war, or any other force majeure that could not have been reasonable avoided by exercise of due diligence.

16. LICENSES

The Contractor shall maintain all required licenses, including without limitation all necessary professional and business licenses, throughout the term of this Agreement. Contractor shall require and shall assure that all of the Contractor's employees and subcontractors maintain all required licenses, including without limitation all necessary professional and business licenses.

17. NONEXCLUSIVITY

The City reserves the right to engage other contractors to perform services described herein, and the Contractor likewise may provide the same services to other clients; provided, however, the Contractor shall devote reasonable time and effort to any task undertaken hereunder.

18. SEVERABILITY

In the event that a court of competent jurisdiction shall hold any part or provision of this Agreement invalid, void or of no effect, the remaining provisions of this Agreement shall remain in full force and effect, provided that continued enforcement of such remaining provisions does not materially prejudice either the Contractor or the City in their respective rights and obligations contained in such valid provisions of this Agreement.

19. NOTICES

Any notice required or permitted to be given hereunder shall be sufficient if mailed to the address shown below or faxed to the number shown below for the party receiving notice, or to such other address or fax number of which such party has duly notified the other party in accordance with the provisions of this paragraph.

For notice to the City:

City of Rio Rancho
Xavier Pettes, NPDES Project Manager

For notice to the Contractor:

Weston Solutions, Inc.
L. Brad Sumrall, Albuquerque Operation Manager

3200 Civic Center Circle
Rio Rancho, New Mexico 87144
Phone: (505) 891-5005
Fax: (505) 896-8994

3840 Commons Ave. NE
Albuquerque, New Mexico 87109
Phone: (505) 883-6520
Fax: (505) 837-6595

20. MERGER; AMENDMENT

This Agreement represents the entire agreement between the parties with respect to the matters addressed herein, and all prior agreements, covenants, and understandings between the parties concerning the same have been merged into this written Agreement. This Agreement shall not be altered, modified, changed, or amended except by a written instrument executed by the parties.

IN WITNESS WHEREOF, the parties have executed this Agreement, effective as of the date executed by both parties.

CITY OF RIO RANCHO

BY: _____
Keith J. Riesberg, City Manager

Date: 4/14/17

WESTON SOLUTIONS, INC.

BY: _____
L. Brad Sumrall, Albuquerque Operations Manager

Date: 5/3/2017

APPROVED AS TO FORM:

By: _____
Gregory F. Lauer, City Attorney

Weston Solutions, Inc.
3840 Commons Ave., NE
Albuquerque, New Mexico 87109
505-883-6520 Fax 505-837-6595
www.westonsolutions.com

March 16, 2017

Mr. David Serrano, PE
Engineering Division Manager
Development Services Department
City of Rio Rancho
3200 Civic Center Circle NE
Rio Rancho, New Mexico 87114

RE: CITY OF RIO RANCHO, TASK ORDER – MS4 Watershed Based Permit Rio Rancho Ordinance Modifications

Dear David:

Weston Solutions Inc. (Weston) appreciates the opportunity and privilege of providing consulting services in support of the City of Rio Rancho's MS4 permit compliance requirements. I met with you and Brian Kent on February 10 and discussed preparing updates and revisions to current Rio Rancho ordinances and codes. Weston will review the documents listed below and provide revisions to facilitate compliance requirements with the EPA Middle Rio Grande Watershed Based MS4 permit issued in 2014. Specific attention will be given to compliance with portions of Part I.D, Storm Water Management Program Control Measures within the City of Rio Rancho. This describes our scope of work and fees. Our schedule will be developed in coordination with you and others at the City.

Scope of Work

Weston will address the tasks described below.

A. **Review the following Rio Rancho municipal codes and ordinances and provide draft recommendations for modifications to address MS4 Watershed Based permit requirements:**
Fee: $2,750

Rio Rancho Municipal Code Chapter 91 – Nuisance, Health and Sanitation
Rio Rancho Municipal Code Chapter 153 - Erosion Control: Storm Drainage
Rio Rancho Municipal Code Chapter 154 – Planning and Zoning
Draft Revisions to Chapter 153- Erosion Control: Storm Drainage

B. **Develop a draft Storm Water Quality Ordinance** to address the following requirements in the Watershed Based MS4 permit: Part 1.D.5.a.v, Part 1.D.5.a.(ii)(a), Part 1.D.5.b.(ii)(b), and Part 1.D.5.e.(i)(b). These sections focus on: Green Infrastructure/Low Impact Development/Sustainable Design practices, Construction Site Stormwater Runoff Controls, Post-Construction Stormwater Management in New and Redevelopment, and Illicit Discharge and Improper Disposal. The language will be based on other regulatory mechanisms available within the permit area. Reference to requirements described in Section 10 of the Rio Rancho Design Process Manual (DPM) will be included. **Fee: $4,000**

Weston Solutions, Inc.
3840 Commons Ave., NE
Albuquerque, New Mexico 87109
505-883-6520 Fax 505-837-6595
www.westonsolutions.com

C. **Host and attend up to three stakeholder meetings** to gather input from affected agencies and the development community (e.g. Home Builders of New Mexico, NAIOP). **Fee: $7,100**

D. **Finalize Ordinance Revisions -** Weston will integrate all City and approved stakeholder input into the draft ordinance language for final acceptance. A final review draft of the ordinance language will be provided to City staff for final review. Final review comments will be addressed and provided as final versions for Chapter 153 and the Proposed Storm Water Quality Ordinance.
Fee: $4,120

Fee and Contract Terms

We propose a time and materials budget based on the fees listed above for a total of $17,970 exclusive of New Mexico Gross Receipts Tax. Presently, the sales tax rate is 7.3125% in Albuquerque so the total budget is $19,284 including NMGRT. Our invoicing will reflect the task breakdown described above using hourly rates for staff supporting the project.

We have attached our standard contract terms and are prepared to perform this work when authorized. Your signature below will serve as authorization and notice to proceed for this work. We will hold a kick-off meeting with you once notified of acceptance.

Thank you for the opportunity to support you and the City of Rio Rancho in complying with the Watershed Based MS4 permit. Please call me, at your convenience, with any questions or needs for additional information.

Sincerely,

L. Brad Sumrall, PE
Albuquerque Operations Manager

Authorized Agent Date
City of Rio Rancho

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

MEMORANDUM

DATE: July 12, 2017

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

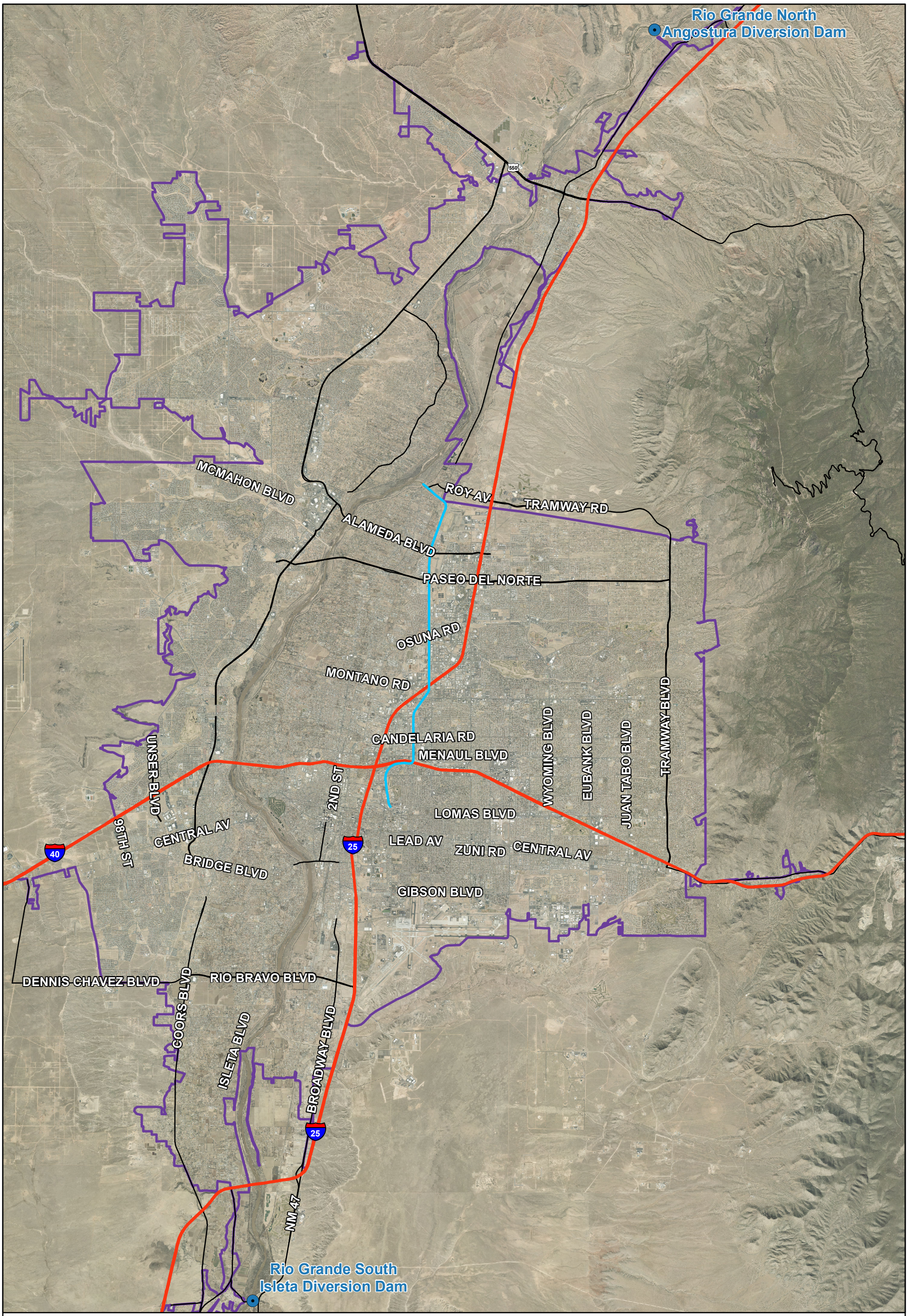
FROM: Craig Hoover, PE
Sarah Ganley, PE

SUBJECT: **CMC Dry Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and Reporting FY 2017 Dry Season (November 1, 2016, to June 30, 2017) Memo**

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) 2017 (July 1, 2016, to June 30, 2017). 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 daily 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 on-call 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 Watershed Based Municipal Separate Storm Sewer System (MS4) Permit, NPDES Permit No. NMR04A000 ("WSB MS4 Permit").

As identified in the CMC Monitoring Plan, the WSB MS4 Permit requires that 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 2). During the 5-year WSB MS4 Permit term, at least three (3) events must be sampled in the wet season (between July 1 and October 31, 2016) and at least two (2) events in the dry season (between November and June). The remaining two (2) required events can be obtained during either the wet or dry seasons. During the FY 2017 dry season (November 2016 through June 2017) there was one (1) qualifying storm event where samples were collected for both the Rio Grande North and Rio Grande South locations.



Bohannan Huston
www.bhinc.com 800.877.5332

Legend

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

N W E S

0 0.5 1 2
Miles

CMC Monitoring Locations

Figure 1

P:\20170386\WR\Reports\Preliminary & Draft\Figures\MXDs\Figure1-CMCMonitoringLocations.mxd
Author: gmaynard

July 2017

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
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) – added to allow dissolved metal results to be compared to the applicable water quality standards

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 fifteen (15) minutes of sample collection. All E. coli samples were submitted to the laboratory within six (6) hours of collection in order to meet the specified hold time.

Sampling Locations:

The sampling locations are shown in Figure 1, page 2.

Rio Grande North – Instream 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 – Instream 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. These North and South instream sample locations capture all inputs to the Rio Grande within the UA.

Sample Collection:

As mentioned previously, sample collection for the CMC is being conducted by DBS&A through a separate on-call contract. 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 South location. After the November qualifying storm event sample was obtained, the CMC instructed DBS&A to stop sample collection during the remainder of the dry season.

DBS&A provided BHI with their field notes and field sample data (temperature, DO, specific conductivity, and pH) for the FY 2017 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 chronological summary of the CMC comprehensive monitoring program activities completed by DBS&A for the FY 2017 dry season from November 2016 through June 2017. One (1) qualifying storm event was sampled and analyzed during the FY 2017 dry season.

- **November 3 – Only E. coli for Rio Grande North.** A sample was collected at the Rio Grande North location and sent to the laboratory for an E. coli only test. Based on review of the storm event by the CMC, it was determined this was not a qualifying storm event; therefore, full parameter testing did not occur for the sample collected at the Rio Grande North location.
- **November 21-22 – Qualifying Storm Event – Full Analysis of Samples**. A sample was collected at the Rio Grande North location beginning at 9:30 a.m. on November 21 and sent to the laboratory for an E. coli only test. The CMC determined that the storm event

beginning November 21 was a qualifying storm event. A Rio Grande South sample was collected beginning at 7:00 a.m. on November 22; the samples from the North (from November 21 collection) and South locations were taken to the laboratory for full parameter testing.

Stormwater Quality Database for CMC

As stated previously, there was one (1) qualifying storm event sampled during the FY 2017 dry season, wet weather monitoring which occurred November 21-22, 2016. DBS&A's field notes containing DO, pH, conductivity, and temperature measurements, as well as comments for the sampling done in November, 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 each laboratory report.

The HEAL analyses for the one (1) qualifying storm event contain the full parameter list for both the Rio Grande North and Rio Grande South sampling locations. There was one other precipitation event in November 2016 that did not evolve into qualifying storm events; however, an E. coli sample was still collected and field data was measured for the Rio Grande North location. The HEAL lab reports are provided with this memo (Attachment 1). Despite not being qualifying storm events, the field and E. coli data collected were added to the database as they provide additional background data for the CMC program.

Database Creation and Data Entry:

An Excel database of the FY 2017 wet weather monitoring data was created for this Task and provided with the March 6, 2017 FY 2017 Wet Season Memo. The November 2016 dry season monitoring data has been added to this database. The database contains sample locations (Rio Grande North and Rio Grande South), sample date, analyses conducted, methods used, applicable surface water quality standards (WQS), WSB MS4 Permit required Minimum Quantification Levels (MQL), and analysis results. Applicable surface WQS found in New Mexico Administrative Code (NMAC) 20.6.4, as well as the Pueblo of Isleta and Pueblo of Sandia 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 surface WQS.

Upon receipt of the HEAL lab reports, water quality data was entered into the database. 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 the qualifying storm event for both Rio Grande North and Rio Grande South locations were entered respectively into the database. In addition, the E. coli and field data only samples from the Rio Grande North location, obtained during one non-qualifying storm event, 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 (U.S. 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 that 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 surface 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 2017 dry 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 code. 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 2017 Dry Season Assessment and Evaluation of Monitoring Results

The EPA approved WSB MS4 CMC Monitoring Plan, May 5, 2016, has thirty-four (34) parameters to monitor at the Rio Grande North and Rio Grande South monitoring locations. Of these thirty-four (34) parameters (which include four field parameters), over half of the parameters—eighteen (18) parameters—were not detected in the FY 2017 dry season samples at either the Rio Grande North or South locations. Refer to Table 1 for a list of the parameters that were not detected.

Table 1: Parameters Not Detected
CMC FY 2017 Dry Season Monitoring

Parameters Not Detected	
Oil and Grease (N-Hexane Extractable Material)	Pentachlorophenol
Ammonia (mg/L as N)	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 Copper
Indeno(1,2,3-cd)Pyrene	Dissolved Lead
Dieldren	Bis (2-ethyhexyl) Phthalate

The FY 2017 wet season also had eighteen (18) parameters that were not detected at either the Rio Grande North or South locations. The wet season non-detected parameters differed by two parameters as compared to the dry season; dissolved copper was detected in the wet season samples, and Total Kjedahl Nitrogen (TKN) was not detected in the wet season samples.

E. coli:

For the remaining sixteen (16) parameters on the CMC monitoring parameter list, only one parameter (E. coli) had exceedances of the applicable surface WQS found in New Mexico Administrative Code (NMAC) 20.6.4 and the Pueblo of Isleta and Pueblo of Sandia WQS during the FY 2017 dry season. At the Rio Grande North location (upstream of the Albuquerque UA, at the Angostura Diversion Dam), two (2) samples were collected and tested for E. coli, and neither of the samples had results that exceeded the primary contact-single sample Pueblo of Isleta and Pueblo of Sandia WQS (88 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's result exceeded the primary contact-single sample NMAC WQS (410 CFU/100 ml) as well as the Pueblo of Isleta and Pueblo of Sandia WQS (88 CFU/100 mL). As a reminder, the E. coli units of MPN/100 mL and CFU/100 mL are considered to be interchangeable; the March 6, 2017 FY 2017 Wet Season Memo provides additional documentation regarding the E. coli units.

Dissolved Oxygen, PCB's and Temperature:

Three 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, PCBs, and temperature.

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 2017 CMC monitoring program had dissolved oxygen values below 5 mg/L. Refer to Figure 2 for dissolved oxygen results and comparison to applicable surface WQS.

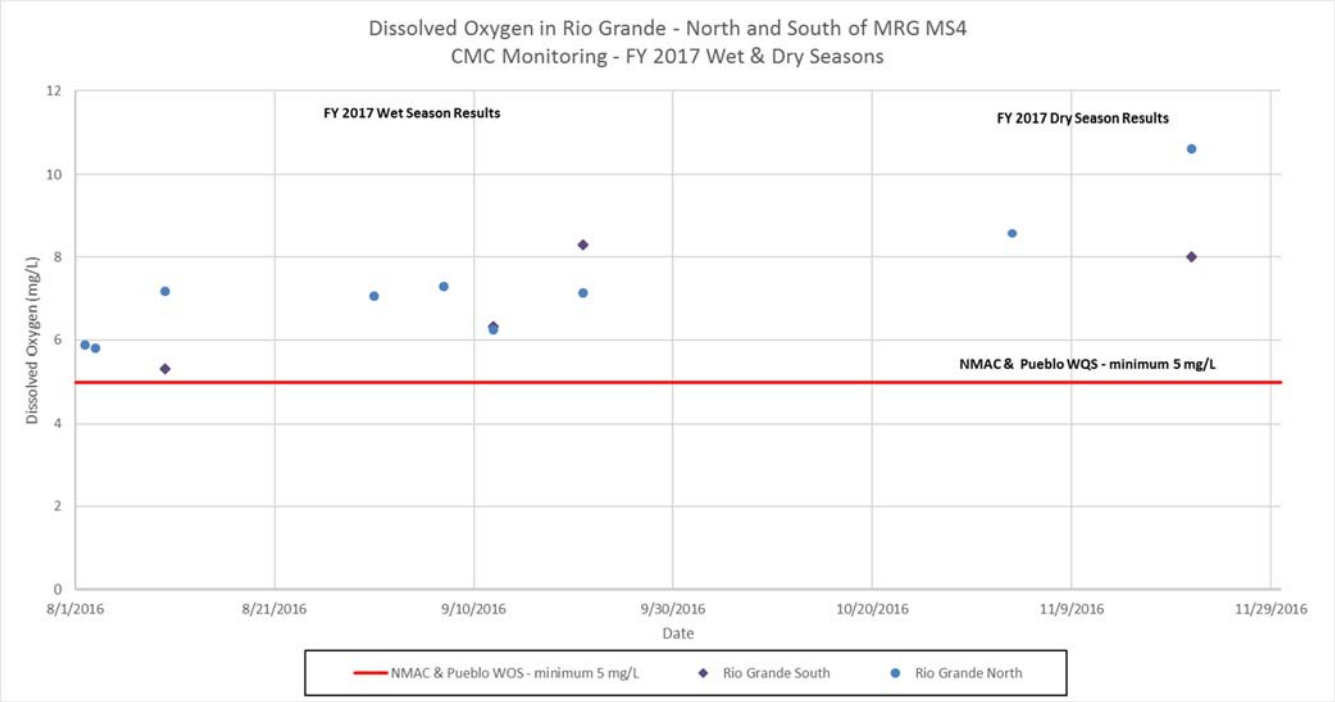


Figure 2: Dissolved Oxygen Results for Rio Grande
CMC Monitoring – FY 2017 Wet and Dry Seasons

For the CMC FY 2017 dry season sample, as well as for the three (3) FY 2017 wet season samples, there were no exceedances of WQS for PCBs.

Temperature is listed in the WSB MS4 Permit as a special condition (only applicable to the City of Albuquerque and AMAFCA). Past data submitted to EPA and NMED has proven that stormwater discharges into the Rio Grande are not impacting the Rio Grande temperature above the applicable WQS. The data collected during this FY 2017 dry season monitoring supports this conclusion. All of the temperature field readings taken in the Rio Grande during the CMC FY 2017 dry season were below 32.2°C (90 °F) – the WQS for the State of New Mexico and for the Isleta and Sandia Pueblos.

CMC FY 2017 Wet Season E. coli Loading Calculations and Waste Load Allocation (WLA)

Related to assessing the stormwater results, BHI has calculated the E. coli daily 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 US 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.

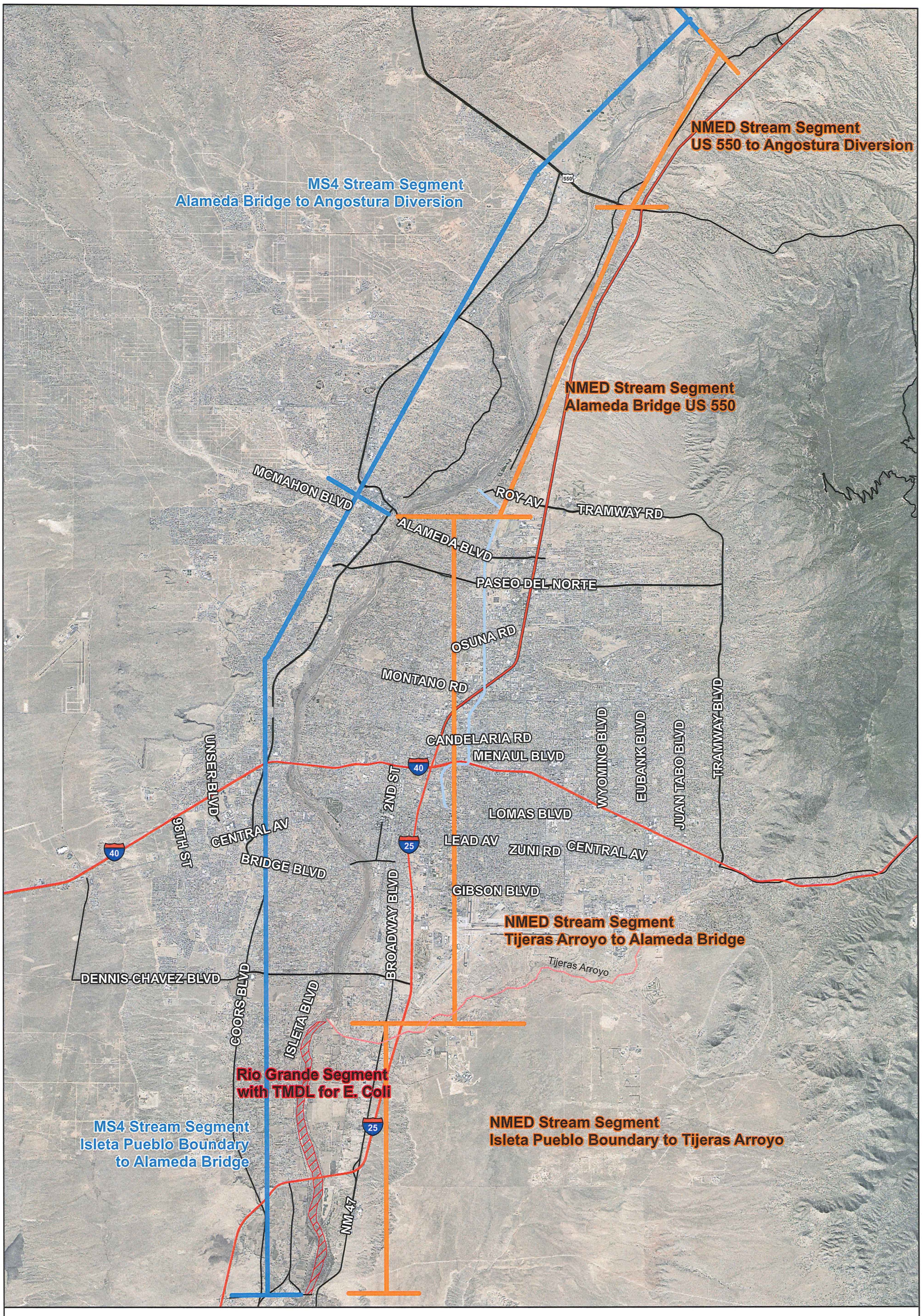
E. coli loading calculations and comparison to the WLA follows the WSB MS4 Permit requirements in “Discharges to Water Quality Impaired Water Bodies with an Approved TMDL,” Part I.C.2.b.(i).(c).B, Appendix B-Total Maximum Daily Loads (TMDLs) Tables of the WSB MS4 Permit, and the NMED guidance provided to the CMC.

Attached to this memo is the WLA Calculation spreadsheet which steps through the E. coli daily loading calculations and assumptions comparing the calculated E. coli loading to the CMC aggregate WLA defined by NMED. BHI provided the draft calculations spreadsheet for review to AMAFCA, who shared this with other CMC members, in both December 2016 and February 2017, related to the wet season monitoring results. The CMC members also met to discuss the E. coli loading calculations with NMED on February 1, 2017. BHI followed up with NMED on February 16, 2017, regarding specific calculation details. The current spreadsheet includes the improvements discussed at the NMED meeting and follow-up phone call.

There are two (2) stream segments defined in the WSB MS4 Permit (Appendix B) for the Middle Rio Grande: 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 “2016-2018 State of New Mexico Clean Water Act Section 303(d)/Section 305(b) Integrated Report,” September 23, 2016. NMED currently has four (4) stream segments instead of the two (2) WSB MS4 stream segments; of the four (4) segments, only one segment has an impairment for E. coli (2105_50 Isleta Pueblo Boundary to Tijeras Arroyo). These various stream segment designations are shown in Figure 3, page 10.

NMED provided clarification at the February 1, 2017, meeting regarding the various stream segment designations. The NMED 303(d)/305(b) 2016-2018 Integrated Report tables show the most recent assessment results, and currently there is only one segment of the Middle Rio Grande (Isleta to Tijeras) within the MS4 boundaries that was found to be impaired for E. coli. However, the TMDL for the other Middle Rio Grande stream segments do not go away even if they are no longer impaired—the TMDL remains in place as a protective measure. TMDLs remain in effect after impairments are removed as protective measures.

The E. coli daily loading associated with the CMC group and comparison to the NMED WLA was completed for the one (1) qualifying event storm event monitored in the FY 2017 dry season—November 21-22, 2016. Refer to Table 2 for a summary of the WLA comparison. A spreadsheet is attached to this memo that provides the detailed calculations for all of FY 2017.



AMAFCA

Bohannan Huston
www.bhinc.com 800.877.5332

Legend

- MS4 Stream Segments
- NMED Stream Segments
- North Diversion Channel
- Rio Grande Segment w/ TMDL for E. Coli
- Interstate Highway
- U.S. Highway
- State Highway

N W E S

0 0.5 1 2

Miles

Figure 3
Rio Grande
NMED and MS4 Permit
Stream Segments

P:\20170386\WR\General Exhibits\TMDLStreamSegments.mxd
Author: sganley

July 2017

Table 2: Summary of CMC Daily 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
November 21-22, 2016 – Rio Grande North E. coli concentration = 43.5 CFU/100 mL and Rio Grande South E. coli concentration = 7,270 CFU/100 mL					
Alameda to Angostura	710	Mid	—	No Value	WLA Acceptable
Isleta to Alameda	881	Mid	1.68E+12	4.22E+10	Potential Exceedance

As Table 2 illustrates, the E. coli loading for the dry season event potentially exceeded the CMC allocated WLA in the southern stream segment (Isleta to Alameda) of the Middle Rio Grande. 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. 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 November 21-21, 2016 event, in the Alameda to Angostura stream segment, the CMC’s WLA will never be in exceedance since there is not set TMDL.

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 US 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. The 2010 TMDL Report states on page 40, “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 downstream waters” and “to provide an implicit margin of safety (MOS).” A single grab sample E. coli result meeting this very low geometric mean 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 February 1, 2017, meeting and the February 16, 2017, CMC discussion with NMED demonstrate that CMC members are working toward understanding the WLA. In addition, the CMC members and NMED discussed potential refinements to the sampling plan, demonstrating that the CMC is investigating the potential exceedances and improvements to monitor E. coli in the Rio Grande.

Data Entry for Discharge Monitoring Reports

As required in the WSB MS4 Permit, verified stormwater quality data must be submitted annually 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. Currently, the CMC members are working with the EPA regarding access and use of the NetDMR system. For this Task, BHI has not been tasked with any data entry related to the EPA DMRs for the FY 2017 wet or dry seasons.

Conclusions and Planning

In FY 2017 four (4) qualifying event samples were obtained. During the FY 2017 wet season (July 1 to October 31, 2016) three (3) qualifying stormwater samples were obtained by the CMC, and during the dry season (November 1, 2016 to June 30, 2017) one (1) qualifying stormwater sample was obtained by the CMC. Lab results have been received for these samples. This data has been entered into the project Excel database. The lab data entered is marked in the spreadsheet as “V” (verified), and data V & V has been completed.

To summarize, monitoring results and E. coli loading calculations for the CMC FY 2017 wet and dry seasons show that:

- Four (4) of the seven (7) required samples in the WSB MS4 Permit Wet Weather Monitoring section were obtained in FY 2017. Seven (7) samples are required during the 5-year Permit term, so this is significant progress for the CMC.
- The CMC has met the required Permit minimum of monitoring three (3) events during the wet season and has obtained one (1) of the two (2) events required in the dry season.
- Over half of the parameters tested were not detected in any of the Rio Grande samples.
- Only E. coli was in exceedance of applicable New Mexico and Pueblos of Sandia and Isleta WQS.
    - All dissolved oxygen results were greater than 5 mg/L (minimum WQS).
    - All temperature results were less than 32.2 °C (maximum WQS).
    - There were no PCB test results exceeding the applicable WQS.
- The calculated E. coli loading for the one (1) qualifying storm event in the dry season shows that the WLA for the CMC members is potentially exceeded for the southern stream segment (Isleta to Alameda). NMED has not set a TMDL for the Alameda to Angostura stream segment of the Middle Rio Grande for mid-flow conditions (647 to 992 cfs); therefore, the monitored dry season storm event did not exceed the 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.

SG/le
Attachments:

Attachment 1 – Hall Environmental Analysis Laboratory Reports with BHI Notes for FY 2017 Dry Season

Attachment 2 – FY 2017 Dry Season Completed Data Verification and Validation Forms

Spreadsheets Included Separately:

E. coli Loading and Comparison to Waste Load Allocation (WLA) Excel Spreadsheet

Excel CMC Spreadsheet with FY 2017 Stormwater Quality Monitoring Results

ATTACHMENT 1

HALL ENVIRONMENTAL ANALYSIS LABORATORY REPORTS WITH BHI NOTES FOR FY 2017 DRY SEASON

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

November 08, 2016

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

RE: CMC OrderNo.: 1611208

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/3/2016 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 qualifers 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 #NM0190

Sincerely,

Field Data - Provided by DBS&A (field notebook & e-mails):
11/3/16 - Rio Grande North
DO = 8.57 mg/L, pH = 8.01, Conductivity = 320 umhos/cm, and Temperature = 14.6°C

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1611208**
Date Reported: **11/8/2016**

CLIENT: AMAFCA
Client Sample ID: RGN110316
Project: CMC
Collection Date: 11/3/2016 2:10:00 PM
Lab ID: 1611208-001 **Matrix:** AQUEOUS **Received Date:** 11/3/2016 3:02:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	42.0	1.000		CFU/100ml	1	11/4/2016 4:52:00 PM	28465

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: AMAPCA Work Order Number: 1611208 RcptNo: 1

Received by/date: 11/03/16

Logged By: Ashley Gallegos 11/3/2016 3:02:00 PM

Completed By: Ashley Gallegos 11/3/2016 3:58:05 PM

Reviewed By: 11/03/16 @ 1600

Chain of Custody

1. Custody seals intact on sample bottles?	Yes	No	Not Present ✔
2. Is Chain of Custody complete?	Yes ✔	No	Not Present
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ✔	No	NA
5. 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.			
6. Sample(s) in proper container(s)?	Yes ✔	No	
7. Sufficient sample volume for indicated test(s)?	Yes ✔	No	
8. Are samples (except VOA and ONG) properly preserved?	Yes ✔	No	
9. Was preservative added to bottles?	Yes	No ✔	NA
10. VOA vials have zero headspace?	Yes	No	No VOA Vials ✔
11. Were any sample containers received broken?	Yes	No ✔	# of preserved bottles checked for pH:
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	(<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	Adjusted?
14. Is it clear what analyses were requested?	Yes ✔	No	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by:

Special Handling (if applicable)

16. 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:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	15.5	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

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:

On Ice: ☐ Yes ☒ No

Sample Temperature: 15.5 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 Request ID	Container Type and #	Preservative Type	HEAL No.	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)	E-coli (Num)				Air Bubbles (Y or N)
						Analysis Request																
1/3/16	1410	Water	RGN110316			1611208-001												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
1/3/16	1502	Ben Lairo	[signature]	1/3/16	1502	
1/3/16	1502					

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: www.hallenvironmental.com

December 02, 2016

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

RE: CMC OrderNo.: 1611B12

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/21/2016 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 qualifers 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 #NM0190

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Data - Provided by DBS&A (field notebook & e-mails):
11/21/16 - Rio Grande North
DO = 10.62 mg/L, pH = 8.4, Conductivity = 305 umhos/cm, and Temperature = 10.36°C

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1611B12**
Date Reported: **12/2/2016**

CLIENT: AMAFCA
Client Sample ID: Rio Grande North 112116
Project: CMC
Collection Date: 11/21/2016 9:30:00 AM
Lab ID: 1611B12-001
Matrix: AQUEOUS
Received Date: 11/21/2016 11:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	43.5	1.000		CFU/100ml	1	11/22/2016 4:34:00 PM	28792

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: AMAFCA | Work Order Number: 1611B12 | RcptNo: 1

Received by/date: AG 11/21/16

Logged By: Ashley Gallegos 11/21/2016 11:20:00 AM AG

Completed By: Ashley Gallegos 11/21/2016 11:24:06 AM AG

Reviewed By: JC 11/21/16 @ 1230

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☑	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑ (Not required)	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. 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: _____

Special Handling (if applicable)

16. 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: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	9.7	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

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 #: NM15.0156

Project Manager: Patrick Chavez ~~C. Johannesen~~

Sampler: E. Bastian

On Ice: ☒ Yes ☐ No

Sample Temperature: 9.7

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.	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)	E. Coli				Air Bubbles (Y or N)
11/21/16	9:30	SW	Rio Grande North 112116	1 - 125mL poly		1611B12-001												X				

Date: 11/21/16 Time: 11:20 Relinquished by: Elizabeth Bastian

Received by: Date 11/21/16 Time 1120

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: www.hallenvironmental.com

December 23, 2016

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

RE: CMC OrderNo.: 1611B75

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/22/2016 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 qualifers 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 #NM0190

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Data - Provided by DBS&A (field notebook & e-mails):
11/21/16 - Rio Grande North
DO = 10.62 mg/L, pH = 8.4, Conductivity = 305 umhos/cm, and Temperature = 10.36°C
11/22/16 - Rio Grande South
DO = 8.01 mg/L, pH = 8.08, Conductivity = 367 umhos/cm, and Temperature = 9.3°C

Analytical Report
Lab Order: **1611B75**
Date Reported: **12/23/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1611B75-001B

Client Sample ID: Rio Grande-North-112116
Collection Date: 11/21/2016 9:30:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD						Analyst: **SMS**	
Biochemical Oxygen Demand	DO Depletion<2.0	2.0		mg/L	1	11/27/2016 11:09:00 AM	28809

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North-112116
Project: CMC
Collection Date: 11/21/2016 9:30:00 AM
Lab ID: 1611B75-001D
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/22/2016 10:29:21 PM	R38938
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/22/2016 10:29:21 PM	R38938
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	213	20.0		mg/L	1	11/29/2016 7:42:00 PM	28867
SM 4500 NH3: AMMONIA						Analyst: **CJS**	
Nitrogen, Ammonia	ND	1.0		mg/L	1	12/9/2016 2:11:00 PM	R39298
TOTAL NITROGEN						Analyst: **SRM**	
Nitrogen, Total	ND	1.0		mg/L	1	12/15/2016 4:55:00 PM	R39426
SM4500-H+B: PH						Analyst: **JRR**	
pH	8.10	1.68	H	pH units	1	11/22/2016 4:33:22 PM	R38947
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.042	0.010		mg/L	1	12/2/2016 10:17:24 AM	28952
SM 4500 NORG C: TKN						Analyst: **CJS**	
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	12/13/2016 11:26:00 AM	29132
SM 2540D: TSS						Analyst: **KS**	
Suspended Solids	27	4.0		mg/L	1	11/28/2016 4:20:00 PM	28852

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1611B75-001E

Client Sample ID: Rio Grande-North-112116
Collection Date: 11/21/2016 9:30:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 1664A						Analyst: **tnc**	
N-Hexane Extractable Material	ND	10.7		mg/L	1	11/28/2016 9:14:00 AM	28858

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1611B75-001F

Client Sample ID: Rio Grande-North-112116
Collection Date: 11/21/2016 9:30:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS						Analyst: **JLF**	
Copper	ND	0.0010		mg/L	1	12/2/2016 3:56:41 PM	B39114
Lead	ND	0.00050		mg/L	1	12/2/2016 3:56:41 PM	B39114
Uranium	0.0024	0.00050		mg/L	1	12/2/2016 3:56:41 PM	B39114
SM2340B: HARDNESS						Analyst: **MED**	
Hardness (As CaCO3)	130	6.6		mg/L	1	12/14/2016	R39376
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **MED**	
Calcium	40	1.0		mg/L	1	12/14/2016 9:47:40 AM	A39376
Magnesium	7.3	1.0		mg/L	1	12/14/2016 10:46:06 AM	A39376

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1611B75-001K

Client Sample ID: Rio Grande-North-112116
Collection Date: 11/21/2016 9:30:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.012	0.010		mg/L	1	12/2/2016 10:21:54 AM	28952

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-South-112216
Project: CMC
Collection Date: 11/22/2016 7:00:00 AM
Lab ID: 1611B75-002A
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	7270	10.00		CFU/100ml	10	11/23/2016 2:54:00 PM	28825

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-South-112216
Project: CMC
Collection Date: 11/22/2016 7:00:00 AM
Lab ID: 1611B75-002B
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD						Analyst: **SMS**	
Biochemical Oxygen Demand	3.0	2.0		mg/L	1	11/27/2016 11:09:00 AM	28809

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-South-112216
Project: CMC
Collection Date: 11/22/2016 7:00:00 AM
Lab ID: 1611B75-002D
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/22/2016 9:39:42 PM	R38938
Nitrogen, Nitrate (As N)	0.68	0.50		mg/L	5	11/22/2016 9:39:42 PM	R38938
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	248	40.0	D	mg/L	1	11/29/2016 7:42:00 PM	28867
SM 4500 NH3: AMMONIA						Analyst: **CJS**	
Nitrogen, Ammonia	ND	1.0		mg/L	1	12/9/2016 2:11:00 PM	R39298
TOTAL NITROGEN						Analyst: **SRM**	
Nitrogen, Total	2.9	1.0		mg/L	1	12/15/2016 4:55:00 PM	R39426
SM4500-H+B: PH						Analyst: **JRR**	
pH	8.09	1.68	H	pH units	1	11/22/2016 4:37:41 PM	R38947
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.55	0.010		mg/L	1	12/2/2016 10:23:24 AM	28952
SM 4500 NORG C: TKN						Analyst: **CJS**	
Nitrogen, Kjeldahl, Total	2.2	2.0	D	mg/L	1	12/13/2016 11:26:00 AM	29132
SM 2540D: TSS						Analyst: **KS**	
Suspended Solids	340	4.0		mg/L	1	11/28/2016 4:20:00 PM	28852

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1611B75-002E

Client Sample ID: Rio Grande-South-112216
Collection Date: 11/22/2016 7:00:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 1664A						Analyst: **tnc**	
N-Hexane Extractable Material	ND	10.2		mg/L	1	11/28/2016 9:14:00 AM	28858

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1611B75-002F

Client Sample ID: Rio Grande-South-112216
Collection Date: 11/22/2016 7:00:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS						Analyst: **JLF**	
Copper	ND	0.0010		mg/L	1	12/2/2016 3:59:45 PM	B39114
Lead	ND	0.00050		mg/L	1	12/2/2016 3:59:45 PM	B39114
Uranium	0.0020	0.00050		mg/L	1	12/2/2016 3:59:45 PM	B39114
SM2340B: HARDNESS						Analyst: **MED**	
Hardness (As CaCO3)	130	6.6		mg/L	1	12/14/2016	R39376
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **MED**	
Calcium	41	1.0		mg/L	1	12/14/2016 9:51:34 AM	A39376
Magnesium	7.3	1.0		mg/L	1	12/14/2016 10:48:04 AM	A39376

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1611B75-002L

Client Sample ID: Rio Grande-South-112216
Collection Date: 11/22/2016 7:00:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.30	0.010		mg/L	1	12/2/2016 10:29:24 AM	28952

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	161123012
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1611B75
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	161123012-001	**Sampling Date**	11/22/2016	**Date/Time Received**	11/23/2016 10:45 AM
Client Sample ID	1611B75-001C / RIO GRANDE-NORTH-112116			**Sampling Time**	9:30 AM
Matrix	Water				
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	0.5	12/2/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 161123012-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	97.6	70-130
4-Bromofluorobenzene	EPA 8260C	97.2	70-130
Toluene-d8	EPA 8260C	98.4	70-130

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 161123012
Project Name: 1611B75

Analytical Results Report

Sample Number 161123012-004 **Sampling Date** 11/22/2016 **Date/Time Received** 11/23/2016 10:45 AM
Client Sample ID 1611B75-002C / RIO GRANDE-SOUTH-112216 **Sampling Time** 7:00 AM
Matrix Water
Comments

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	0.5	12/2/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 161123012-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	98.0	70-130
4-Bromofluorobenzene	EPA 8260C	97.6	70-130
Toluene-d8	EPA 8260C	97.2	70-130

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	161123012
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1611B75
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	161123012-007	**Sampling Date**	11/22/2016	**Date/Time Received**	11/23/2016 10:45 AM
Client Sample ID	1611B75-003A / TRIP BLANK			**Sampling Time**	
Matrix	Water				
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	0.5	12/2/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 161123012-007

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	96.8	70-130
4-Bromofluorobenzene	EPA 8260C	97.2	70-130
Toluene-d8	EPA 8260C	100.4	70-130

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	161123012
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1611B75
Attn:	ANDY FREEMAN		

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Tetrahydrofuran	8.12	ug/L	10	81.2	70-130	12/2/2016	12/2/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Tetrahydrofuran	ND	ug/L	0.5	12/2/2016	12/2/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 161123012
Project Name: 1611B75

Analytical Results Report

Sample Number	161123012-002	**Sampling Date**	11/22/2016	**Date/Time Received**	11/23/2016 10:45 AM
Client Sample ID	1611B75-001G / RIO GRANDE-NORTH-112116			**Extraction Date**	11/29/2016
Matrix	Water	**Sampling Time**	9:30 AM		
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Dieldrin	ND	ug/L	0.003	0.01	12/6/2016	MAH	EPA 608	
Benzidine	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Benzo[a]anthracene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Benzo[a]pyrene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Benzo[b]fluoranthene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Benzo[k]fluoranthene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.2	0.5	11/29/2016	HSW	EPA 625	
Chrysene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Dibenz[a,h]anthracene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Dibenzofuran	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Pentachlorophenol	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	

Surrogate Data

Sample Number 161123012-002

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 608	72.4	30-130
2,4,6-Tribromophenol	EPA 625	70.0	53-122
2-Fluorobiphenyl	EPA 625	58.4	12-116
2-Fluorophenol	EPA 625	43.0	10-139
Nitrobenzene-d5	EPA 625	62.4	49-118
Phenol-d5	EPA 625	49.6	28-154
Terphenyl-d14	EPA 625	62.0	20-137

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	161123012
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1611B75
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	161123012-005	**Sampling Date**	11/22/2016	**Date/Time Received**	11/23/2016 10:45 AM
Client Sample ID	1611B75-002G / RIO GRANDE-SOUTH-112216			**Extraction Date**	11/29/2016
Matrix	Water	**Sampling Time**	7:00 AM		
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Dieldrin	ND	ug/L	0.003	0.01	12/6/2016	MAH	EPA 608	
Benzidine	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Benzo[a]anthracene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Benzo[a]pyrene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Benzo[b]fluoranthene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Benzo[k]fluoranthene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.2	0.5	11/29/2016	HSW	EPA 625	
Chrysene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Dibenz[a,h]anthracene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Dibenzofuran	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	
Pentachlorophenol	ND	ug/L	0.1	0.5	11/29/2016	HSW	EPA 625	

Surrogate Data

Sample Number 161123012-005

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 608	75.2	30-130
2,4,6-Tribromophenol	EPA 625	115.8	53-122
2-Fluorobiphenyl	EPA 625	101.2	12-116
2-Fluorophenol	EPA 625	88.0	10-139
Nitrobenzene-d5	EPA 625	102.0	49-118
Phenol-d5	EPA 625	103.6	28-154
Terphenyl-d14	EPA 625	91.6	20-137

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 161123012
Project Name: 1611B75

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dieldrin	0.458	ug/L	0.5	91.6	30-130	11/29/2016	12/5/2016
Pentachlorophenol	6.25	ug/L	5	125.0	22-138	11/28/2016	11/30/2016
bis(2-Ethylhexyl)phthalate	5.14	ug/L	5	102.8	43-148	11/28/2016	11/30/2016

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pentachlorophenol	5.88	ug/L	5	117.6	6.1	0-47	11/28/2016	11/30/2016
bis(2-Ethylhexyl)phthalate	5.51	ug/L	5	110.2	6.9	0-50	11/28/2016	11/30/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
161123012-002	Pentachlorophenol	ND	6.27	ug/L	5	125.4	22-138	11/28/2016	11/30/2016
161123012-002	bis(2-Ethylhexyl)phthalate	ND	4.00	ug/L	5	80.0	43-142	11/28/2016	11/30/2016
161123012-005	Dieldrin	ND	0.505	ug/L	0.5	101.0	30-150	11/29/2016	12/5/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dieldrin	0.508	ug/L	0.5	101.6	0.6	0-30	11/29/2016	12/5/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzidine	ND	ug/L	0.5	11/28/2016	11/30/2016
Benzo[a]anthracene	ND	ug/L	0.5	11/28/2016	11/30/2016
Benzo[a]pyrene	ND	ug/L	0.5	11/28/2016	11/30/2016
Benzo[b]fluoranthene	ND	ug/L	0.5	11/28/2016	11/30/2016
Benzo[k]fluoranthene	ND	ug/L	0.5	11/28/2016	11/30/2016
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/28/2016	11/30/2016
Chrysene	ND	ug/L	0.5	11/28/2016	11/30/2016
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/28/2016	11/30/2016
Dibenzofuran	ND	ug/L	0.5	11/28/2016	11/30/2016

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	161123012
Address:	4901 HAWKINS NE SUITE D	**Project Name:**	1611B75
	ALBUQUERQUE, NM 87109		
Attn:	ANDY FREEMAN		

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Dieldrin	ND	ug/L	0.01	11/29/2016	12/5/2016
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/28/2016	11/30/2016
Pentachlorophenol	ND	ug/L	0.5	11/28/2016	11/30/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • 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	**Batch #:**	161123012
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1611B75
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	161123012-003	**Sampling Date**	11/22/2016	**Date/Time Received**	11/23/2016 10:45 AM
Client Sample ID	1611B75-001I / RIO GRANDE-NORTH-112116			**Sampling Time**	9:30 AM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	16.4	mg/L	5	12/7/2016 1:00:00 PM	JDB	EPA 410.4	

Sample Number	161123012-006	**Sampling Date**	11/22/2016	**Date/Time Received**	11/23/2016 10:45 AM
Client Sample ID	1611B75-002I / RIO GRANDE-SOUTH-112216			**Sampling Time**	7:00 AM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	23.1	mg/L	5	12/7/2016 1:00:00 PM	JDB	EPA 410.4	

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 161123012
Project Name: 1611B75

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
COD	102	mg/L	100	102.0	90-110	12/7/2016	12/7/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
161202010-002	COD	<5	109	mg/L	100	109.0	80-120	12/7/2016	12/7/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	104	mg/L	100	104.0	4.7	0-20	12/7/2016	12/7/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
COD	<5	mg/L	5	12/7/2016	12/7/2016

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
161202010-004	COD	15.9	18.0	mg/L	12.4	0-20	12/7/2016	12/7/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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	11/26/2016 09:41	WG929321

Incorrectly labeled - 02 is for Rio Grande South

1611B75-002H RIO GRANDE-NORTH-112116

Collected date/time: 11/21/16 07:00

SAMPLE RESULTS - 02

L874519

ONE LAB. NATIONWIDE.

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	11/26/2016 09:52	WG929321

Method Blank (MB)

(MB) R3180621-1 11/26/16 07:41

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

L874168-02 Original Sample (OS) • Duplicate (DUP)

(OS) L874168-02 11/26/16 08:24 • (DUP) R3180621-4 11/26/16 08:35

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

L874355-01 Original Sample (OS) • Duplicate (DUP)

(OS) L874355-01 11/26/16 10:41 • (DUP) R3180621-7 11/26/16 10:49

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

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3180621-2 11/26/16 07:49 • (LCSD) R3180621-3 11/26/16 07:57

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Hexavalent Chromium	0.00200	0.00205	0.00205	102	103	90.0-110			0.000	20

L874357-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L874357-01 11/26/16 08:43 • (MS) R3180621-5 11/26/16 08:51 • (MSD) R3180621-6 11/26/16 09:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Hexavalent Chromium	0.0500	ND	0.0521	0.0505	104	101	1	90.0-110			3.00	20

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1611B75
Pace Project No.: 30203584

Sample: 1611B75-001J Rio Grande-North- **Lab ID: 30203584001** Collected: 11/21/16 09:30 Received: 11/23/16 11:00 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • The sampler's name and signature were not listed on the COC.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**3.11 ± 0.884 (0.826) C:NA T:NA**	pCi/L	12/07/16 20:06	12587-46-1	

Sample: 1611B75-002J Rio Grande-South- **Lab ID: 30203584002** Collected: 11/22/16 07:00 Received: 11/23/16 11:00 Matrix: Water

PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**7.26 ± 1.94 (1.74) C:NA T:NA**	pCi/L	12/07/16 20:06	12587-46-1	

REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1611B75
Pace Project No.: 30203584

QC Batch: 242010
QC Batch Method: EPA 900.0
Analysis Method: EPA 900.0
Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 30203584001, 30203584002

METHOD BLANK: 1189267
Matrix: Water
Associated Lab Samples: 30203584001, 30203584002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	-0.349 ± 0.368 (1.13) C:NA T:NA	pCi/L	12/07/16 19:54	

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.

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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 1611B75
Pace Project No.: 30203584

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.

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.

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: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(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.

REPORT OF LABORATORY ANALYSIS

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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 21, 2016

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

Re: 1668A Water
Work Order: 10146
SDG: 1611B75

Dear Mr. Freeman:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 29, 2016 and November 30, 2016. 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

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: www.hallenvironmental.com

CHAIN OF CUSTODY RECORD

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	1611B75-001L	Rio Grande-North-112116	1LAmber	Aqueous	11/21/2016 9:30:00 AM	1	PCB Congeners
2	1611B75-002M	Rio Grande-South-112216	1LAmber	Aqueous	11/22/2016 7:00:00 AM	1	PCB Congeners broken in transit

CFA WO #10146

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: 11/22/2016	Time: 10:11 AM	Received By:	Date: 22Nov2016	Time: 10:25
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 3.0 °C Attempt to Cool ? _____
Comments: _____

1 of 2 broken

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: HALL	Work Order: 10146
Shipping Company: Fed Ex	Date/Time Received: 29 Nov 2016 10:25

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	Chain of Custody documents included with shipment?	✓			
3	Samples requiring cold preservation within 0-6°C?	✓			Preservation Method: ice bags blue ice dry ice none other (describe) 3.0°C
4	Aqueous samples found to have visible solids?	✓			Sample IDs, containers affected: <1% solids
5	Samples requiring chemical preservation at proper pH?			✓	Sample IDs, containers affected and pH observed: pH=7 If preservative added, Lot#:
6	Samples requiring preservation have no residual chlorine?	✓			Sample IDs, containers affected: If preservative added, Lot#:
7	Samples received within holding time?	✓			Sample IDs, tests affected:
8	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
9	Date & time of COC match date & time on containers?	✓			Sample IDs, containers affected:
10	Number of containers received match number indicated on COC?			✓	List type and number of containers / Sample IDs, containers affected: Sample -002M broken in transit 1-1L WMA for -001L
11	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: MJD Date: 29 Nov 2016

CF-UD-F-7

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: HALL	Work Order: 10146
Shipping Company: Fed Ex	Date/Time Received: 30Nov2016 10:45

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	Chain of Custody documents included with shipment?	✓		✓	No COC sent with replacement sample. Original COC was used for verification.
3	Samples requiring cold preservation within 0-6°C?	✓			Preservation method: Ice bags blue ice dry ice none other (describe) 4.2+0.1=4.3°C
4	Aqueous samples found to have visible solids?	✓			Sample IDs, containers affected: N/A
5	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: pH=7 If preservative added, Lot#:
6	Samples requiring preservation have no residual chlorine?	✓			Sample IDs, containers affected: If preservative added, Lot#:
7	Samples received within holding time?	✓			Sample IDs, tests affected:
8	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
9	Date & time of COC match date & time on containers?	✓			Sample IDs, containers affected:
10	Number of containers received match number indicated on COC?	✓			List type and number of containers / Sample IDs, containers affected: 1-1L WMA
11	COC form is properly signed in relinquished/received sections?	✓			

Comments: *Replacement Sample for broken original received 29Nov16.

Checklist performed by: Initials: MJO Date: 30Nov2016

CF-UD-F-7

Anne Thorne

From: Cynde Larkins <cynde.larkins@cfanalytical.com>
Sent: Tuesday, November 29, 2016 1:30 PM
To: Anne Thorne
Cc: Melissa O'Dorisio
Subject: 1611B75

Anne,

One of the sample containers we received today at CFA was broken in transit: 1611B75-002M Rio Grande-South-112216. Do you have a replacement sample you could send us?

Thanks,

WO# 10146

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

Cape Fear Analytical will be closed for Christmas on Monday, December 26, 2016 and New Year's on Monday, January 2, 2017. For sample receiving hours during the holidays please contact the lab.

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5, pH: 7
4.2 10.1=
4.3°C

PCB Congeners Analysis

Case Narrative

PCBC Case Narrative
Hall Environmental Analysis Laboratory (HALL)
SDG 1611B75
Work Order 10146

Method/Analysis Information

Product:	**PCB Congeners by EPA Method 1668A in Liquids**
Analytical Method:	EPA Method 1668A
Extraction Method:	SW846 3520C
Analytical Batch Number:	33561
Clean Up Batch Number:	33560
Extraction Batch Number:	33559

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA Method 1668A:

Sample ID	Client ID
10146001	1611B75-001L Rio Grande-North-112116
10146002	1611B75-002L Rio Grande-South-112116
12017564	Method Blank (MB)
12017565	Laboratory Control Sample (LCS)
12017566	Laboratory Control Sample Duplicate (LCSD)

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# 6.

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

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
HRP791_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: 1611B75 CFA Work Order: 10146

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: Heather Patterson**

Date: 21 DEC 2016 **Title: Group Leader**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146001**	**Date Collected:**	**11/21/2016 09:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/29/2016 10:25**		
Client ID:	**1611B75-001L Rio Grande-North-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 17:07**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-8**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**917 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	7.37	21.8
2051-61-8	2-MoCB	U	ND	pg/L	7.26	21.8
2051-62-9	3-MoCB	U	ND	pg/L	7.26	21.8
13029-08-8	4-DiCB	U	ND	pg/L	7.33	21.8
16605-91-7	5-DiCB	U	ND	pg/L	8.38	21.8
25569-80-6	6-DiCB	U	ND	pg/L	7.90	21.8
33284-50-3	7-DiCB	U	ND	pg/L	7.26	21.8
34883-43-7	8-DiCB	U	ND	pg/L	7.74	21.8
34883-39-1	9-DiCB	U	ND	pg/L	7.26	21.8
33146-45-1	10-DiCB	U	ND	pg/L	7.26	21.8
2050-67-1	11-DiCB	J	41.8	pg/L	12.5	109
2974-92-7	12-DiCB	CU	ND	pg/L	14.5	43.6
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	7.26	21.8
2050-68-2	15-DiCB	J	12.0	pg/L	7.26	21.8
38444-78-9	16-TrCB	U	ND	pg/L	8.79	21.8
37680-66-3	17-TrCB	U	ND	pg/L	7.26	21.8
37680-65-2	18-TrCB	CU	ND	pg/L	14.5	43.6
38444-73-4	19-TrCB	U	ND	pg/L	7.26	21.8
38444-84-7	20-TrCB	CU	ND	pg/L	14.5	43.6
55702-46-0	21-TrCB	CU	ND	pg/L	14.5	43.6
38444-85-8	22-TrCB	U	ND	pg/L	7.26	21.8
55720-44-0	23-TrCB	U	ND	pg/L	7.26	21.8
55702-45-9	24-TrCB	U	ND	pg/L	7.26	21.8
55712-37-3	25-TrCB	U	ND	pg/L	7.26	21.8
38444-81-4	26-TrCB	CU	ND	pg/L	14.5	43.6
38444-76-7	27-TrCB	U	ND	pg/L	7.26	21.8
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	7.26	21.8
38444-77-8	32-TrCB	U	ND	pg/L	7.26	21.8

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
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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146001**	**Date Collected:**	**11/21/2016 09:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/29/2016 10:25**		
Client ID:	**1611B75-001L Rio Grande-North-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 17:07**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-8**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**917 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	7.26	21.8
37680-69-6	35-TrCB	U	ND	pg/L	7.26	21.8
38444-87-0	36-TrCB	U	ND	pg/L	7.26	21.8
38444-90-5	37-TrCB	U	ND	pg/L	7.26	21.8
53555-66-1	38-TrCB	U	ND	pg/L	7.26	21.8
38444-88-1	39-TrCB	U	ND	pg/L	7.26	21.8
38444-93-8	40-TeCB	CU	ND	pg/L	14.5	43.6
52663-59-9	41-TeCB	U	ND	pg/L	7.26	21.8
36559-22-5	42-TeCB	U	ND	pg/L	7.26	21.8
70362-46-8	43-TeCB	U	ND	pg/L	7.26	21.8
41464-39-5	44-TeCB	CU	ND	pg/L	21.8	65.4
70362-45-7	45-TeCB	CU	ND	pg/L	14.5	43.6
41464-47-5	46-TeCB	U	ND	pg/L	7.26	21.8
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	7.26	21.8
41464-40-8	49-TeCB	CU	ND	pg/L	14.5	43.6
62796-65-0	50-TeCB	CU	ND	pg/L	14.5	43.6
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	J	7.33	pg/L	7.26	21.8
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	7.26	21.8
74338-24-2	55-TeCB	U	ND	pg/L	7.26	21.8
41464-43-1	56-TeCB	U	ND	pg/L	7.26	21.8
70424-67-8	57-TeCB	U	ND	pg/L	7.26	21.8
41464-49-7	58-TeCB	U	ND	pg/L	7.26	21.8
74472-33-6	59-TeCB	CU	ND	pg/L	21.8	65.4
33025-41-1	60-TeCB	U	ND	pg/L	7.26	21.8
33284-53-6	61-TeCB	CU	ND	pg/L	29.0	87.2
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	7.26	21.8
52663-58-8	64-TeCB	U	ND	pg/L	7.26	21.8

Comments:

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146001**	**Date Collected:**	**11/21/2016 09:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/29/2016 10:25**		
Client ID:	**1611B75-001L Rio Grande-North-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 17:07**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-8**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**917 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	U	ND	pg/L	7.26	21.8
73575-53-8	67-TeCB	U	ND	pg/L	7.26	21.8
73575-52-7	68-TeCB	U	ND	pg/L	7.26	21.8
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	7.26	21.8
74338-23-1	73-TeCB	U	ND	pg/L	7.26	21.8
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	7.26	21.8
70362-49-1	78-TeCB	U	ND	pg/L	7.26	21.8
41464-48-6	79-TeCB	U	ND	pg/L	7.26	21.8
33284-52-5	80-TeCB	U	ND	pg/L	7.26	21.8
70362-50-4	81-TeCB	U	ND	pg/L	7.26	21.8
52663-62-4	82-PeCB	U	ND	pg/L	7.26	21.8
60145-20-2	83-PeCB	U	ND	pg/L	7.26	21.8
52663-60-2	84-PeCB	U	ND	pg/L	7.26	21.8
65510-45-4	85-PeCB	CU	ND	pg/L	21.8	65.4
55312-69-1	86-PeCB	CU	ND	pg/L	43.6	131
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	14.5	43.6
73575-57-2	89-PeCB	U	ND	pg/L	7.26	21.8
68194-07-0	90-PeCB	CU	ND	pg/L	21.8	65.4
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	7.26	21.8
73575-56-1	93-PeCB	CU	ND	pg/L	14.5	43.6
73575-55-0	94-PeCB	U	ND	pg/L	7.26	21.8
38379-99-6	95-PeCB	U	ND	pg/L	7.26	21.8
73575-54-9	96-PeCB	U	ND	pg/L	7.26	21.8

Comments:

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146001**	**Date Collected:**	**11/21/2016 09:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/29/2016 10:25**		
Client ID:	**1611B75-001L Rio Grande-North-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 17:07**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-8**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**917 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	14.5	43.6
38380-01-7	99-PeCB	U	ND	pg/L	7.26	21.8
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	7.26	21.8
56558-16-8	104-PeCB	U	ND	pg/L	7.26	21.8
32598-14-4	105-PeCB	U	ND	pg/L	7.26	21.8
70424-69-0	106-PeCB	U	ND	pg/L	7.26	21.8
70424-68-9	107-PeCB	U	ND	pg/L	7.26	21.8
70362-41-3	108-PeCB	CU	ND	pg/L	14.5	43.6
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CU	ND	pg/L	14.5	43.6
39635-32-0	111-PeCB	U	ND	pg/L	7.26	21.8
74472-36-9	112-PeCB	U	ND	pg/L	7.26	21.8
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	7.26	21.8
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	7.26	21.8
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	7.26	21.8
56558-18-0	121-PeCB	U	ND	pg/L	7.26	21.8
76842-07-4	122-PeCB	U	ND	pg/L	7.26	21.8
65510-44-3	123-PeCB	U	ND	pg/L	7.26	21.8
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	7.26	21.8
39635-33-1	127-PeCB	U	ND	pg/L	7.26	21.8
38380-07-3	128-HxCB	CU	ND	pg/L	14.5	43.6

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146001**	**Date Collected:**	**11/21/2016 09:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/29/2016 10:25**		
Client ID:	**1611B75-001L Rio Grande-North-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 17:07**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-8**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**917 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
55215-18-4	129-HxCB	CU	ND	pg/L	21.8	65.4
52663-66-8	130-HxCB	U	ND	pg/L	7.26	21.8
61798-70-7	131-HxCB	U	ND	pg/L	7.26	21.8
38380-05-1	132-HxCB	U	ND	pg/L	13.9	21.8
35694-04-3	133-HxCB	U	ND	pg/L	7.26	21.8
52704-70-8	134-HxCB	U	ND	pg/L	7.33	21.8
52744-13-5	135-HxCB	CU	ND	pg/L	14.5	43.6
38411-22-2	136-HxCB	U	ND	pg/L	7.26	21.8
35694-06-5	137-HxCB	U	ND	pg/L	7.26	21.8
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	14.5	43.6
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	7.26	21.8
41411-61-4	142-HxCB	U	ND	pg/L	7.26	21.8
68194-15-0	143-HxCB	U	ND	pg/L	7.26	21.8
68194-14-9	144-HxCB	U	ND	pg/L	7.26	21.8
74472-40-5	145-HxCB	U	ND	pg/L	7.26	21.8
51908-16-8	146-HxCB	U	ND	pg/L	7.26	21.8
68194-13-8	147-HxCB	CU	ND	pg/L	14.5	43.6
74472-41-6	148-HxCB	U	ND	pg/L	7.26	21.8
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	7.26	21.8
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	7.26	21.8
35065-27-1	153-HxCB	CU	ND	pg/L	14.5	43.6
60145-22-4	154-HxCB	U	ND	pg/L	7.26	21.8
33979-03-2	155-HxCB	U	ND	pg/L	7.26	21.8
38380-08-4	156-HxCB	CU	ND	pg/L	14.5	43.6
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	7.26	21.8
39635-35-3	159-HxCB	U	ND	pg/L	7.26	21.8
41411-62-5	160-HxCB	U	ND	pg/L	7.26	21.8

Comments:

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146001**	**Date Collected:**	**11/21/2016 09:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/29/2016 10:25**		
Client ID:	**1611B75-001L Rio Grande-North-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 17:07**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-8**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**917 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	7.26	21.8
39635-34-2	162-HxCB	U	ND	pg/L	7.26	21.8
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	7.26	21.8
74472-46-1	165-HxCB	U	ND	pg/L	7.26	21.8
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	7.26	21.8
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	7.26	21.8
35065-30-6	170-HpCB	U	ND	pg/L	7.26	21.8
52663-71-5	171-HpCB	CU	ND	pg/L	14.5	43.6
52663-74-8	172-HpCB	U	ND	pg/L	7.26	21.8
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	7.26	21.8
40186-70-7	175-HpCB	U	ND	pg/L	7.26	21.8
52663-65-7	176-HpCB	U	ND	pg/L	7.26	21.8
52663-70-4	177-HpCB	U	ND	pg/L	7.26	21.8
52663-67-9	178-HpCB	U	ND	pg/L	7.26	21.8
52663-64-6	179-HpCB	U	ND	pg/L	7.26	21.8
35065-29-3	180-HpCB	CU	ND	pg/L	14.5	43.6
74472-47-2	181-HpCB	U	ND	pg/L	7.26	21.8
60145-23-5	182-HpCB	U	ND	pg/L	7.26	21.8
52663-69-1	183-HpCB	CU	ND	pg/L	14.5	43.6
74472-48-3	184-HpCB	U	ND	pg/L	7.26	21.8
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	7.26	21.8
52663-68-0	187-HpCB	U	ND	pg/L	7.26	21.8
74487-85-7	188-HpCB	U	ND	pg/L	7.26	21.8
39635-31-9	189-HpCB	U	ND	pg/L	7.26	21.8
41411-64-7	190-HpCB	U	ND	pg/L	7.26	21.8
74472-50-7	191-HpCB	U	ND	pg/L	7.26	21.8
74472-51-8	192-HpCB	U	ND	pg/L	7.26	21.8

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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146001**	**Date Collected:**	**11/21/2016 09:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/29/2016 10:25**		
Client ID:	**1611B75-001L Rio Grande-North-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 17:07**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-8**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**917 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	U	ND	pg/L	7.26	21.8
52663-78-2	195-OcCB	U	ND	pg/L	7.26	21.8
42740-50-1	196-OcCB	U	ND	pg/L	7.26	21.8
33091-17-7	197-OcCB	CU	ND	pg/L	14.5	43.6
68194-17-2	198-OcCB	CU	ND	pg/L	14.5	43.6
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	7.26	21.8
2136-99-4	202-OcCB	U	ND	pg/L	7.26	21.8
52663-76-0	203-OcCB	U	ND	pg/L	7.26	21.8
74472-52-9	204-OcCB	U	ND	pg/L	7.26	21.8
74472-53-0	205-OcCB	U	ND	pg/L	7.26	21.8
40186-72-9	206-NoCB	U	ND	pg/L	7.26	21.8
52663-79-3	207-NoCB	U	ND	pg/L	7.26	21.8
52663-77-1	208-NoCB	U	ND	pg/L	7.26	21.8
2051-24-3	209-DeCB	U	ND	pg/L	7.26	21.8
1336-36-3	Total PCB Congeners	B	61.1	pg/L	7.26	21.8

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		952	2180	pg/L	43.6	(15%-150%)
13C-3-MoCB		1120	2180	pg/L	51.5	(15%-150%)
13C-4-DiCB		1090	2180	pg/L	49.9	(25%-150%)
13C-15-DiCB		2100	2180	pg/L	96.5	(25%-150%)
13C-19-TrCB		1520	2180	pg/L	69.9	(25%-150%)
13C-37-TrCB		1750	2180	pg/L	80.1	(25%-150%)
13C-54-TeCB		1360	2180	pg/L	62.5	(25%-150%)
13C-77-TeCB		2010	2180	pg/L	92.0	(25%-150%)
13C-81-TeCB		2020	2180	pg/L	92.8	(25%-150%)
13C-104-PeCB		1530	2180	pg/L	70.2	(25%-150%)
13C-105-PeCB		1820	2180	pg/L	83.4	(25%-150%)
13C-114-PeCB		1800	2180	pg/L	82.3	(25%-150%)
13C-118-PeCB		1870	2180	pg/L	85.8	(25%-150%)
13C-123-PeCB		1910	2180	pg/L	87.6	(25%-150%)
13C-126-PeCB		1780	2180	pg/L	81.7	(25%-150%)
13C-155-HxCB		1620	2180	pg/L	74.4	(25%-150%)
13C-156-HxCB	C	3230	4360	pg/L	74.1	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1700	2180	pg/L	78.1	(25%-150%)
13C-169-HxCB		1570	2180	pg/L	71.9	(25%-150%)
13C-188-HpCB		2050	2180	pg/L	93.8	(25%-150%)
13C-189-HpCB		1800	2180	pg/L	82.7	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1611B75	**Client:**	HALL001	**Project:**	HALL00114
Lab Sample ID:	10146001	**Date Collected:**	11/21/2016 09:30	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	11/29/2016 10:25		
Client ID:	1611B75-001L Rio Grande-North-11			**Prep Basis:**	As Received
Batch ID:	33561	**Method:**	EPA Method 1668A		
Run Date:	12/16/2016 17:07	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c16dec16a-8			**Dilution:**	1
Prep Batch:	33559	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	13-DEC-16	**Prep Aliquot:**	917 mL		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		2110	2180	pg/L	96.9	(25%-150%)
13C-205-OcCB		1980	2180	pg/L	90.8	(25%-150%)
13C-206-NoCB		1950	2180	pg/L	89.2	(25%-150%)
13C-208-NoCB		1990	2180	pg/L	91.2	(25%-150%)
13C-209-DeCB		2160	2180	pg/L	99.1	(25%-150%)
13C-28-TrCB		1540	2180	pg/L	70.7	(30%-135%)
13C-111-PeCB		1910	2180	pg/L	87.4	(30%-135%)
13C-178-HpCB		2050	2180	pg/L	94.0	(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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146002**	**Date Collected:**	**11/22/2016 07:00**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/30/2016 10:45**		
Client ID:	**1611B75-002L Rio Grande-South-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 18:13**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-9**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**903.4 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	7.48	22.1
2051-61-8	2-MoCB	U	ND	pg/L	7.37	22.1
2051-62-9	3-MoCB	U	ND	pg/L	7.37	22.1
13029-08-8	4-DiCB	U	ND	pg/L	7.44	22.1
16605-91-7	5-DiCB	U	ND	pg/L	8.50	22.1
25569-80-6	6-DiCB	U	ND	pg/L	8.01	22.1
33284-50-3	7-DiCB	U	ND	pg/L	7.37	22.1
34883-43-7	8-DiCB	U	ND	pg/L	7.86	22.1
34883-39-1	9-DiCB	U	ND	pg/L	7.37	22.1
33146-45-1	10-DiCB	U	ND	pg/L	7.37	22.1
2050-67-1	11-DiCB	J	78.4	pg/L	12.7	111
2974-92-7	12-DiCB	CU	ND	pg/L	14.7	44.3
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	7.37	22.1
2050-68-2	15-DiCB	J	13.0	pg/L	7.37	22.1
38444-78-9	16-TrCB	U	ND	pg/L	8.92	22.1
37680-66-3	17-TrCB	U	ND	pg/L	7.37	22.1
37680-65-2	18-TrCB	CU	ND	pg/L	14.7	44.3
38444-73-4	19-TrCB	U	ND	pg/L	7.37	22.1
38444-84-7	20-TrCB	CJ	20.2	pg/L	14.7	44.3
55702-46-0	21-TrCB	CU	ND	pg/L	14.7	44.3
38444-85-8	22-TrCB	U	ND	pg/L	7.37	22.1
55720-44-0	23-TrCB	U	ND	pg/L	7.37	22.1
55702-45-9	24-TrCB	U	ND	pg/L	7.37	22.1
55712-37-3	25-TrCB	U	ND	pg/L	7.37	22.1
38444-81-4	26-TrCB	CU	ND	pg/L	14.7	44.3
38444-76-7	27-TrCB	U	ND	pg/L	7.37	22.1
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	J	13.4	pg/L	7.37	22.1
38444-77-8	32-TrCB	U	ND	pg/L	7.37	22.1

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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146002**	**Date Collected:**	**11/22/2016 07:00**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/30/2016 10:45**		
Client ID:	**1611B75-002L Rio Grande-South-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 18:13**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-9**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**903.4 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	7.37	22.1
37680-69-6	35-TrCB	U	ND	pg/L	7.37	22.1
38444-87-0	36-TrCB	U	ND	pg/L	7.37	22.1
38444-90-5	37-TrCB	J	9.05	pg/L	7.37	22.1
53555-66-1	38-TrCB	U	ND	pg/L	7.37	22.1
38444-88-1	39-TrCB	U	ND	pg/L	7.37	22.1
38444-93-8	40-TeCB	CU	ND	pg/L	14.7	44.3
52663-59-9	41-TeCB	U	ND	pg/L	7.37	22.1
36559-22-5	42-TeCB	U	ND	pg/L	7.37	22.1
70362-46-8	43-TeCB	U	ND	pg/L	7.37	22.1
41464-39-5	44-TeCB	CJ	27.1	pg/L	22.1	66.4
70362-45-7	45-TeCB	CU	ND	pg/L	14.7	44.3
41464-47-5	46-TeCB	U	ND	pg/L	7.37	22.1
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	7.37	22.1
41464-40-8	49-TeCB	CU	ND	pg/L	14.7	44.3
62796-65-0	50-TeCB	CU	ND	pg/L	14.7	44.3
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB		37.5	pg/L	7.37	22.1
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	7.37	22.1
74338-24-2	55-TeCB	U	ND	pg/L	7.37	22.1
41464-43-1	56-TeCB	J	11.2	pg/L	7.37	22.1
70424-67-8	57-TeCB	U	ND	pg/L	7.37	22.1
41464-49-7	58-TeCB	U	ND	pg/L	7.37	22.1
74472-33-6	59-TeCB	CU	ND	pg/L	22.1	66.4
33025-41-1	60-TeCB	U	ND	pg/L	7.37	22.1
33284-53-6	61-TeCB	CJ	45.1	pg/L	29.4	88.6
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	7.37	22.1
52663-58-8	64-TeCB	J	9.32	pg/L	7.37	22.1

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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146002**	**Date Collected:**	**11/22/2016 07:00**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/30/2016 10:45**		
Client ID:	**1611B75-002L Rio Grande-South-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 18:13**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-9**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**903.4 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	J	17.4	pg/L	7.37	22.1
73575-53-8	67-TeCB	U	ND	pg/L	7.37	22.1
73575-52-7	68-TeCB	U	ND	pg/L	7.37	22.1
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	7.37	22.1
74338-23-1	73-TeCB	U	ND	pg/L	7.37	22.1
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	7.37	22.1
70362-49-1	78-TeCB	U	ND	pg/L	7.37	22.1
41464-48-6	79-TeCB	U	ND	pg/L	7.37	22.1
33284-52-5	80-TeCB	U	ND	pg/L	7.37	22.1
70362-50-4	81-TeCB	U	ND	pg/L	7.37	22.1
52663-62-4	82-PeCB	J	7.68	pg/L	7.37	22.1
60145-20-2	83-PeCB	U	ND	pg/L	7.37	22.1
52663-60-2	84-PeCB	J	14.1	pg/L	7.37	22.1
65510-45-4	85-PeCB	CU	ND	pg/L	22.1	66.4
55312-69-1	86-PeCB	CJ	46.6	pg/L	44.3	133
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	14.7	44.3
73575-57-2	89-PeCB	U	ND	pg/L	7.37	22.1
68194-07-0	90-PeCB	CJ	65.4	pg/L	22.1	66.4
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	J	11.8	pg/L	7.37	22.1
73575-56-1	93-PeCB	CU	ND	pg/L	14.7	44.3
73575-55-0	94-PeCB	U	ND	pg/L	7.37	22.1
38379-99-6	95-PeCB		43.8	pg/L	7.37	22.1
73575-54-9	96-PeCB	U	ND	pg/L	7.37	22.1

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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146002**	**Date Collected:**	**11/22/2016 07:00**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/30/2016 10:45**		
Client ID:	**1611B75-002L Rio Grande-South-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 18:13**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-9**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**903.4 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	14.7	44.3
38380-01-7	99-PeCB		26.8	pg/L	7.37	22.1
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	7.37	22.1
56558-16-8	104-PeCB	U	ND	pg/L	7.37	22.1
32598-14-4	105-PeCB		33.8	pg/L	7.37	22.1
70424-69-0	106-PeCB	U	ND	pg/L	7.37	22.1
70424-68-9	107-PeCB	U	ND	pg/L	7.37	22.1
70362-41-3	108-PeCB	CU	ND	pg/L	14.7	44.3
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	C	92.3	pg/L	14.7	44.3
39635-32-0	111-PeCB	U	ND	pg/L	7.37	22.1
74472-36-9	112-PeCB	U	ND	pg/L	7.37	22.1
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	7.37	22.1
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB		68.0	pg/L	7.37	22.1
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	7.37	22.1
56558-18-0	121-PeCB	U	ND	pg/L	7.37	22.1
76842-07-4	122-PeCB	U	ND	pg/L	7.37	22.1
65510-44-3	123-PeCB	U	ND	pg/L	7.37	22.1
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	7.37	22.1
39635-33-1	127-PeCB	U	ND	pg/L	7.37	22.1
38380-07-3	128-HxCB	CJ	19.9	pg/L	14.7	44.3

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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146002**	**Date Collected:**	**11/22/2016 07:00**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/30/2016 10:45**		
Client ID:	**1611B75-002L Rio Grande-South-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 18:13**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-9**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**903.4 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
55215-18-4	129-HxCB	C	160	pg/L	22.1	66.4
52663-66-8	130-HxCB	J	8.66	pg/L	7.37	22.1
61798-70-7	131-HxCB	U	ND	pg/L	7.37	22.1
38380-05-1	132-HxCB		43.1	pg/L	14.1	22.1
35694-04-3	133-HxCB	U	ND	pg/L	7.37	22.1
52704-70-8	134-HxCB	U	ND	pg/L	7.44	22.1
52744-13-5	135-HxCB	CJ	39.2	pg/L	14.7	44.3
38411-22-2	136-HxCB	J	12.4	pg/L	7.37	22.1
35694-06-5	137-HxCB	U	ND	pg/L	7.37	22.1
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	14.7	44.3
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB		24.0	pg/L	7.37	22.1
41411-61-4	142-HxCB	U	ND	pg/L	7.37	22.1
68194-15-0	143-HxCB	U	ND	pg/L	7.37	22.1
68194-14-9	144-HxCB	U	ND	pg/L	7.37	22.1
74472-40-5	145-HxCB	U	ND	pg/L	7.37	22.1
51908-16-8	146-HxCB	J	17.0	pg/L	7.37	22.1
68194-13-8	147-HxCB	C	95.3	pg/L	14.7	44.3
74472-41-6	148-HxCB	U	ND	pg/L	7.37	22.1
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	7.37	22.1
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	7.37	22.1
35065-27-1	153-HxCB	C	116	pg/L	14.7	44.3
60145-22-4	154-HxCB	U	ND	pg/L	7.37	22.1
33979-03-2	155-HxCB	U	ND	pg/L	7.37	22.1
38380-08-4	156-HxCB	CJ	16.8	pg/L	14.7	44.3
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	J	14.4	pg/L	7.37	22.1
39635-35-3	159-HxCB	U	ND	pg/L	7.37	22.1
41411-62-5	160-HxCB	U	ND	pg/L	7.37	22.1

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:	1611B75	**Client:**	HALL001	**Project:**	HALL00114
Lab Sample ID:	10146002	**Date Collected:**	11/22/2016 07:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	11/30/2016 10:45		
Client ID:	1611B75-002L Rio Grande-South-11			**Prep Basis:**	As Received
Batch ID:	33561	**Method:**	EPA Method 1668A		
Run Date:	12/16/2016 18:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c16dec16a-9			**Dilution:**	1
Prep Batch:	33559	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	13-DEC-16	**Prep Aliquot:**	903.4 mL		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	7.37	22.1
39635-34-2	162-HxCB	U	ND	pg/L	7.37	22.1
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	J	10.2	pg/L	7.37	22.1
74472-46-1	165-HxCB	U	ND	pg/L	7.37	22.1
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	7.37	22.1
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	7.37	22.1
35065-30-6	170-HpCB		44.1	pg/L	7.37	22.1
52663-71-5	171-HpCB	CU	ND	pg/L	14.7	44.3
52663-74-8	172-HpCB	J	8.55	pg/L	7.37	22.1
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB		43.2	pg/L	7.37	22.1
40186-70-7	175-HpCB	U	ND	pg/L	7.37	22.1
52663-65-7	176-HpCB	U	ND	pg/L	7.37	22.1
52663-70-4	177-HpCB		26.6	pg/L	7.37	22.1
52663-67-9	178-HpCB	J	9.25	pg/L	7.37	22.1
52663-64-6	179-HpCB	J	15.5	pg/L	7.37	22.1
35065-29-3	180-HpCB	C	99.8	pg/L	14.7	44.3
74472-47-2	181-HpCB	U	ND	pg/L	7.37	22.1
60145-23-5	182-HpCB	U	ND	pg/L	7.37	22.1
52663-69-1	183-HpCB	CJ	29.5	pg/L	14.7	44.3
74472-48-3	184-HpCB	U	ND	pg/L	7.37	22.1
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	7.37	22.1
52663-68-0	187-HpCB		55.3	pg/L	7.37	22.1
74487-85-7	188-HpCB	U	ND	pg/L	7.37	22.1
39635-31-9	189-HpCB	U	ND	pg/L	7.37	22.1
41411-64-7	190-HpCB	J	8.55	pg/L	7.37	22.1
74472-50-7	191-HpCB	U	ND	pg/L	7.37	22.1
74472-51-8	192-HpCB	U	ND	pg/L	7.37	22.1

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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**10146002**	**Date Collected:**	**11/22/2016 07:00**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/30/2016 10:45**		
Client ID:	**1611B75-002L Rio Grande-South-11**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 18:13**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-9**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**903.4 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	21.1	pg/L	7.37	22.1
52663-78-2	195-OcCB	J	8.15	pg/L	7.37	22.1
42740-50-1	196-OcCB	J	10.8	pg/L	7.37	22.1
33091-17-7	197-OcCB	CU	ND	pg/L	14.7	44.3
68194-17-2	198-OcCB	CJ	25.9	pg/L	14.7	44.3
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	7.37	22.1
2136-99-4	202-OcCB	U	ND	pg/L	7.37	22.1
52663-76-0	203-OcCB	J	17.3	pg/L	7.37	22.1
74472-52-9	204-OcCB	U	ND	pg/L	7.37	22.1
74472-53-0	205-OcCB	U	ND	pg/L	7.37	22.1
40186-72-9	206-NoCB	J	13.6	pg/L	7.37	22.1
52663-79-3	207-NoCB	U	ND	pg/L	7.37	22.1
52663-77-1	208-NoCB	U	ND	pg/L	7.37	22.1
2051-24-3	209-DeCB	J	12.2	pg/L	7.37	22.1
1336-36-3	Total PCB Congeners		1720	pg/L	7.37	22.1

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		1240	2210	pg/L	56.0	(15%-150%)
13C-3-MoCB		1410	2210	pg/L	63.6	(15%-150%)
13C-4-DiCB		1360	2210	pg/L	61.6	(25%-150%)
13C-15-DiCB		2580	2210	pg/L	117	(25%-150%)
13C-19-TrCB		1850	2210	pg/L	83.6	(25%-150%)
13C-37-TrCB		2010	2210	pg/L	90.9	(25%-150%)
13C-54-TeCB		1510	2210	pg/L	68.3	(25%-150%)
13C-77-TeCB		2290	2210	pg/L	103	(25%-150%)
13C-81-TeCB		2320	2210	pg/L	105	(25%-150%)
13C-104-PeCB		1680	2210	pg/L	75.7	(25%-150%)
13C-105-PeCB		2010	2210	pg/L	90.7	(25%-150%)
13C-114-PeCB		1980	2210	pg/L	89.3	(25%-150%)
13C-118-PeCB		2040	2210	pg/L	92.0	(25%-150%)
13C-123-PeCB		2060	2210	pg/L	93.0	(25%-150%)
13C-126-PeCB		2020	2210	pg/L	91.2	(25%-150%)
13C-155-HxCB		1780	2210	pg/L	80.3	(25%-150%)
13C-156-HxCB	C	3640	4430	pg/L	82.1	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1920	2210	pg/L	86.6	(25%-150%)
13C-169-HxCB		1780	2210	pg/L	80.6	(25%-150%)
13C-188-HpCB		2130	2210	pg/L	96.3	(25%-150%)
13C-189-HpCB		1990	2210	pg/L	90.0	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1611B75	**Client:**	HALL001	**Project:**	HALL00114
Lab Sample ID:	10146002	**Date Collected:**	11/22/2016 07:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	11/30/2016 10:45		
Client ID:	1611B75-002L Rio Grande-South-11			**Prep Basis:**	As Received
Batch ID:	33561	**Method:**	EPA Method 1668A		
Run Date:	12/16/2016 18:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c16dec16a-9			**Dilution:**	1
Prep Batch:	33559	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	13-DEC-16	**Prep Aliquot:**	903.4 mL		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		2270	2210	pg/L	103	(25%-150%)
13C-205-OcCB		2140	2210	pg/L	96.5	(25%-150%)
13C-206-NoCB		2100	2210	pg/L	94.7	(25%-150%)
13C-208-NoCB		2150	2210	pg/L	96.9	(25%-150%)
13C-209-DeCB		2320	2210	pg/L	105	(25%-150%)
13C-28-TrCB		1630	2210	pg/L	73.6	(30%-135%)
13C-111-PeCB		2030	2210	pg/L	91.5	(30%-135%)
13C-178-HpCB		2190	2210	pg/L	99.0	(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.

Quality Control Summary

PCB Congeners

Surrogate Recovery Report

SDG Number: 1611B75

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12017565	LCS for batch 33559	13C-1-MoCB		46.8	(15%-140%)
		13C-3-MoCB		52.3	(15%-140%)
		13C-4-DiCB		54.2	(30%-140%)
		13C-15-DiCB		89.2	(30%-140%)
		13C-19-TrCB		72.1	(30%-140%)
		13C-37-TrCB		77.9	(30%-140%)
		13C-54-TeCB		68.5	(30%-140%)
		13C-77-TeCB		88.4	(30%-140%)
		13C-81-TeCB		90.4	(30%-140%)
		13C-104-PeCB		73.7	(30%-140%)
		13C-105-PeCB		82.4	(30%-140%)
		13C-114-PeCB		81.6	(30%-140%)
		13C-118-PeCB		83.9	(30%-140%)
		13C-123-PeCB		84.9	(30%-140%)
		13C-126-PeCB		78.7	(30%-140%)
		13C-155-HxCB		79.9	(30%-140%)
		13C-156-HxCB	C	75.5	(30%-140%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		79.4	(30%-140%)
		13C-169-HxCB		72.2	(30%-140%)
		13C-188-HpCB		104	(30%-140%)
		13C-189-HpCB		85.8	(30%-140%)
		13C-202-OcCB		106	(30%-140%)
		13C-205-OcCB		93.5	(30%-140%)
		13C-206-NoCB		94.5	(30%-140%)
		13C-208-NoCB		97.6	(30%-140%)
		13C-209-DeCB		107	(30%-140%)
		13C-28-TrCB		74.6	(40%-125%)
		13C-111-PeCB		88.8	(40%-125%)
		13C-178-HpCB		101	(40%-125%)
12017566	LCSD for batch 33559	13C-1-MoCB		43.9	(15%-140%)
		13C-3-MoCB		51.9	(15%-140%)
		13C-4-DiCB		50.1	(30%-140%)
		13C-15-DiCB		90.3	(30%-140%)
		13C-19-TrCB		69.3	(30%-140%)
		13C-37-TrCB		72.0	(30%-140%)
		13C-54-TeCB		58.8	(30%-140%)
		13C-77-TeCB		79.7	(30%-140%)
		13C-81-TeCB		81.5	(30%-140%)
		13C-104-PeCB		65.8	(30%-140%)
		13C-105-PeCB		74.2	(30%-140%)
		13C-114-PeCB		72.7	(30%-140%)
		13C-118-PeCB		75.3	(30%-140%)
		13C-123-PeCB		76.0	(30%-140%)
		13C-126-PeCB		71.6	(30%-140%)
		13C-155-HxCB		69.7	(30%-140%)
		13C-156-HxCB	C	67.1	(30%-140%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		71.1	(30%-140%)
		13C-169-HxCB		64.2	(30%-140%)
		13C-188-HpCB		91.6	(30%-140%)
		13C-189-HpCB		76.7	(30%-140%)

PCB Congeners
Surrogate Recovery Report

SDG Number: 1611B75

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12017566	LCSD for batch 33559	13C-202-OcCB		93.2	(30%-140%)
		13C-205-OcCB		83.4	(30%-140%)
		13C-206-NoCB		83.3	(30%-140%)
		13C-208-NoCB		85.8	(30%-140%)
		13C-209-DeCB		94.5	(30%-140%)
		13C-28-TrCB		71.9	(40%-125%)
		13C-111-PeCB		88.7	(40%-125%)
		13C-178-HpCB		98.6	(40%-125%)
12017564	MB for batch 33559	13C-1-MoCB		54.3	(15%-150%)
		13C-3-MoCB		57.6	(15%-150%)
		13C-4-DiCB		57.4	(25%-150%)
		13C-15-DiCB		109	(25%-150%)
		13C-19-TrCB		80.5	(25%-150%)
		13C-37-TrCB		90.8	(25%-150%)
		13C-54-TeCB		67.3	(25%-150%)
		13C-77-TeCB		103	(25%-150%)
		13C-81-TeCB		105	(25%-150%)
		13C-104-PeCB		72.9	(25%-150%)
		13C-105-PeCB		86.7	(25%-150%)
		13C-114-PeCB		85.3	(25%-150%)
		13C-118-PeCB		87.2	(25%-150%)
		13C-123-PeCB		88.4	(25%-150%)
		13C-126-PeCB		84.9	(25%-150%)
		13C-155-HxCB		82.0	(25%-150%)
		13C-156-HxCB	C	78.6	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		83.7	(25%-150%)
		13C-169-HxCB		74.8	(25%-150%)
		13C-188-HpCB		106	(25%-150%)
		13C-189-HpCB		88.4	(25%-150%)
		13C-202-OcCB		108	(25%-150%)
		13C-205-OcCB		95.1	(25%-150%)
		13C-206-NoCB		95.2	(25%-150%)
		13C-208-NoCB		100	(25%-150%)
		13C-209-DeCB		108	(25%-150%)
		13C-28-TrCB		74.3	(30%-135%)
		13C-111-PeCB		93.9	(30%-135%)
		13C-178-HpCB		106	(30%-135%)
10146001	1611B75-001L Rio Grande-North-112116	13C-1-MoCB		43.6	(15%-150%)
		13C-3-MoCB		51.5	(15%-150%)
		13C-4-DiCB		49.9	(25%-150%)
		13C-15-DiCB		96.5	(25%-150%)
		13C-19-TrCB		69.9	(25%-150%)
		13C-37-TrCB		80.1	(25%-150%)
		13C-54-TeCB		62.5	(25%-150%)
		13C-77-TeCB		92.0	(25%-150%)
		13C-81-TeCB		92.8	(25%-150%)
		13C-104-PeCB		70.2	(25%-150%)
		13C-105-PeCB		83.4	(25%-150%)
		13C-114-PeCB		82.3	(25%-150%)
		13C-118-PeCB		85.8	(25%-150%)

PCB Congeners
Surrogate Recovery Report

SDG Number: 1611B75

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
10146001	1611B75-001L Rio Grande-North-112116	13C-123-PeCB		87.6	(25%-150%)
		13C-126-PeCB		81.7	(25%-150%)
		13C-155-HxCB		74.4	(25%-150%)
		13C-156-HxCB	C	74.1	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		78.1	(25%-150%)
		13C-169-HxCB		71.9	(25%-150%)
		13C-188-HpCB		93.8	(25%-150%)
		13C-189-HpCB		82.7	(25%-150%)
		13C-202-OcCB		96.9	(25%-150%)
		13C-205-OcCB		90.8	(25%-150%)
		13C-206-NoCB		89.2	(25%-150%)
		13C-208-NoCB		91.2	(25%-150%)
		13C-209-DeCB		99.1	(25%-150%)
		13C-28-TrCB		70.7	(30%-135%)
		13C-111-PeCB		87.4	(30%-135%)
		13C-178-HpCB		94.0	(30%-135%)
10146002	1611B75-002L Rio Grande-South-112116	13C-1-MoCB		56.0	(15%-150%)
		13C-3-MoCB		63.6	(15%-150%)
		13C-4-DiCB		61.6	(25%-150%)
		13C-15-DiCB		117	(25%-150%)
		13C-19-TrCB		83.6	(25%-150%)
		13C-37-TrCB		90.9	(25%-150%)
		13C-54-TeCB		68.3	(25%-150%)
		13C-77-TeCB		103	(25%-150%)
		13C-81-TeCB		105	(25%-150%)
		13C-104-PeCB		75.7	(25%-150%)
		13C-105-PeCB		90.7	(25%-150%)
		13C-114-PeCB		89.3	(25%-150%)
		13C-118-PeCB		92.0	(25%-150%)
		13C-123-PeCB		93.0	(25%-150%)
		13C-126-PeCB		91.2	(25%-150%)
		13C-155-HxCB		80.3	(25%-150%)
		13C-156-HxCB	C	82.1	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		86.6	(25%-150%)
		13C-169-HxCB		80.6	(25%-150%)
		13C-188-HpCB		96.3	(25%-150%)
		13C-189-HpCB		90.0	(25%-150%)
		13C-202-OcCB		103	(25%-150%)
		13C-205-OcCB		96.5	(25%-150%)
		13C-206-NoCB		94.7	(25%-150%)
		13C-208-NoCB		96.9	(25%-150%)
		13C-209-DeCB		105	(25%-150%)
		13C-28-TrCB		73.6	(30%-135%)
		13C-111-PeCB		91.5	(30%-135%)
		13C-178-HpCB		99.0	(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: 1611B75 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 33559 **Matrix:** WATER

Lab Sample ID: 12017565

Instrument: HRP791 **Analysis Date:** 12/16/2016 10:30 **Dilution:** 1

Analyst: MJC **Prep Batch ID:** 33559

Batch ID: 33561

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits
2051-60-7	LCS	1-MoCB	500		547	109	50-150
2051-62-9	LCS	3-MoCB	500		600	120	50-150
13029-08-8	LCS	4-DiCB	500		471	94.1	50-150
2050-68-2	LCS	15-DiCB	500		584	117	50-150
38444-73-4	LCS	19-TrCB	500		502	100	50-150
38444-90-5	LCS	37-TrCB	500		512	102	50-150
15968-05-5	LCS	54-TeCB	1000		977	97.7	50-150
32598-13-3	LCS	77-TeCB	1000		1000	100	50-150
70362-50-4	LCS	81-TeCB	1000		1140	114	50-150
56558-16-8	LCS	104-PeCB	1000		1070	107	50-150
32598-14-4	LCS	105-PeCB	1000		1260	126	50-150
74472-37-0	LCS	114-PeCB	1000		1140	114	50-150
31508-00-6	LCS	118-PeCB	1000		1070	107	50-150
65510-44-3	LCS	123-PeCB	1000		1050	105	50-150
57465-28-8	LCS	126-PeCB	1000		1180	118	50-150
33979-03-2	LCS	155-HxCB	1000		1000	100	50-150
38380-08-4	LCS	156-HxCB	2000	C	2380	119	50-150
69782-90-7	LCS	157-HxCB		C156			
52663-72-6	LCS	167-HxCB	1000		1240	124	50-150
32774-16-6	LCS	169-HxCB	1000		1110	111	50-150
74487-85-7	LCS	188-HpCB	1000		1020	102	50-150
39635-31-9	LCS	189-HpCB	1000		1100	110	50-150
2136-99-4	LCS	202-OcCB	1500		1490	99.1	50-150
74472-53-0	LCS	205-OcCB	1500		1440	95.9	50-150
40186-72-9	LCS	206-NoCB	1500		1470	98.3	50-150
52663-77-1	LCS	208-NoCB	1500		1580	106	50-150
2051-24-3	LCS	209-DeCB	1500		1440	95.9	50-150

PCB Congeners

Quality Control Summary

Spike Recovery Report

SDG Number: 1611B75 **Sample Type:** Laboratory Control Sample Duplicate

Client ID: LCSD for batch 33559 **Matrix:** WATER

Lab Sample ID: 12017566

Instrument: HRP791 **Analysis Date:** 12/16/2016 11:36 **Dilution:** 1

Analyst: MJC **Prep Batch ID:** 33559

Batch ID: 33561

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
2051-60-7	LCSD	1-MoCB	500		539	108	50-150	1.48	0-20
2051-62-9	LCSD	3-MoCB	500		582	116	50-150	2.95	0-20
13029-08-8	LCSD	4-DiCB	500		472	94.3	50-150	0.225	0-20
2050-68-2	LCSD	15-DiCB	500		577	115	50-150	1.26	0-20
38444-73-4	LCSD	19-TrCB	500		508	102	50-150	1.19	0-20
38444-90-5	LCSD	37-TrCB	500		520	104	50-150	1.42	0-20
15968-05-5	LCSD	54-TeCB	1000		967	96.7	50-150	1.05	0-20
32598-13-3	LCSD	77-TeCB	1000		1010	101	50-150	0.951	0-20
70362-50-4	LCSD	81-TeCB	1000		1140	114	50-150	0.263	0-20
56558-16-8	LCSD	104-PeCB	1000		1080	108	50-150	0.775	0-20
32598-14-4	LCSD	105-PeCB	1000		1280	128	50-150	1.14	0-20
74472-37-0	LCSD	114-PeCB	1000		1150	115	50-150	1.09	0-20
31508-00-6	LCSD	118-PeCB	1000		1050	105	50-150	1.52	0-20
65510-44-3	LCSD	123-PeCB	1000		1040	104	50-150	1.06	0-20
57465-28-8	LCSD	126-PeCB	1000		1190	119	50-150	1.07	0-20
33979-03-2	LCSD	155-HxCB	1000		992	99.2	50-150	1.08	0-20
38380-08-4	LCSD	156-HxCB	2000	C	2390	120	50-150	0.627	0-20
69782-90-7	LCSD	157-HxCB		C156					
52663-72-6	LCSD	167-HxCB	1000		1230	123	50-150	0.497	0-20
32774-16-6	LCSD	169-HxCB	1000		1120	112	50-150	0.674	0-20
74487-85-7	LCSD	188-HpCB	1000		1010	101	50-150	0.458	0-20
39635-31-9	LCSD	189-HpCB	1000		1080	108	50-150	1.46	0-20
2136-99-4	LCSD	202-OcCB	1500		1470	98.3	50-150	0.805	0-20
74472-53-0	LCSD	205-OcCB	1500		1430	95.1	50-150	0.842	0-20
40186-72-9	LCSD	206-NoCB	1500		1480	98.5	50-150	0.186	0-20
52663-77-1	LCSD	208-NoCB	1500		1570	105	50-150	0.500	0-20
2051-24-3	LCSD	209-DeCB	1500		1430	95.2	50-150	0.680	0-20

Method Blank Summary

SDG Number:	**1611B75**	**Client:**	**HALL001**	**Matrix:**	**WATER**
Client ID:	**MB for batch 33559**	**Instrument ID:**	**HRP791**	**Data File:**	**c16dec16a-4**
Lab Sample ID:	**12017564**	**Prep Date:**	**13-DEC-16**	**Analyzed:**	**12/16/16 12:42**
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 33559	12017565	c16dec16a-2	12/16/16	1030
02	LCSD for batch 33559	12017566	c16dec16a-3	12/16/16	1136
03	1611B75-001L Rio Grande-North-112116	10146001	c16dec16a-8	12/16/16	1707
04	1611B75-002L Rio Grande-South-112116	10146002	c16dec16a-9	12/16/16	1813

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**12017564**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33559**				
Client ID:	**MB for batch 33559**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 12:42**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-4**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	6.76	20.0
2051-61-8	2-MoCB	U	ND	pg/L	6.66	20.0
2051-62-9	3-MoCB	U	ND	pg/L	6.66	20.0
13029-08-8	4-DiCB	U	ND	pg/L	6.72	20.0
16605-91-7	5-DiCB	U	ND	pg/L	7.68	20.0
25569-80-6	6-DiCB	U	ND	pg/L	7.24	20.0
33284-50-3	7-DiCB	U	ND	pg/L	6.66	20.0
34883-43-7	8-DiCB	U	ND	pg/L	7.10	20.0
34883-39-1	9-DiCB	U	ND	pg/L	6.66	20.0
33146-45-1	10-DiCB	U	ND	pg/L	6.66	20.0
2050-67-1	11-DiCB	J	35.2	pg/L	11.5	100
2974-92-7	12-DiCB	CU	ND	pg/L	13.3	40.0
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	6.66	20.0
2050-68-2	15-DiCB	U	ND	pg/L	6.66	20.0
38444-78-9	16-TrCB	U	ND	pg/L	8.06	20.0
37680-66-3	17-TrCB	U	ND	pg/L	6.66	20.0
37680-65-2	18-TrCB	CU	ND	pg/L	13.3	40.0
38444-73-4	19-TrCB	U	ND	pg/L	6.66	20.0
38444-84-7	20-TrCB	CU	ND	pg/L	13.3	40.0
55702-46-0	21-TrCB	CU	ND	pg/L	13.3	40.0
38444-85-8	22-TrCB	U	ND	pg/L	6.66	20.0
55720-44-0	23-TrCB	U	ND	pg/L	6.66	20.0
55702-45-9	24-TrCB	U	ND	pg/L	6.66	20.0
55712-37-3	25-TrCB	U	ND	pg/L	6.66	20.0
38444-81-4	26-TrCB	CU	ND	pg/L	13.3	40.0
38444-76-7	27-TrCB	U	ND	pg/L	6.66	20.0
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	6.66	20.0
38444-77-8	32-TrCB	U	ND	pg/L	6.66	20.0

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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**12017564**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33559**				
Client ID:	**MB for batch 33559**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 12:42**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-4**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	6.66	20.0
37680-69-6	35-TrCB	U	ND	pg/L	6.66	20.0
38444-87-0	36-TrCB	U	ND	pg/L	6.66	20.0
38444-90-5	37-TrCB	U	ND	pg/L	6.66	20.0
53555-66-1	38-TrCB	U	ND	pg/L	6.66	20.0
38444-88-1	39-TrCB	U	ND	pg/L	6.66	20.0
38444-93-8	40-TeCB	CU	ND	pg/L	13.3	40.0
52663-59-9	41-TeCB	U	ND	pg/L	6.66	20.0
36559-22-5	42-TeCB	U	ND	pg/L	6.66	20.0
70362-46-8	43-TeCB	U	ND	pg/L	6.66	20.0
41464-39-5	44-TeCB	CU	ND	pg/L	20.0	60.0
70362-45-7	45-TeCB	CU	ND	pg/L	13.3	40.0
41464-47-5	46-TeCB	U	ND	pg/L	6.66	20.0
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	6.66	20.0
41464-40-8	49-TeCB	CU	ND	pg/L	13.3	40.0
62796-65-0	50-TeCB	CU	ND	pg/L	13.3	40.0
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	U	ND	pg/L	6.66	20.0
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	6.66	20.0
74338-24-2	55-TeCB	U	ND	pg/L	6.66	20.0
41464-43-1	56-TeCB	U	ND	pg/L	6.66	20.0
70424-67-8	57-TeCB	U	ND	pg/L	6.66	20.0
41464-49-7	58-TeCB	U	ND	pg/L	6.66	20.0
74472-33-6	59-TeCB	CU	ND	pg/L	20.0	60.0
33025-41-1	60-TeCB	U	ND	pg/L	6.66	20.0
33284-53-6	61-TeCB	CU	ND	pg/L	26.6	80.0
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	6.66	20.0
52663-58-8	64-TeCB	U	ND	pg/L	6.66	20.0

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:	1611B75	**Client:**	HALL001	**Project:**	HALL00114
Lab Sample ID:	12017564			**Matrix:**	WATER
Client Sample:	QC for batch 33559				
Client ID:	MB for batch 33559			**Prep Basis:**	As Received
Batch ID:	33561	**Method:**	EPA Method 1668A		
Run Date:	12/16/2016 12:42	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c16dec16a-4			**Dilution:**	1
Prep Batch:	33559	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	13-DEC-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	U	ND	pg/L	6.66	20.0
73575-53-8	67-TeCB	U	ND	pg/L	6.66	20.0
73575-52-7	68-TeCB	U	ND	pg/L	6.66	20.0
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	6.66	20.0
74338-23-1	73-TeCB	U	ND	pg/L	6.66	20.0
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	6.66	20.0
70362-49-1	78-TeCB	U	ND	pg/L	6.66	20.0
41464-48-6	79-TeCB	U	ND	pg/L	6.66	20.0
33284-52-5	80-TeCB	U	ND	pg/L	6.66	20.0
70362-50-4	81-TeCB	U	ND	pg/L	6.66	20.0
52663-62-4	82-PeCB	U	ND	pg/L	6.66	20.0
60145-20-2	83-PeCB	U	ND	pg/L	6.66	20.0
52663-60-2	84-PeCB	U	ND	pg/L	6.66	20.0
65510-45-4	85-PeCB	CU	ND	pg/L	20.0	60.0
55312-69-1	86-PeCB	CU	ND	pg/L	40.0	120
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	13.3	40.0
73575-57-2	89-PeCB	U	ND	pg/L	6.66	20.0
68194-07-0	90-PeCB	CU	ND	pg/L	20.0	60.0
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	6.66	20.0
73575-56-1	93-PeCB	CU	ND	pg/L	13.3	40.0
73575-55-0	94-PeCB	U	ND	pg/L	6.66	20.0
38379-99-6	95-PeCB	U	ND	pg/L	6.66	20.0
73575-54-9	96-PeCB	U	ND	pg/L	6.66	20.0

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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**12017564**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33559**				
Client ID:	**MB for batch 33559**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 12:42**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-4**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	13.3	40.0
38380-01-7	99-PeCB	U	ND	pg/L	6.66	20.0
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	6.66	20.0
56558-16-8	104-PeCB	U	ND	pg/L	6.66	20.0
32598-14-4	105-PeCB	U	ND	pg/L	6.66	20.0
70424-69-0	106-PeCB	U	ND	pg/L	6.66	20.0
70424-68-9	107-PeCB	U	ND	pg/L	6.66	20.0
70362-41-3	108-PeCB	CU	ND	pg/L	13.3	40.0
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CU	ND	pg/L	13.3	40.0
39635-32-0	111-PeCB	U	ND	pg/L	6.66	20.0
74472-36-9	112-PeCB	U	ND	pg/L	6.66	20.0
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	6.66	20.0
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	6.66	20.0
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	6.66	20.0
56558-18-0	121-PeCB	U	ND	pg/L	6.66	20.0
76842-07-4	122-PeCB	U	ND	pg/L	6.66	20.0
65510-44-3	123-PeCB	U	ND	pg/L	6.66	20.0
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	6.66	20.0
39635-33-1	127-PeCB	U	ND	pg/L	6.66	20.0
38380-07-3	128-HxCB	CU	ND	pg/L	13.3	40.0

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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**12017564**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33559**				
Client ID:	**MB for batch 33559**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 12:42**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-4**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
55215-18-4	129-HxCB	CU	ND	pg/L	20.0	60.0
52663-66-8	130-HxCB	U	ND	pg/L	6.66	20.0
61798-70-7	131-HxCB	U	ND	pg/L	6.66	20.0
38380-05-1	132-HxCB	U	ND	pg/L	12.7	20.0
35694-04-3	133-HxCB	U	ND	pg/L	6.66	20.0
52704-70-8	134-HxCB	U	ND	pg/L	6.72	20.0
52744-13-5	135-HxCB	CU	ND	pg/L	13.3	40.0
38411-22-2	136-HxCB	U	ND	pg/L	6.66	20.0
35694-06-5	137-HxCB	U	ND	pg/L	6.66	20.0
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	13.3	40.0
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	6.66	20.0
41411-61-4	142-HxCB	U	ND	pg/L	6.66	20.0
68194-15-0	143-HxCB	U	ND	pg/L	6.66	20.0
68194-14-9	144-HxCB	U	ND	pg/L	6.66	20.0
74472-40-5	145-HxCB	U	ND	pg/L	6.66	20.0
51908-16-8	146-HxCB	U	ND	pg/L	6.66	20.0
68194-13-8	147-HxCB	CU	ND	pg/L	13.3	40.0
74472-41-6	148-HxCB	U	ND	pg/L	6.66	20.0
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	6.66	20.0
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	6.66	20.0
35065-27-1	153-HxCB	CU	ND	pg/L	13.3	40.0
60145-22-4	154-HxCB	U	ND	pg/L	6.66	20.0
33979-03-2	155-HxCB	U	ND	pg/L	6.66	20.0
38380-08-4	156-HxCB	CU	ND	pg/L	13.3	40.0
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	6.66	20.0
39635-35-3	159-HxCB	U	ND	pg/L	6.66	20.0
41411-62-5	160-HxCB	U	ND	pg/L	6.66	20.0

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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**12017564**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33559**				
Client ID:	**MB for batch 33559**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 12:42**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-4**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	6.66	20.0
39635-34-2	162-HxCB	U	ND	pg/L	6.66	20.0
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	6.66	20.0
74472-46-1	165-HxCB	U	ND	pg/L	6.66	20.0
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	6.66	20.0
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	6.66	20.0
35065-30-6	170-HpCB	U	ND	pg/L	6.66	20.0
52663-71-5	171-HpCB	CU	ND	pg/L	13.3	40.0
52663-74-8	172-HpCB	U	ND	pg/L	6.66	20.0
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	6.66	20.0
40186-70-7	175-HpCB	U	ND	pg/L	6.66	20.0
52663-65-7	176-HpCB	U	ND	pg/L	6.66	20.0
52663-70-4	177-HpCB	U	ND	pg/L	6.66	20.0
52663-67-9	178-HpCB	U	ND	pg/L	6.66	20.0
52663-64-6	179-HpCB	U	ND	pg/L	6.66	20.0
35065-29-3	180-HpCB	CU	ND	pg/L	13.3	40.0
74472-47-2	181-HpCB	U	ND	pg/L	6.66	20.0
60145-23-5	182-HpCB	U	ND	pg/L	6.66	20.0
52663-69-1	183-HpCB	CU	ND	pg/L	13.3	40.0
74472-48-3	184-HpCB	U	ND	pg/L	6.66	20.0
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	6.66	20.0
52663-68-0	187-HpCB	U	ND	pg/L	6.66	20.0
74487-85-7	188-HpCB	U	ND	pg/L	6.66	20.0
39635-31-9	189-HpCB	U	ND	pg/L	6.66	20.0
41411-64-7	190-HpCB	U	ND	pg/L	6.66	20.0
74472-50-7	191-HpCB	U	ND	pg/L	6.66	20.0
74472-51-8	192-HpCB	U	ND	pg/L	6.66	20.0

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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**12017564**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33559**				
Client ID:	**MB for batch 33559**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 12:42**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-4**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	U	ND	pg/L	6.66	20.0
52663-78-2	195-OcCB	U	ND	pg/L	6.66	20.0
42740-50-1	196-OcCB	U	ND	pg/L	6.66	20.0
33091-17-7	197-OcCB	CU	ND	pg/L	13.3	40.0
68194-17-2	198-OcCB	CU	ND	pg/L	13.3	40.0
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	6.66	20.0
2136-99-4	202-OcCB	U	ND	pg/L	6.66	20.0
52663-76-0	203-OcCB	U	ND	pg/L	6.66	20.0
74472-52-9	204-OcCB	U	ND	pg/L	6.66	20.0
74472-53-0	205-OcCB	U	ND	pg/L	6.66	20.0
40186-72-9	206-NoCB	U	ND	pg/L	6.66	20.0
52663-79-3	207-NoCB	U	ND	pg/L	6.66	20.0
52663-77-1	208-NoCB	U	ND	pg/L	6.66	20.0
2051-24-3	209-DeCB	U	ND	pg/L	6.66	20.0
1336-36-3	Total PCB Congeners		35.2	pg/L	6.66	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		1090	2000	pg/L	54.3	(15%-150%)
13C-3-MoCB		1150	2000	pg/L	57.6	(15%-150%)
13C-4-DiCB		1150	2000	pg/L	57.4	(25%-150%)
13C-15-DiCB		2190	2000	pg/L	109	(25%-150%)
13C-19-TrCB		1610	2000	pg/L	80.5	(25%-150%)
13C-37-TrCB		1820	2000	pg/L	90.8	(25%-150%)
13C-54-TeCB		1350	2000	pg/L	67.3	(25%-150%)
13C-77-TeCB		2050	2000	pg/L	103	(25%-150%)
13C-81-TeCB		2100	2000	pg/L	105	(25%-150%)
13C-104-PeCB		1460	2000	pg/L	72.9	(25%-150%)
13C-105-PeCB		1730	2000	pg/L	86.7	(25%-150%)
13C-114-PeCB		1710	2000	pg/L	85.3	(25%-150%)
13C-118-PeCB		1740	2000	pg/L	87.2	(25%-150%)
13C-123-PeCB		1770	2000	pg/L	88.4	(25%-150%)
13C-126-PeCB		1700	2000	pg/L	84.9	(25%-150%)
13C-155-HxCB		1640	2000	pg/L	82.0	(25%-150%)
13C-156-HxCB	C	3140	4000	pg/L	78.6	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1670	2000	pg/L	83.7	(25%-150%)
13C-169-HxCB		1500	2000	pg/L	74.8	(25%-150%)
13C-188-HpCB		2120	2000	pg/L	106	(25%-150%)
13C-189-HpCB		1770	2000	pg/L	88.4	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**12017564**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33559**				
Client ID:	**MB for batch 33559**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 12:42**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-4**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		2160	2000	pg/L	108	(25%-150%)
13C-205-OcCB		1900	2000	pg/L	95.1	(25%-150%)
13C-206-NoCB		1900	2000	pg/L	95.2	(25%-150%)
13C-208-NoCB		2010	2000	pg/L	100	(25%-150%)
13C-209-DeCB		2160	2000	pg/L	108	(25%-150%)
13C-28-TrCB		1490	2000	pg/L	74.3	(30%-135%)
13C-111-PeCB		1880	2000	pg/L	93.9	(30%-135%)
13C-178-HpCB		2120	2000	pg/L	106	(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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**12017565**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33559**				
Client ID:	**LCS for batch 33559**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 10:30**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-2**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
2051-60-7	1-MoCB		547	pg/L	6.76	20.0
2051-62-9	3-MoCB		600	pg/L	6.66	20.0
13029-08-8	4-DiCB		471	pg/L	6.72	20.0
2050-68-2	15-DiCB		584	pg/L	6.66	20.0
38444-73-4	19-TrCB		502	pg/L	6.66	20.0
38444-90-5	37-TrCB		512	pg/L	6.66	20.0
15968-05-5	54-TeCB		977	pg/L	6.66	20.0
32598-13-3	77-TeCB		1000	pg/L	6.66	20.0
70362-50-4	81-TeCB		1140	pg/L	6.66	20.0
56558-16-8	104-PeCB		1070	pg/L	6.66	20.0
32598-14-4	105-PeCB		1260	pg/L	6.66	20.0
74472-37-0	114-PeCB		1140	pg/L	6.66	20.0
31508-00-6	118-PeCB		1070	pg/L	6.66	20.0
65510-44-3	123-PeCB		1050	pg/L	6.66	20.0
57465-28-8	126-PeCB		1180	pg/L	6.66	20.0
33979-03-2	155-HxCB		1000	pg/L	6.66	20.0
38380-08-4	156-HxCB	C	2380	pg/L	13.3	40.0
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		1240	pg/L	6.66	20.0
32774-16-6	169-HxCB		1110	pg/L	6.66	20.0
74487-85-7	188-HpCB		1020	pg/L	6.66	20.0
39635-31-9	189-HpCB		1100	pg/L	6.66	20.0
2136-99-4	202-OcCB		1490	pg/L	6.66	20.0
74472-53-0	205-OcCB		1440	pg/L	6.66	20.0
40186-72-9	206-NoCB		1470	pg/L	6.66	20.0
52663-77-1	208-NoCB		1580	pg/L	6.66	20.0
2051-24-3	209-DeCB		1440	pg/L	6.66	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		937	2000	pg/L	46.8	(15%-140%)
13C-3-MoCB		1050	2000	pg/L	52.3	(15%-140%)
13C-4-DiCB		1080	2000	pg/L	54.2	(30%-140%)
13C-15-DiCB		1780	2000	pg/L	89.2	(30%-140%)
13C-19-TrCB		1440	2000	pg/L	72.1	(30%-140%)
13C-37-TrCB		1560	2000	pg/L	77.9	(30%-140%)
13C-54-TeCB		1370	2000	pg/L	68.5	(30%-140%)
13C-77-TeCB		1770	2000	pg/L	88.4	(30%-140%)
13C-81-TeCB		1810	2000	pg/L	90.4	(30%-140%)
13C-104-PeCB		1470	2000	pg/L	73.7	(30%-140%)
13C-105-PeCB		1650	2000	pg/L	82.4	(30%-140%)
13C-114-PeCB		1630	2000	pg/L	81.6	(30%-140%)
13C-118-PeCB		1680	2000	pg/L	83.9	(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**12017565**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33559**				
Client ID:	**LCS for batch 33559**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 10:30**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-2**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-123-PeCB		1700	2000	pg/L	84.9	(30%-140%)
13C-126-PeCB		1570	2000	pg/L	78.7	(30%-140%)
13C-155-HxCB		1600	2000	pg/L	79.9	(30%-140%)
13C-156-HxCB	C	3020	4000	pg/L	75.5	(30%-140%)
13C-157-HxCB	C156L					
13C-167-HxCB		1590	2000	pg/L	79.4	(30%-140%)
13C-169-HxCB		1440	2000	pg/L	72.2	(30%-140%)
13C-188-HpCB		2070	2000	pg/L	104	(30%-140%)
13C-189-HpCB		1720	2000	pg/L	85.8	(30%-140%)
13C-202-OcCB		2120	2000	pg/L	106	(30%-140%)
13C-205-OcCB		1870	2000	pg/L	93.5	(30%-140%)
13C-206-NoCB		1890	2000	pg/L	94.5	(30%-140%)
13C-208-NoCB		1950	2000	pg/L	97.6	(30%-140%)
13C-209-DeCB		2150	2000	pg/L	107	(30%-140%)
13C-28-TrCB		1490	2000	pg/L	74.6	(40%-125%)
13C-111-PeCB		1780	2000	pg/L	88.8	(40%-125%)
13C-178-HpCB		2010	2000	pg/L	101	(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:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**12017566**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33559**				
Client ID:	**LCSD for batch 33559**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 11:36**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-3**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL
2051-60-7	1-MoCB		539	pg/L	6.76	20.0
2051-62-9	3-MoCB		582	pg/L	6.66	20.0
13029-08-8	4-DiCB		472	pg/L	6.72	20.0
2050-68-2	15-DiCB		577	pg/L	6.66	20.0
38444-73-4	19-TrCB		508	pg/L	6.66	20.0
38444-90-5	37-TrCB		520	pg/L	6.66	20.0
15968-05-5	54-TeCB		967	pg/L	6.66	20.0
32598-13-3	77-TeCB		1010	pg/L	6.66	20.0
70362-50-4	81-TeCB		1140	pg/L	6.66	20.0
56558-16-8	104-PeCB		1080	pg/L	6.66	20.0
32598-14-4	105-PeCB		1280	pg/L	6.66	20.0
74472-37-0	114-PeCB		1150	pg/L	6.66	20.0
31508-00-6	118-PeCB		1050	pg/L	6.66	20.0
65510-44-3	123-PeCB		1040	pg/L	6.66	20.0
57465-28-8	126-PeCB		1190	pg/L	6.66	20.0
33979-03-2	155-HxCB		992	pg/L	6.66	20.0
38380-08-4	156-HxCB	C	2390	pg/L	13.3	40.0
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		1230	pg/L	6.66	20.0
32774-16-6	169-HxCB		1120	pg/L	6.66	20.0
74487-85-7	188-HpCB		1010	pg/L	6.66	20.0
39635-31-9	189-HpCB		1080	pg/L	6.66	20.0
2136-99-4	202-OcCB		1470	pg/L	6.66	20.0
74472-53-0	205-OcCB		1430	pg/L	6.66	20.0
40186-72-9	206-NoCB		1480	pg/L	6.66	20.0
52663-77-1	208-NoCB		1570	pg/L	6.66	20.0
2051-24-3	209-DeCB		1430	pg/L	6.66	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		877	2000	pg/L	43.9	(15%-140%)
13C-3-MoCB		1040	2000	pg/L	51.9	(15%-140%)
13C-4-DiCB		1000	2000	pg/L	50.1	(30%-140%)
13C-15-DiCB		1810	2000	pg/L	90.3	(30%-140%)
13C-19-TrCB		1390	2000	pg/L	69.3	(30%-140%)
13C-37-TrCB		1440	2000	pg/L	72.0	(30%-140%)
13C-54-TeCB		1180	2000	pg/L	58.8	(30%-140%)
13C-77-TeCB		1590	2000	pg/L	79.7	(30%-140%)
13C-81-TeCB		1630	2000	pg/L	81.5	(30%-140%)
13C-104-PeCB		1320	2000	pg/L	65.8	(30%-140%)
13C-105-PeCB		1480	2000	pg/L	74.2	(30%-140%)
13C-114-PeCB		1450	2000	pg/L	72.7	(30%-140%)
13C-118-PeCB		1510	2000	pg/L	75.3	(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1611B75**	**Client:**	**HALL001**	**Project:**	**HALL00114**
Lab Sample ID:	**12017566**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33559**				
Client ID:	**LCSD for batch 33559**			**Prep Basis:**	**As Received**
Batch ID:	**33561**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/16/2016 11:36**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c16dec16a-3**			**Dilution:**	**1**
Prep Batch:	**33559**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**13-DEC-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	MDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-123-PeCB		1520	2000	pg/L	76.0	(30%-140%)
13C-126-PeCB		1430	2000	pg/L	71.6	(30%-140%)
13C-155-HxCB		1390	2000	pg/L	69.7	(30%-140%)
13C-156-HxCB	C	2680	4000	pg/L	67.1	(30%-140%)
13C-157-HxCB	C156L					
13C-167-HxCB		1420	2000	pg/L	71.1	(30%-140%)
13C-169-HxCB		1280	2000	pg/L	64.2	(30%-140%)
13C-188-HpCB		1830	2000	pg/L	91.6	(30%-140%)
13C-189-HpCB		1530	2000	pg/L	76.7	(30%-140%)
13C-202-OcCB		1860	2000	pg/L	93.2	(30%-140%)
13C-205-OcCB		1670	2000	pg/L	83.4	(30%-140%)
13C-206-NoCB		1670	2000	pg/L	83.3	(30%-140%)
13C-208-NoCB		1720	2000	pg/L	85.8	(30%-140%)
13C-209-DeCB		1890	2000	pg/L	94.5	(30%-140%)
13C-28-TrCB		1440	2000	pg/L	71.9	(40%-125%)
13C-111-PeCB		1770	2000	pg/L	88.7	(40%-125%)
13C-178-HpCB		1970	2000	pg/L	98.6	(40%-125%)

Comments:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B75**

23-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-28858**	SampType:	**MBLK**	TestCode:	**EPA Method 1664A**					
Client ID:	**PBW**	Batch ID:	**28858**	RunNo:	**39004**					
Prep Date:	**11/28/2016**	Analysis Date:	**11/28/2016**	SeqNo:	**1219830**	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-28858**	SampType:	**LCS**	TestCode:	**EPA Method 1664A**					
Client ID:	**LCSW**	Batch ID:	**28858**	RunNo:	**39004**					
Prep Date:	**11/28/2016**	Analysis Date:	**11/28/2016**	SeqNo:	**1219831**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	39.4	10.0	40.00	0	98.5	78	114			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B75**

23-Dec-16

Client: AMAFCA

Project: CMC

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A39376**	RunNo: **39376**
Prep Date:	Analysis Date: **12/14/2016**	SeqNo: **1232681** 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 **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A39376**	RunNo: **39376**
Prep Date:	Analysis Date: **12/14/2016**	SeqNo: **1232682** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.4	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A39376**	RunNo: **39376**
Prep Date:	Analysis Date: **12/14/2016**	SeqNo: **1232683** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	108	50	150			
Magnesium	ND	1.0	0.5000	0	112	50	150			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B75**

23-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B39114**		RunNo:	**39114**				
Prep Date:		Analysis Date:	**12/2/2016**		SeqNo:	**1224351**	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	99.7	85	115			
Lead	0.012	0.00050	0.01250	0	99.0	85	115			
Uranium	0.012	0.00050	0.01250	0	95.6	85	115			

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B39114**		RunNo:	**39114**				
Prep Date:		Analysis Date:	**12/2/2016**		SeqNo:	**1224353**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010	0.001000	0	72.4	50	150			
Lead	ND	0.00050	0.0005000	0	95.5	50	150			
Uranium	ND	0.00050	0.0005000	0	92.0	50	150			

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B39114**		RunNo:	**39114**				
Prep Date:		Analysis Date:	**12/2/2016**		SeqNo:	**1224355**	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								
Uranium	ND	0.00050								

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B75**

23-Dec-16

Client: AMAFCA

Project: CMC

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R38938**	RunNo: **38938**
Prep Date:	Analysis Date: **11/22/2016**	SeqNo: **1217522** 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: **R38938**	RunNo: **38938**
Prep Date:	Analysis Date: **11/22/2016**	SeqNo: **1217523** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	92.4	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.3	90	110			

Sample ID **1611B75-001DMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **Rio Grande-North-1**	Batch ID: **R38938**	RunNo: **38938**
Prep Date:	Analysis Date: **11/22/2016**	SeqNo: **1217529** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.88	0.10	1.000	0	88.2	76.7	103			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0.04580	96.5	84.9	115			

Sample ID **1611B75-001DMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **Rio Grande-North-1**	Batch ID: **R38938**	RunNo: **38938**
Prep Date:	Analysis Date: **11/22/2016**	SeqNo: **1217530** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	89.6	76.7	103	1.59	20	
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0.04580	98.2	84.9	115	1.77	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B75**

23-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-28809**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**28809**	RunNo:	**39012**					
Prep Date:	**11/22/2016**	Analysis Date:	**11/27/2016**	SeqNo:	**1220182**	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	**MB--28809**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**28809**	RunNo:	**39012**					
Prep Date:	**11/22/2016**	Analysis Date:	**11/27/2016**	SeqNo:	**1220183**	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-28809**	SampType:	**LCS**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSW**	Batch ID:	**28809**	RunNo:	**39012**					
Prep Date:	**11/22/2016**	Analysis Date:	**11/27/2016**	SeqNo:	**1220184**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	210	2.0	198.0	0	109	59.3	123			

Sample ID	**LCSD-28809**	SampType:	**LCSD**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSS02**	Batch ID:	**28809**	RunNo:	**39012**					
Prep Date:	**11/22/2016**	Analysis Date:	**11/27/2016**	SeqNo:	**1220185**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	220	2.0	198.0	0	111	59.3	123	1.84	29.9	

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B75**

23-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-28825**	SampType:	**MBLK**	TestCode:	**SM 9223B Fecal Indicator: E. coli MPN**					
Client ID:	**PBW**	Batch ID:	**28825**	RunNo:	**38956**					
Prep Date:	**11/22/2016**	Analysis Date:	**11/23/2016**	SeqNo:	**1217926**	Units:	**CFU/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.	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B75**

23-Dec-16

Client: AMAFCA

Project: CMC

Sample ID **MB**	SampType: **MBLK**	TestCode: **SM 4500 NH3: Ammonia**
Client ID: **PBW**	Batch ID: **R39298**	RunNo: **39298**
Prep Date:	Analysis Date: **12/9/2016**	SeqNo: **1229981** 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: **R39298**	RunNo: **39298**
Prep Date:	Analysis Date: **12/9/2016**	SeqNo: **1229982** 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.	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B75**

23-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-28952**	SampType:	**MBLK**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**PBW**	Batch ID:	**28952**	RunNo:	**39106**					
Prep Date:	**12/1/2016**	Analysis Date:	**12/2/2016**	SeqNo:	**1223359**	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-28952**	SampType:	**LCS**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**LCSW**	Batch ID:	**28952**	RunNo:	**39106**					
Prep Date:	**12/1/2016**	Analysis Date:	**12/2/2016**	SeqNo:	**1223360**	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	98.9	90	110			

Sample ID	**1611B75-001DMS**	SampType:	**MS**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**Rio Grande-North-1**	Batch ID:	**28952**	RunNo:	**39106**					
Prep Date:	**12/1/2016**	Analysis Date:	**12/2/2016**	SeqNo:	**1223365**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.29	0.010	0.2500	0.04180	99.0	90	110			

Sample ID	**1611B75-001DMSD**	SampType:	**MSD**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**Rio Grande-North-1**	Batch ID:	**28952**	RunNo:	**39106**					
Prep Date:	**12/1/2016**	Analysis Date:	**12/2/2016**	SeqNo:	**1223366**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.29	0.010	0.2500	0.04180	98.0	90	110	0.937	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B75**

23-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-28867**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**28867**	RunNo:	**39028**					
Prep Date:	**11/28/2016**	Analysis Date:	**11/29/2016**	SeqNo:	**1220776**	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-28867**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**28867**	RunNo:	**39028**					
Prep Date:	**11/28/2016**	Analysis Date:	**11/29/2016**	SeqNo:	**1220777**	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			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B75**

23-Dec-16

Client: AMAFCA

Project: CMC

Sample ID **MB-29132**	SampType: **MBLK**	TestCode: **SM 4500 Norg C: TKN**
Client ID: **PBW**	Batch ID: **29132**	RunNo: **39357**
Prep Date: **12/12/2016**	Analysis Date: **12/13/2016**	SeqNo: **1231859** 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-29132**	SampType: **LCS**	TestCode: **SM 4500 Norg C: TKN**
Client ID: **LCSW**	Batch ID: **29132**	RunNo: **39357**
Prep Date: **12/12/2016**	Analysis Date: **12/13/2016**	SeqNo: **1231860** 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	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B75**

23-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-28852**	SampType:	**MBLK**	TestCode:	**SM 2540D: TSS**					
Client ID:	**PBW**	Batch ID:	**28852**	RunNo:	**39013**					
Prep Date:	**11/23/2016**	Analysis Date:	**11/28/2016**	SeqNo:	**1220216**	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-28852**	SampType:	**LCS**	TestCode:	**SM 2540D: TSS**					
Client ID:	**LCSW**	Batch ID:	**28852**	RunNo:	**39013**					
Prep Date:	**11/23/2016**	Analysis Date:	**11/28/2016**	SeqNo:	**1220217**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	94	4.0	92.50	0	102	83.35	118.92			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: AMAFCA | Work Order Number: 1611B75 | RcptNo: 1

Received by/date: MF 11/22/16

Logged By: Lindsay Mangin 11/22/2016 9:15:00 AM

Completed By: Lindsay Mangin 11/22/2016 9:41:52 AM

Reviewed By: JC 11/22/16 CP 1130

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 12 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? NO
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: RR

Special Handling (if applicable)

16. 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: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.9	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

email or Fax#: pchavez@amafca.org

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: CMC

Project #: NM15.0156

Project Manager: Patrick Chavez, C Johannesen

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.9°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 Request ID	Container Type and #	Preservative Type	HEAL No. 1611875	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)	See attached table	E coli: Nom			Air Bubbles (Y or N)
11/21/16	0930	AQ	Rio Grande North 112116	Numerous	Numerous	-001												+				
11/22/16	0700	AQ	Rio Grande South 112216	"	"	-002												+	+			

Date: 11/22/16 Time: 0915 Relinquished by:

Received by: Date 11/22/16 Time 0915

Date: Time: Relinquished by:

Received by: Date Time

Remarks:
PCB analysis by 1668
Tetrahydrofuran by 8260C

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

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
sub **Polychlorinated biphenyls (PCBs)**	1336-36-3	Total	1668	~~NA~~ .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	8270D	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

This sheet just for detection levels.

Appendix F - Minimum Quantification Levels (MQL's)

The following Minimum Quantification Levels (MQL's) are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

POLLUTANTS	MQL µg/l	POLLUTANTS	MQL µg/l
METALS, RADIOACTIVITY, CYANIDE and CHLORINE			
Aluminum	2.5	Molybdenum	10
Antimony	60	Nickel	0.5
Arsenic	0.5	Selenium	5
Barium	100	Silver	0.5
Beryllium	0.5	Thalllium	0.5
Boron	100	Uranium	0.1
Cadmium	1	Vanadium	50
Chromium	10	Zinc	20
Cobalt	50	Cyanide	10
Copper	0.5	Cyanide, weak acid dissociable	10
Lead	0.5	Total Residual Chlorine	33
Mercury (*)	0.0005 0.005		
DIOXIN			
2,3,7,8-TCDD	0.00001		
VOLATILE COMPOUNDS			
Acrolein	50	1,3-Dichloropropylene	10
Acrylonitrile	20	Ethylbenzene	10
Benzene	10	Methyl Bromide	50
Bromoform	10	Methylene Chloride	20
Carbon Tetrachloride	2	1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10	Tetrachloroethylene	10
Clorodibromomethane	10	Toluene	10
Chloroform	50	1,2-trans-Dichloroethylene	10
Dichlorobromomethane	10	1,1,2-Trichloroethane	10
1,2-Dichloroethane	10	Trichloroethylene	10
1,1-Dichloroethylene	10	Vinyl Chloride	10
1,2-Dichloropropane	10		
ACID COMPOUNDS			
2-Chlorophenol	10	2,4-Dinitrophenol	50
2,4-Dichlorophenol	10	Pentachlorophenol	5
2,4-Dimethylphenol	10	Phenol	10
4,6-Dinitro-o-Cresol	50	2,4,6-Trichlorophenol	10

ATTACHMENT 2

FY 2017 DRY SEASON COMPLETED DATA VERIFICATION AND VALIDATION FORMS

Attachment 1.1 Water Quality Sample Data Verification and Validation Worksheet

Study Name: Compliance Monitoring Cooperative (CMC)
Year: FY 2017 (November 2016 – Dry Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 11/3/16 – E. coli Only Sample – Was Not Qualifying Storm Event
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

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:*** 1/20/17

- -

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:*** 1/20/17

- -

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:*** 1/20/17

- -

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

*Note – HEAL Lab report order number – 1611208_v1

Total number of occurrences: 0

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/20/17

- - - -

Total number of occurrences: 0

☒ **Step 6 Completed** ***Initials:*** SJG ***Date:*** 1/20/17

- -

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:*** 1/20/16

****

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



1/20/17

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 2017 (November 2016 – Dry Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 11/21/16 and 11/22/16
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

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:*** 1/20/17

- -

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” and does not distinguish this as a filtered sample, as prior lab reports have done. Lower value of “Total Phosphorous” reported as the “Dissolved Phosphorous” result.

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 1/20/17

- -

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:*** 1/20/17

- -

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 & South	11/22/16	Lab report provides two "Total Phosphorous" results, and no "Dissolved Phosphorous" results. Used lower value as "Dissolved Phosphorous".	Notified AMAFCA and DBS&A of this and requested that lab more clearly report data.

*Note – HEAL Lab report order number – 1611B12_v1 and 1611B75_v2
Total number of occurrences: 1

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/20/17

- -

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:*** 1/20/17

- -

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:*** 1/20/17

- -

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:*** 1/20/16

****

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



1/20/17

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 2017 (November 2016 – Dry Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande South – 11/22/16
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

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:*** 1/20/17

- - - -

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 1/20/17

- -

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:*** 1/20/17

- -

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 & South	11/22/16	Lab report provides two "Total Phosphorous" results, and no "Dissolved Phosphorous" results. Used lower value as "Dissolved Phosphorous".	Notified AMAFCA and DBS&A of this and requested that lab more clearly report data.
Rio Grande South	11/22/16	Hexavalent Chromium for Rio Grande South (02) incorrectly labeled in lab report as Rio Grande North	Notified AMAFCA and of this and requested that lab more clearly report data.

*Note – HEAL Lab report order number – 1611B75_v2
Total number of occurrences: 2

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/20/17

- -

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:*** 1/20/17

- -

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:*** 1/20/17

- -

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Were any replicate/duplicate pairs submitted outside of the established control limit of 20%?
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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:*** 1/20/16

****

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1/20/17

Data Verifier/Validator Signature Date

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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

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MEMORANDUM

DATE: March 6, 2017

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

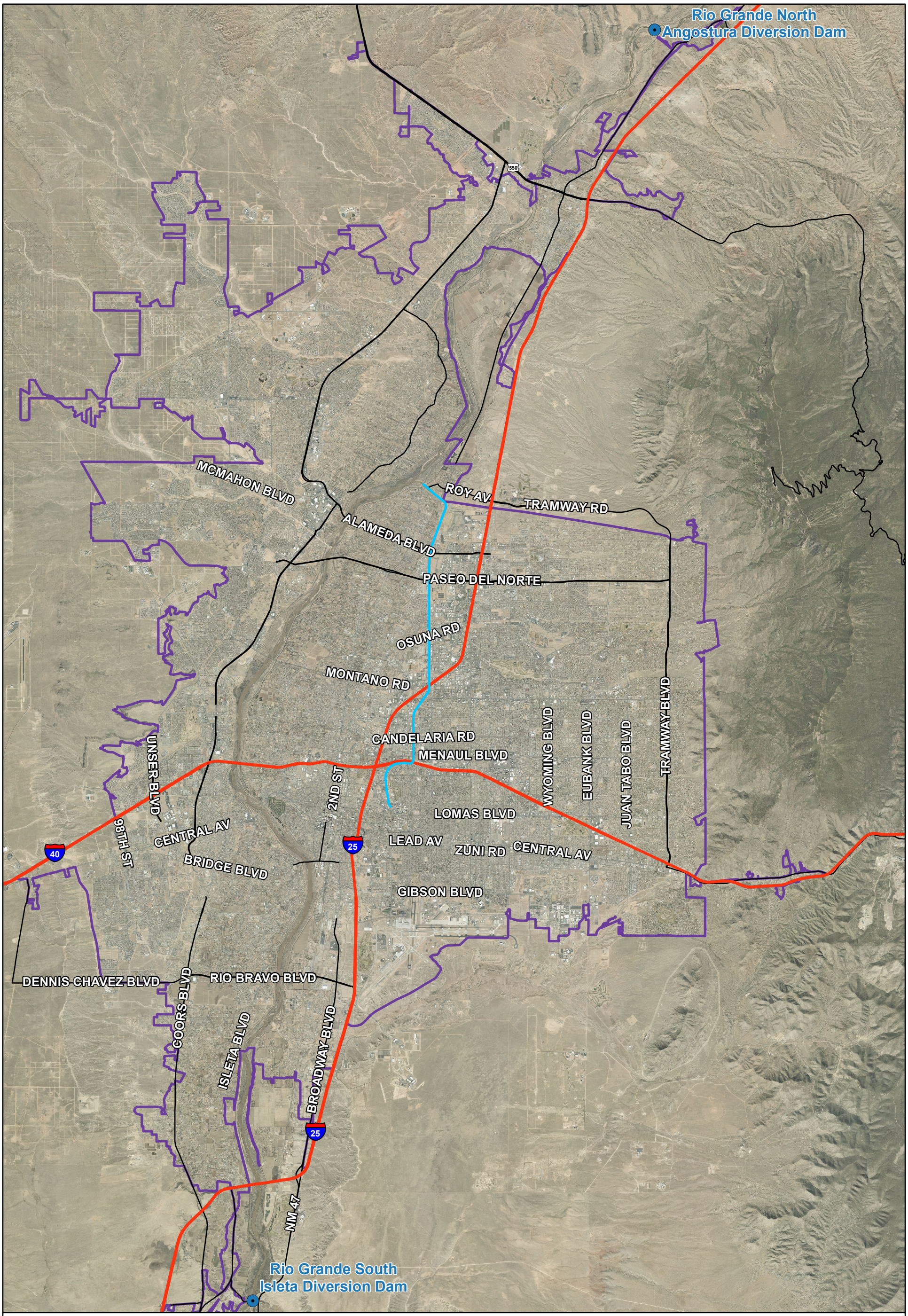
FROM: Craig Hoover, PE
Sarah Ganley, PE SJG
Angie Bacigalupa, EI AMB

SUBJECT: **CMC Wet Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and Reporting FY 2017 Wet Season (July 1 to October 31, 2016) Memo**

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) 2017 (July 1, 2016 to June 30, 2017). 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 daily 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 on-call 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 Watershed Based Municipal Separate Storm Sewer System (MS4) Permit, NPDES Permit No. NMR04A000 ("WSB MS4 Permit").

As identified in the CMC Monitoring Plan, the WSB MS4 Permit requires that 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 2). During the 5-year WSB MS4 Permit term, at least three (3) events must be sampled in the wet season (between July 1 and October 31, 2016) and at least two (2) events in the dry season (between November and June). The remaining two (2) required events can be obtained during either the wet or dry seasons. During the FY 2017 wet season (July to October 2016) there were three (3) qualifying storm events where samples were collected for both the Rio Grande North and Rio Grande South locations.



AMAFCA

Bohannan Huston
www.bhinc.com 800.877.5332

Legend

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

N W E S

0 0.5 1 2
Miles

CMC Monitoring Locations

Figure 1

P:\20170386\WR\Reports\Preliminary & Draft\Figures\MXDs\Figure1-CMCMonitoringLocations.mxd
Author: gmaynard

January 2017

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 the 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
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) – added to allow dissolved metal results to be compared to the applicable water quality standards

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 fifteen (15) minutes of sample collection. All E. coli samples were submitted to the laboratory within six (6) hours of collection in order to meet the specified hold time.

Sampling Locations:

The sampling locations are shown in Figure 1, page 2.

Rio Grande North – Instream 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 – Instream 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. These North and South instream sample locations capture all inputs to the Rio Grande within the UA.

Sample Collection:

As mentioned previously, sample collection for the CMC is being conducted by DBS&A through a separate on-call contract. 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 South location.

DBS&A provided BHI with their field notes and field sample data (temperature, DO, specific conductivity, and pH) for the FY 2017 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 chronological summary of the CMC comprehensive monitoring program activities completed by DBS&A for the FY 2017 wet season from July 2016 through October 2016. Three (3) qualifying storm events were sampled and analyzed during the FY 2017 wet season. In addition, there were four (4) other precipitation events during this wet season that did not evolve into qualifying storm events; however, an E. coli sample was still collected and field data was measured for the Rio Grande North location.

- **August 2 – Only E. coli for Rio Grande North.** A sample was collected at the Rio Grande North location and sent to the laboratory for an E. coli only test. Based on review of the storm event by the CMC, it was determined this was not a qualifying storm event; therefore, full parameter testing did not occur for the sample collected at the Rio Grande North location.
- **August 3 – Only E. coli for Rio Grande North.** A sample was collected at the Rio Grande North location and sent to the laboratory for an E. coli only test. Based on review

of the storm event by the CMC, it was determined this was not a qualifying storm event; therefore, full parameter testing did not occur for the sample collected at the Rio Grande North location.

- **August 10-11 – Qualifying Storm Event – Full Analysis of Samples**. A sample was collected at the Rio Grande North location beginning at noon on August 10 and sent to the laboratory for an E. coli only test. The CMC determined that the storm event beginning August 10 was a qualifying storm event. A Rio Grande South sample was collected beginning at 10:30 a.m. on August 11; the samples from the North (from August 10 collection) and South locations were taken to the laboratory for full parameter testing.

  Due to miscommunication with the laboratory, analysis for PCBs for the August 10-11 samples were conducted using EPA Method 608. The results from this qualifying event do not have EPA Method 1668 results for PCBs. A footnote in Appendix F of the WSB MS4 Permit states that "EPA Method 1668 should be utilized when PCB water column monitoring is conducted to determine compliance with Permit requirements."
- **August 31 – Only E. coli for Rio Grande North.** A sample was collected at the Rio Grande North location and sent to the laboratory for an E. coli only test. Based on review of the storm event by the CMC, it was determined this was not a qualifying storm event; therefore, full parameter testing did not occur for the sample collected at the Rio Grande North location.
- **September 7 – Only E. coli for Rio Grande North.** A sample was collected at the Rio Grande North location and sent to the laboratory for an E. coli only test. Based on review of the storm event by the CMC, it was determined this was not a qualifying storm event; therefore, full parameter testing did not occur for the sample collected at the Rio Grande North location
- **September 12-13 – Qualifying Storm Event – Full Analysis of Samples**. A sample was collected at the Rio Grande North location beginning at 11:00 a.m. on September 12 and sent to the laboratory for an E. coli only test. The CMC determined that the storm event beginning September 12 was a qualifying storm event. A Rio Grande South sample was collected beginning at 7:15 a.m. on September 13; the samples from the North (from September 12 collection) and South locations were taken to the laboratory for full parameter testing. Analysis for PCBs for the September 12-13 samples were conducted using both EPA Method 608 and Method 1668.
- **September 21-22 – Qualifying Storm Event – Full Analysis of Samples**. A sample was collected at the Rio Grande North location beginning at 12:15 p.m. on September 21 and sent to the laboratory for an E. coli only test. The CMC determined that the storm event beginning September 21 was a qualifying storm event. A Rio Grande South sample was collected beginning at 11:00 a.m. on September 22; the samples from the North (from September 21 collection) and South locations were taken to the laboratory for full parameter testing. Analysis for PCBs for the September 21-22 samples were conducted using both EPA Method 608 and Method 1668.

Stormwater Quality Database for CMC

As stated previously, there were three (3) qualifying storm events during the FY 2017 wet season, wet weather monitoring which occurred August 10-11, September 12-13, and September 21-22. DBS&A's field notes containing DO, pH, conductivity, and temperature measurements, as well as comments for the sampling done in August and September 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.

The HEAL analyses for these three (3) qualifying storm events contain the full parameter list for both the Rio Grande North and Rio Grande South sampling locations. There were several other precipitation events that did not evolve into qualifying storm events; however, an E. coli sample was still collected and field data was measured for the Rio Grande North location. These HEAL lab reports are also provided with this memo (Attachment 1). Despite not being qualifying storm events, the field and E. coli data collected were added to the database as they provide additional background data for the CMC program.

Database Creation and Data Entry:

An Excel database of the FY 2017 wet season, wet weather monitoring data was created for this Task. The database contains sample locations (Rio Grande North and Rio Grande South), sample date, analyses conducted, methods used, applicable surface water quality standards (WQS), WSB MS4 Permit required Minimum Quantification Levels (MQL), and analysis results. Applicable surface WQS found in New Mexico Administrative Code (NMAC) 20.6.4 as well as the Pueblo of Isleta and Pueblo of Sandia 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.

Upon receipt of the HEAL lab reports, water quality data was entered in to the database. All data entered in to 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 and field data only samples from the Rio Grande North location, obtained during non-qualifying storm events, were also entered into the database. The database also contains Rio Grande monitoring results from two prior storm events occurring on July 15, 2014, and September 22, 2015, which were obtained during previous BHI/DBS&A tasks with AMAFCA. These were included in the database for comparison purposes, and they may assist the CMC with future analyses.

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 (U.S. 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 that 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.

As the CMC members are aware, the August 10-11, 2016, sample was tested for PCBs using EPA Method 608 only. The other two qualifying storm event samples used both EPA Method 608 and Method 1668 for PCB testing.

In addition, in January 2017 the CMC members were made aware that the E. coli units reported in colony forming units (CFU)/100 milliliters (mL) in the HEAL reports should have been reported as most probable number (MPN) per 100 mL. The laboratory method used by HEAL is an EPA approved method that produces results in MPN/100 mL. After review and discussion with NMED, 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. Documentation related to the E. coli units is provided in Attachment 3 of this memo.

There were not any CMC FY 2017 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 2017 Wet Season Assessment and Evaluation of Monitoring Results

The EPA approved WSB MS4 CMC Monitoring Plan, May 5, 2016, has thirty-four (34) parameters to monitor at the Rio Grande North and Rio Grande South monitoring locations. Of these thirty-four (34) parameters, over half of the parameters—eighteen (18) parameters—were not detected in any of the FY 2017 wet season samples at either the Rio Grande North or South locations. Refer to Table 1 for a list of the parameters that were not detected.

Table 1: Parameters Not Detected
CMC FY 2017 Wet Season Monitoring

Parameters Not Detected	
Oil and Grease (N-Hexane Extractable Material)	Dieldren
Total Kjedahl Nitrogen (TKN)	Pentachlorophenol
Ammonia (mg/L as N)	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

E. coli:

For the remaining sixteen (16) parameters on the CMC monitoring parameter list, only one parameter (E. coli) had exceedances of the applicable surface WQS found in New Mexico Administrative Code (NMAC) 20.6.4 and the Pueblo of Isleta and Pueblo of Sandia WQS during the FY 2017 wet season. At the Rio Grande North location (upstream of the Albuquerque UA, at the Angostura Diversion Dam), seven (7) samples were collected and tested for E. coli, and two (2) of the samples had results that exceeded the primary contact-single sample Pueblo of Isleta and Pueblo of Sandia WQS (88 CFU/100 mL). At the Rio Grande South location (downstream of the MS4 UA), three (3) samples were collected and tested for E. coli, and all of these samples had results that exceeded the primary contact-single sample NMAC WQS (410 CFU/100 ml) as well as the Pueblo of Isleta and Pueblo of Sandia WQS (88 CFU/100 mL). As a reminder, the E. coli units of MPN/100 mL and CFU/100 mL are considered to be interchangeable. The graphs presented in this section use units of CFU/100 mL to be consistent with the WQSs units. Refer to Figure 2 for a graphical representation of Wet Season E. coli results.

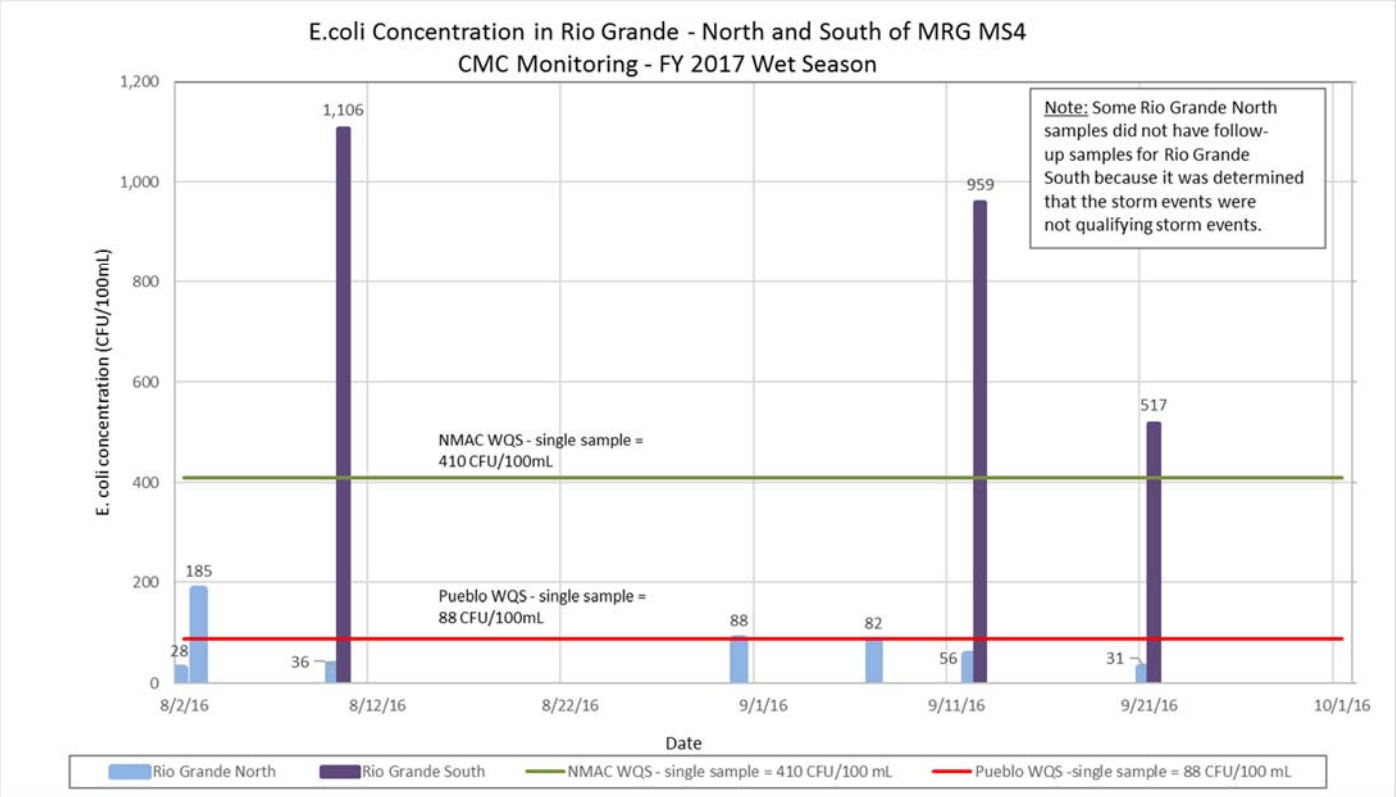


Figure 2: E. coli Results
CMC Monitoring – FY 2017 Wet Season

No E. coli samples in the Rio Grande under this monitoring program were obtained in July 2016 or October 2016. In August 2016, multiple samples were obtained for the Rio Grande North location and one (1) sample for the Rio Grande South location. In September 2016, multiple samples were obtained for the Rio Grande North and South locations. A geometric mean of the collected data was calculated for each month (August and September 2016), and these were compared to the E. coli monthly geometric mean WQS (NMAC monthly geometric mean = 126 CFU/100 mL and Pueblo monthly geometric mean = 47 CFU/100 mL). Refer to Figures 3 and 4 for the geometric mean results and comparison to applicable WQS.

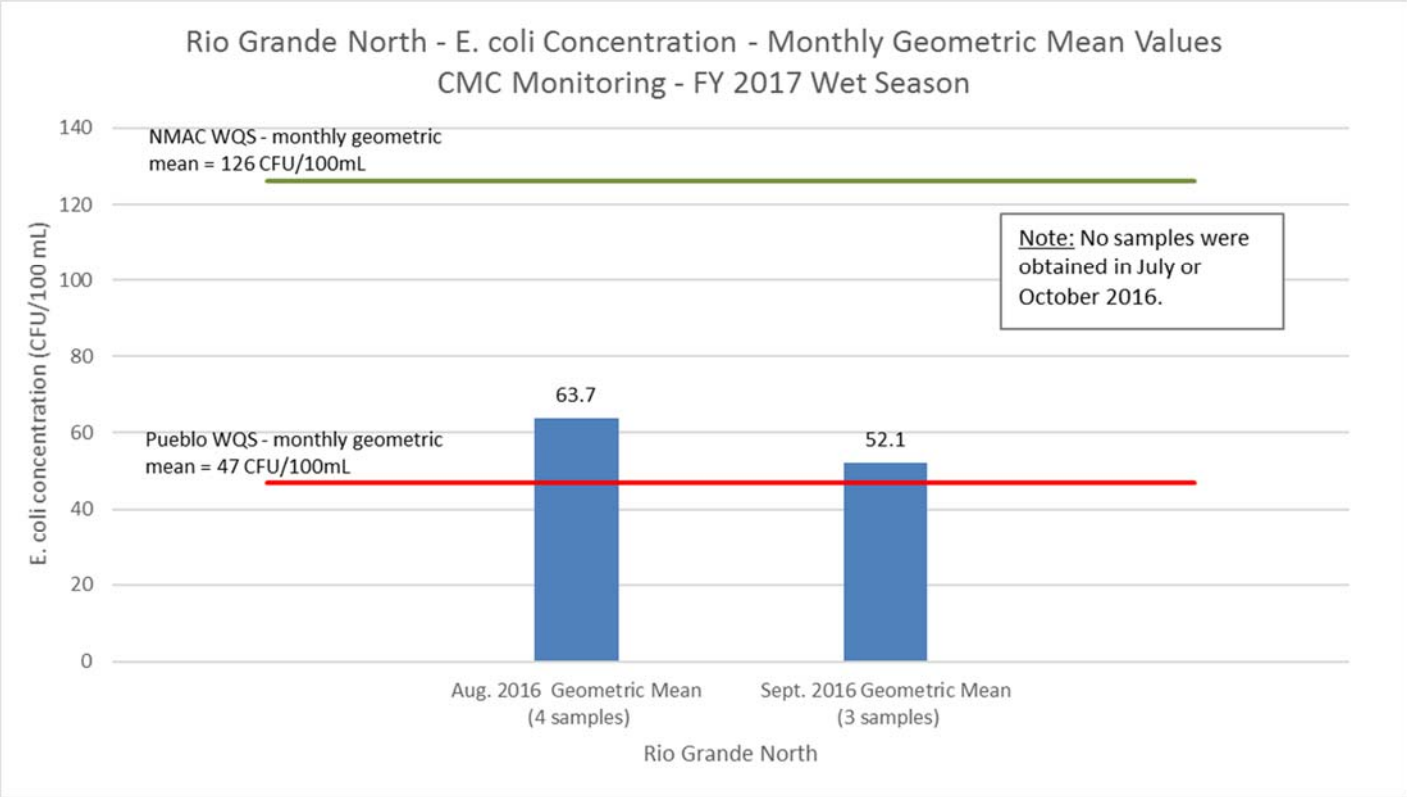


Figure 3: E. coli Geometric Mean Results for Rio Grande North CMC Monitoring – FY 2017 Wet Season

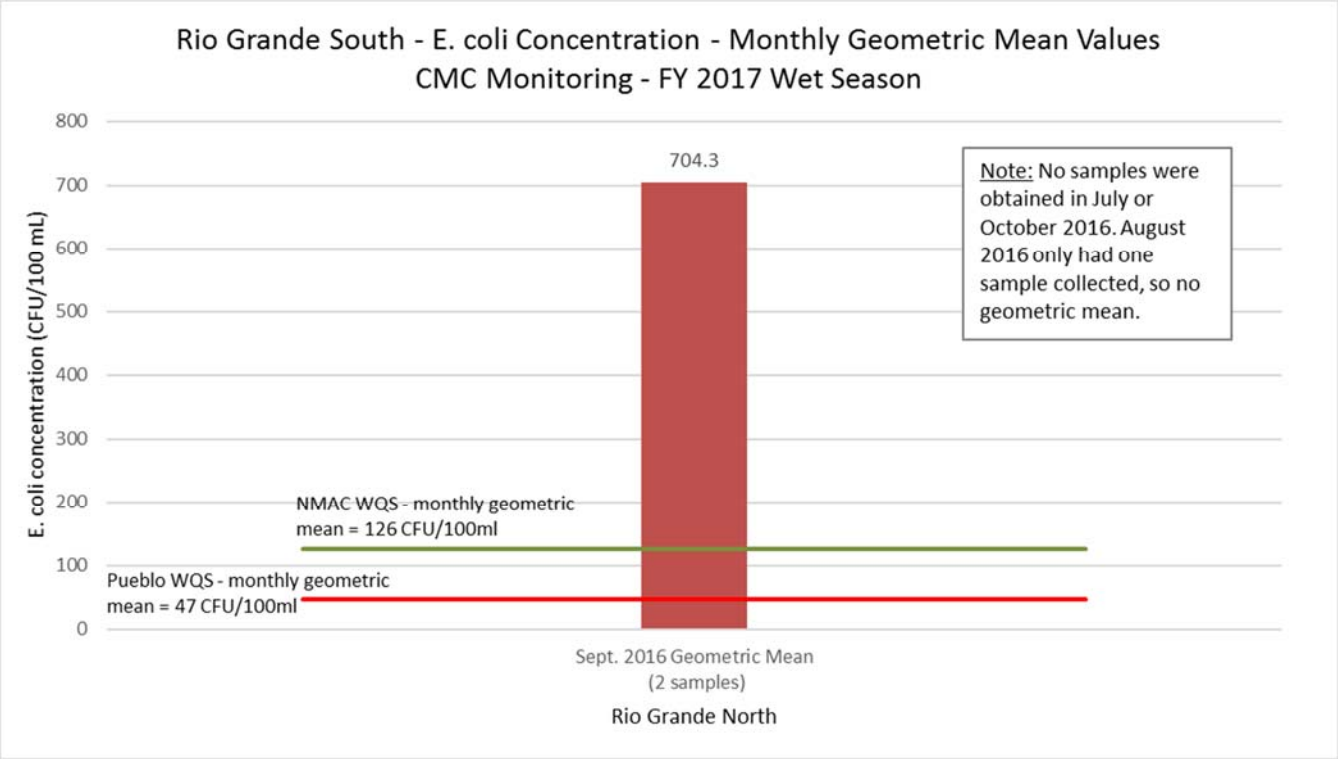


Figure 4: E. coli Geometric Mean Results for Rio Grande South CMC Monitoring – FY 2017 Wet Season

Dissolved Oxygen, PCB's and Temperature:

Three 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, PCBs, and temperature.

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 2017 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 during the FY 2017 wet season. Refer to Figure 5 for dissolved oxygen results and comparison to applicable WQS.

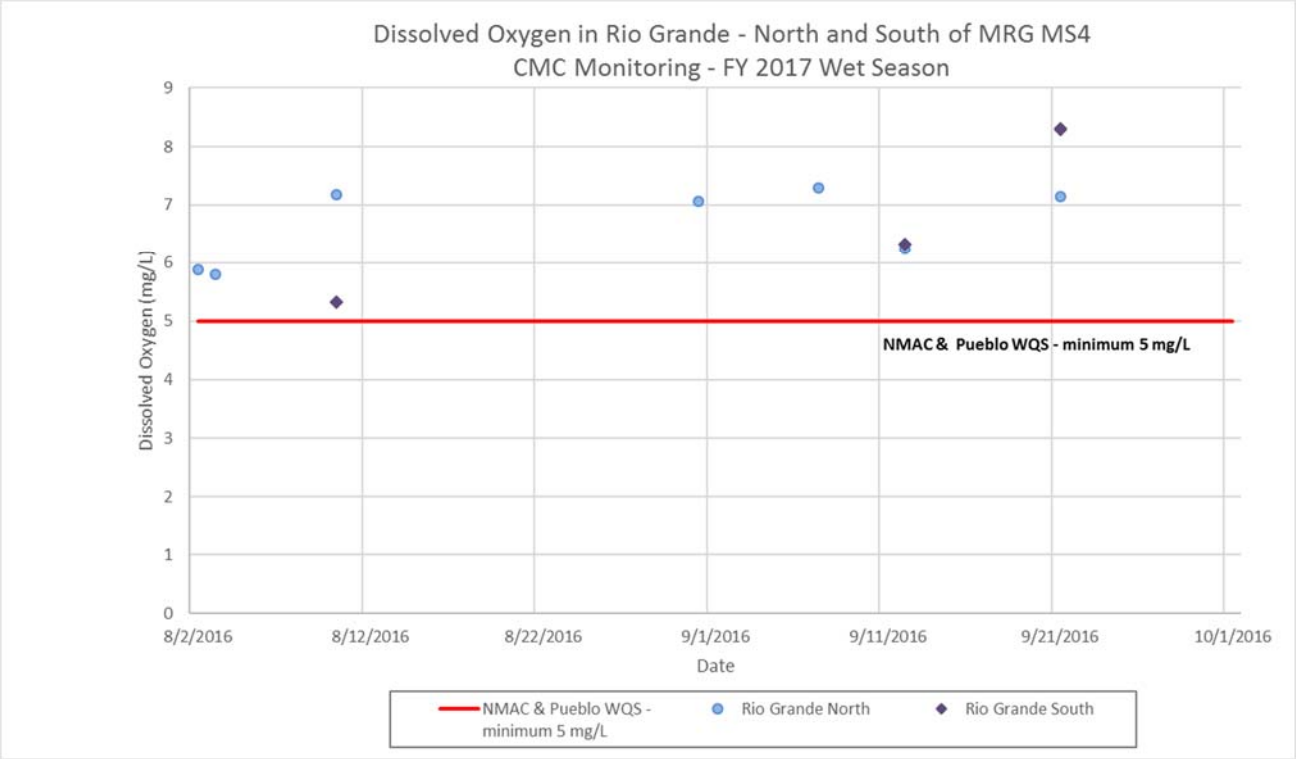


Figure 5: Dissolved Oxygen Results for Rio Grande
CMC Monitoring – FY 2017 Wet Season

For the CMC FY 2017 wet season samples, there were no exceedances of WQS for PCBs. This data can be used by the CMC members to demonstrate that stormwater discharges are not contributing to exceedances of applicable PCB water quality standards in the Rio Grande.

Temperature is listed in the WSB MS4 Permit as a special condition (only applicable to the City of Albuquerque and AMAFCA). Past data submitted to EPA and NMED has proven that stormwater discharges into the Rio Grande are not raising the Rio Grande temperature above the water quality standards. The data collected during this FY 2017 wet season monitoring supports this conclusion. All of the temperature field readings taken in the Rio Grande during the CMC FY 2017 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 6 for temperature results and comparison to applicable WQS.

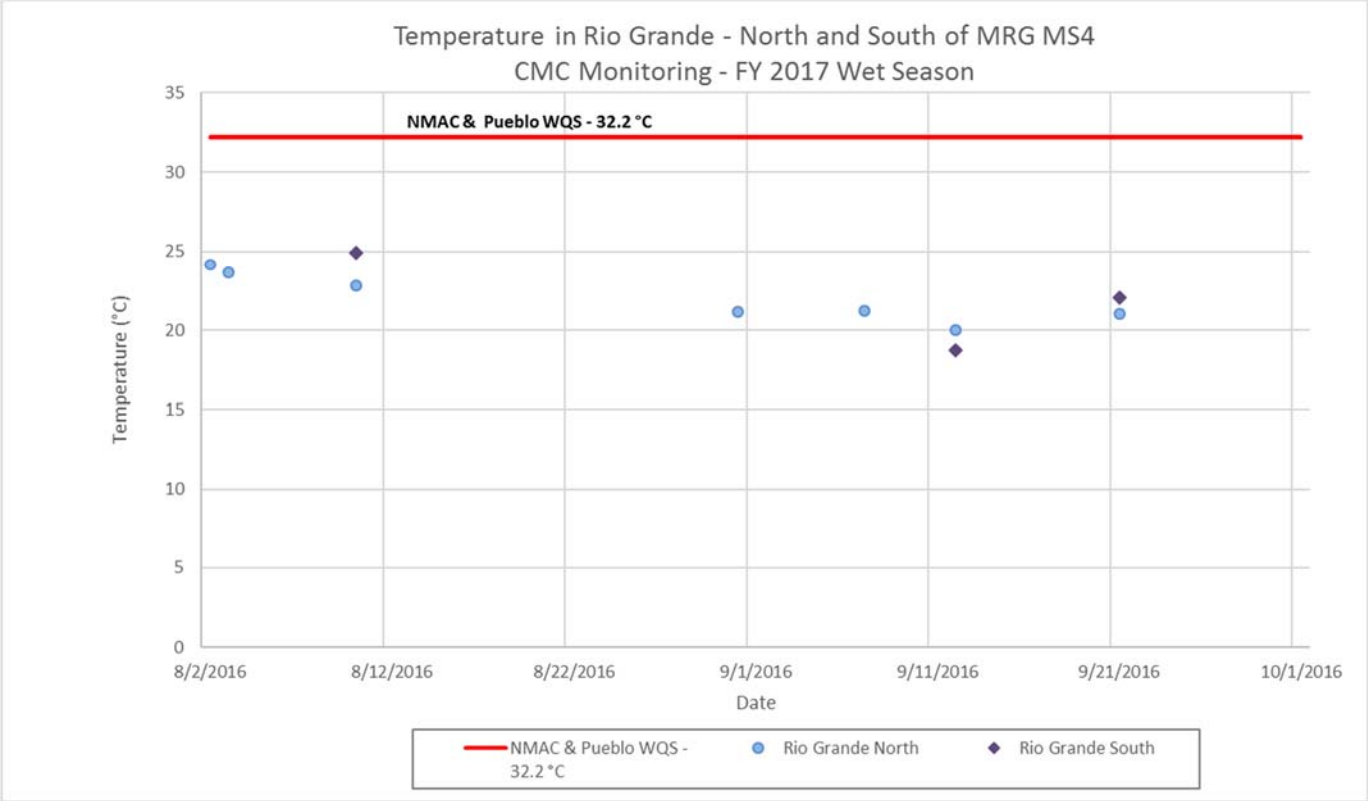


Figure 6: Temperature Monitoring Results in Rio Grande
CMC Monitoring – FY 2017 Wet Season

CMC FY 2017 Wet Season E. coli Loading Calculations and Waste Load Allocation (WLA)

Related to assessing the stormwater results, BHI has calculated the E. coli daily 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 US 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. AMAFCA also provided guidance to BHI related to the E. coli loading calculation procedure and provided an example calculation from July 2016.

Attached to this memo is the WLA Calculation spreadsheet which steps through the E. coli daily loading calculations and assumptions comparing the calculated E. coli loading to the CMC aggregate WLA defined by NMED. BHI provided the draft calculations spreadsheet for review to AMAFCA, who shared this with other CMC members, in both December 2016 and February 2017. The CMC members also met to discuss the E. coli loading calculations with NMED on February 1, 2017. Meeting minutes are included as Attachment 4 to this memo. BHI followed up with NMED on February 16, 2017, regarding specific calculation details. The current spreadsheet includes the improvements discussed at the NMED meeting and follow-up phone call. An email summarizing the February 16, 2017, conference call was sent to NMED and EPA on March 2, 2017, and a copy of this is included in Attachment 4 to this memo.

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 "2016-2018 State of New Mexico Clean Water Act Section 303(d)/Section 305(b) Integrated Report," September 23, 2016. NMED currently has four (4) stream segments instead of the two (2) WSB MS4 stream segments; of the four (4) segments, only one segment has an impairment for E. coli (2105_50 Isleta Pueblo Boundary to Tijeras Arroyo). These various stream segment designations are shown in Figure 7, page 15.

NMED provided clarification at the February 1, 2017, meeting regarding the various stream segment designations. The NMED 303(d)/305(b) 2016-2018 Integrated Report tables show the most recent assessment results, and currently there is only one segment of the Rio Grande (Isleta to Tijeras) that was found to be impaired for E. coli. However, the TMDL for the other stream segments do not go away even if they are no longer impaired – the TMDL remains in place as a protective measure. TMDLs remain in effect after impairments are removed as protective measures.

The E. coli daily loading associated with the CMC group and comparison to the NMED WLA was completed for the three (3) qualifying event wet season storm events – August 10-11, 2016, September 12-13, 2016, and September 21-22, 2016. Refer to Table 2 for a summary of the WLA comparison results. A spreadsheet is attached to this memo that provides the detailed calculations.

TMDL and MS4 Stream Segment
Alameda Bridge to Angostura Diversion
(2105.1_00)

NMED 303(d)/305(b) Stream Segment
US 550 to Angostura Diversion
(2105.1_02)

NMED 303(d)/305(b) Stream Segment
Alameda Bridge to US 550
(2105.1_00)

NMED 303(d)/305(b) Stream Segment
Tijeras Arroyo to Alameda Bridge
(2105_10)

Rio Grande Segment
with TMDL and Impairment
for E. Coli

NMED 303(d)/305(b) Stream Segment
Isleta Pueblo Boundary to Tijeras Arroyo
(2105_50)

TMDL and MS4 Stream Segment
Isleta Pueblo Boundary
to Alameda Bridge
(2105_50)

MCMAHON BLVD
ROY AV
TRAMWAY RD
ALAMEDA BLVD
PASEO DEL NORTE
OSUNA RD
MONTANO RD
CANDELARIA RD
MENAUL BLVD
LOMAS BLVD
LEAD AV
ZUNI RD
CENTRAL AV
BRIDGE BLVD
GIBSON BLVD
DENNIS CHAVEZ BLVD
UNSER BLVD
98TH ST
2ND ST
ISLETA BLVD
BROADWAY BLVD
COORS BLVD
WYOMING BLVD
EUBANK BLVD
JUAN TABO BLVD
TRAMWAY BLVD
NM 47
NM 147
Tijeras Arroyo
40
25
550

AMAFCA

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www.bhinc.com 800.877.5332

Legend

- TMDL/MS4 Stream Segments
- NMED Stream Segments
- North Diversion Channel
- Rio Grande Segment w/ TMDL and Impairment for E. Coli
- Interstate Highway
- U.S. Highway
- State Highway

N W E S

0 0.5 1 2
Miles

CMC Monitoring

Figure 7
Rio Grande
NMED and MS4 Permit
Stream Segments

P:\20170386\WR\Reports\Preliminary & Draft\Figures\MXDs\Figure7-TMDLStreamSegments.mxd
Author: gmaynard

February 2017

Table 2: Summary of CMC Daily 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 Load-ing (CFU/day)	NMED WLA for CMC for Stream Segment and Flow Conditions	Loading Compared to WLA Potential Exceedance or Acceptable
August 10-11, 2016 – Rio Grande North E. coli concentration = 35.9 CFU/100 mL and Rio Grande South E. coli Concentration = 1,106 CFU/100 mL					
Alameda to Angostura	639	Dry	8.32E+11	3.24E+10	Potential Exceedance
Isleta to Alameda	703	Mid	2.34E+11	4.22E+10	Potential Exceedance
September 12-13, 2016 – Rio Grande North E. coli concentration = 55.6 CFU/100 mL and Rio Grande South E. coli Concentration = 959 CFU/100 mL					
Alameda to Angostura	435	Dry	4.67E+11	3.24E+10	Potential Exceedance
Isleta to Alameda	467	Dry	1.02E+11	1.57E+10	Potential Exceedance
September 21-22, 2016 – Rio Grande North E. coli concentration = 31.1 CFU/100 mL and Rio Grande South E. coli Concentration = 517 CFU/100 mL					
Alameda to Angostura	350	Low	1.29E+11	1.68E+10	Potential Exceedance
Isleta to Alameda	251	Low	1.22E+10	3.42E+09	Potential Exceedance

As Table 2 illustrates, the E. coli loading for the three wet season events all 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 US 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. The 2010 TMDL Report states on page 40, "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 downstream waters" and "to provide an implicit margin of safety (MOS)." A single grab sample E. coli result meeting this very low geometric mean 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 February 1, 2017, meeting and the February 16, 2017, CMC discussion with NMED demonstrate that CMC members are working toward understanding the WLA. In addition, the CMC members and NMED discussed potential

refinements to the sampling plan, demonstrating that the CMC is investigating the potential exceedances and improvements to monitor E. coli in the Rio Grande.

Data Entry for Discharge Monitoring Reports

As required in the WSB MS4 Permit, verified stormwater quality data must be submitted annually 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. Currently, the CMC members are working with the EPA regarding access and use of the NetDMR system. For this Task, BHI has not completed any data entry related to the EPA DMRs for the FY 2017 wet season.

Conclusions and Planning

During the FY 2017 wet season (July 1 to October 31, 2016), three (3) qualifying stormwater samples were obtained by the CMC. Lab results have been received for all of these samples. This data has been entered into the project 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 2017 wet season show that:

- Three (3) of the seven (7) required samples in the WSB MS4 Permit Wet Weather Monitoring section were obtained. Seven (7) samples are required during the 5-year Permit term, so this is significant progress for the CMC. The CMC also met the required Permit minimum of three (3) events during the wet season.
- Over half of the parameters tested (18 of the 34) were not detected in any of the Rio Grande samples.
- Only E. coli was in exceedance of applicable New Mexico and Pueblos of Sandia and Isleta WQS.
    - All dissolved oxygen results were greater than 5 mg/L (minimum WQS).
    - All temperature results were less than 32.2 °C (maximum WQS).
    - There were no PCB test results exceeding the applicable WQS.
- The calculated E. coli loading for the three qualifying storm events show that the WLA for the CMC members is potentially exceeded for all three events.
    - 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.

- A meeting was held with CMC members and NMED on February 1, 2017, to discuss the E. coli loading and WLA calculations.
- A follow-up conference call occurred with NMED on February 16, 2017, discussing details related to the E. coli loading calculations.

The dry season monitoring results and E. coli loading calculations will be summarized by BHI for the CMC in a memo due July 20, 2017.

SG/le

Attachments:

Attachment 1 – Hall Environmental Analysis Laboratory Reports with BHI Notes for FY 2017 Wet Season

Attachment 2 – FY 2017 Wet Season Completed Data Verification and Validation Forms

Attachment 3 – Documentation Related to E. coli Units MPN/100 mL and CFU/100 mL

Attachment 4 – Documentation of NMED Coordination Regarding E. coli Loading Calculations and CMC MS4 Waste Load Allocation

Spreadsheets Included Separately:

E. coli Loading and Comparison to Waste Load Allocation (WLA) Excel Spreadsheet

Excel CMC Spreadsheet with FY 2017 Wet Season Stormwater Quality Monitoring Results

ATTACHMENT 1

HALL ENVIRONMENTAL ANALYSIS LABORATORY REPORTS WITH BHI NOTES FOR FY 2017 WET SEASON

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 09, 2016

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

RE: CMC OrderNo.: 1608105

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/2/2016 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 qualifers 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 #NM0190

Sincerely,

Field Data - Provided by DBS&A (field notebook & e-mails):
8/2/16 - Rio Grande North
DO = 5.89 mg/L, pH = 8.05, Conductivity = 256 umhos/cm, and Temperature = 24.15 °C

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1608105**
Date Reported: **8/9/2016**

CLIENT: AMAFCA
Client Sample ID: Rio Grande North
Project: CMC
Collection Date: 8/2/2016 1:10:00 PM
Lab ID: 1608105-001 **Matrix:** AQUEOUS **Received Date:** 8/2/2016 2:20:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	28.1	1.000		CFU/100ml	1	8/3/2016 5:16:00 PM	26757

Equivalent to MPN/100 mL

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: AMAFCA Work Order Number: 1608105 RcptNo: 1

Received by/date: 08/02/16

Logged By: Lindsay Mangin 8/2/2016 2:20:00 PM

Completed By: Lindsay Mangin 8/2/2016 2:21:10 PM

Reviewed By: 08/02/16 @ 1530

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
5. 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.
6. Sample(s) in proper container(s)? Yes ☑ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
9. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
11. Were any sample containers received broken? Yes ☐ No ☑
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
14. Is it clear what analyses were requested? Yes ☑ No ☐
15. 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: _____

Special Handling (if applicable)

16. 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: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	24.2	Good	Not Present			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: AMAFCA

Mailing Address:

Phone #:

Email or Fax#: pchavez@amafca.org

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: C. Johannesen

On Ice: ☐ Yes ☐ No

Sample Temperature: 24.2

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
			pct			1608105
8-2-16	1310	AQ	Rio Grande - North	1-poly	HNO3	-001

Analysis Request

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)	E. Coli, Enterolert				Air Bubbles (Y or N)
											X				

Date	Time	Relinquished by	Received by	Date	Time
8-2-16	1420			8/2/16	1420

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: www.hallenvironmental.com

August 09, 2016

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

RE: AMAFCA-CMC OrderNo.: 1608171

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/3/2016 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 qualifers 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 #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Data - Provided by DBS&A (field notebook & e-mails):
8/3/16 - Rio Grande North
DO = 5.8 mg/L, pH = 8.6, Conductivity = 270 umhos/cm, and Temperature = 23.67 °C

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1608171**
Date Reported: **8/9/2016**

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North
Project: AMAFCA-CMC
Collection Date: 8/3/2016 12:15:00 PM
Lab ID: 1608171-001 **Matrix:** AQUEOUS **Received Date:** 8/3/2016 1:15:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	185	10.00		CFU/100ml	10	8/4/2016 4:04:00 PM	26777

Equivalent to MPN/100 mL

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **AMAFCA** Work Order Number: **1608171** RcptNo: 1

Received by/date: AT 08/03/16

Logged By: **Lindsay Mangin** **8/3/2016 1:15:00 PM**

Completed By: **Lindsay Mangin** **8/3/2016 1:19:08 PM**

Reviewed By: JO 8/03/16 @ 1330

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. 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.			
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

16. 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: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	14.3	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

email or Fax#: pchavez@amafca.org

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☐ Rush _____

Project Name: AMAFCA - CMC

Project #:

Project Manager: Patrick Chavez

Sampler: Chad Johannesen

On Ice: ☐ Yes ☒ No

Sample Temperature: 14.3

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. 1608171	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)	E. Coli				Air Bubbles (Y or N)
3-16	1215	AQ	Rio Grande-North	1-poly	–	-001												X				

Date: 3-16 Time: 1315 Relinquished by: _____ Received by: _____ Date: 08/03/16 Time: 1315

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: www.hallenvironmental.com

August 16, 2016

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

RE: CMC OrderNo.: 1608623

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/10/2016 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 qualifers 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 #NM0190

Sincerely,

Field Data - Provided by DBS&A (field notebook & e-mails):
8/10/16 - Rio Grande North
DO = 7.18 mg/L, pH = 8.73, Conductivity = 280 umhos/cm, and Temperature = 22.8 °C

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1608623**
Date Reported: **8/16/2016**

CLIENT: AMAFCA
Client Sample ID: Rio Grande North
Project: CMC
Collection Date: 8/10/2016 12:50:00 PM
Lab ID: 1608623-001
Matrix: AQUEOUS
Received Date: 8/10/2016 1:50:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	35.9	1.000		CFU/100ml	1	8/11/2016 3:35:00 PM	26899

Equivalent to MPN/100 mL

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: AMAFCA Work Order Number: 1608623 RcptNo: 1

Received by/date: 08/10/16

Logged By: Ashley Gallegos 8/10/2016 1:50:00 PM

Completed By: Ashley Gallegos 8/10/2016 2:04:58 PM

Reviewed By: 08/10/16 @ 1[illegible]

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. 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: _____

Special Handling (if applicable)

16. 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: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	18.4	Good	Not Present			

Chain-of-Custody Record

Client: Patrick Chavez
AMAFCA
Mailing Address:
Phone #: pchavez@amafca.org
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: C Johannesen
On Ice: ☒ Yes ☐ No
Sample Temperature: 18.4

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 Request ID	Container Type and #	Preservative Type	HEAL No. 1608623	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)	E. Coli num				Air Bubbles (Y or N)
10-6	1250	AQ	Rio Grande - North	1-poly		-001												X				

Date: 10-6 Time: 1350 Relinquished by:
Date: Time: Relinquished by:

Received by: Date: 08/10/16 Time: 1350
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: www.hallenvironmental.com

November 29, 2016

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

RE: CMC OrderNo.: 1608678

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 5 sample(s) on 8/11/2016 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 qualifers 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 #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Data - Provided by DBS&A (field notebook & e-mails):
8/10/16 - Rio Grande North
DO = 7.18 mg/L, pH = 8.73, Conductivity = 280 umhos/cm, and Temperature = 22.8 °C
8/11/16 - Rio Grande South
DO = 5.33 mg/L, pH = 8.7, Conductivity = 326 umhos/cm, and Temperature = 24.9 °C

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1608678**
Date Reported: **11/29/2016**

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North
Project: CMC
Collection Date: 8/10/2016 12:50:00 PM
Lab ID: 1608678-001
Matrix: AQUEOUS
Received Date: 8/11/2016 1:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **JLF**	
Copper	0.0012	0.0010		mg/L	1	8/24/2016 9:43:30 PM	C36740
Lead	ND	0.00050		mg/L	1	8/24/2016 9:43:30 PM	C36740
SM2340B: HARDNESS						Analyst: **MED**	
Hardness (As CaCO3)	110	6.6		mg/L	1	9/6/2016 11:18:00 AM	R37002
SM5210B: BOD						Analyst: **SMS**	
Biochemical Oxygen Demand	DO Depletion<2.0	2.0		mg/L	1	8/16/2016 3:42:00 PM	26933
EPA METHOD 1664A						Analyst: **tnc**	
N-Hexane Extractable Material	ND	11		mg/L	1	8/15/2016 11:15:00 AM	26986
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/28/2016 6:49:42 PM	R36824
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	230	40.0	D	mg/L	1	8/16/2016 1:30:00 PM	26970
SM 4500 NH3: AMMONIA						Analyst: **CJS**	
Nitrogen, Ammonia	ND	1.0		mg/L	1	8/18/2016 2:36:00 PM	R36607
TOTAL NITROGEN						Analyst: **SRM**	
Nitrogen, Total	ND	1.0		mg/L	1	8/30/2016 11:53:00 AM	R36856
SM4500-H+B: PH						Analyst: **JRR**	
pH	8.20	1.68	H	pH units	1	8/15/2016 8:14:03 PM	R36527
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.081	0.010		mg/L	1	8/24/2016 11:37:37 AM	27121
SM 4500 NORG C: TKN						Analyst: **CJS**	
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	8/19/2016 2:28:00 PM	27057
SM 2540D: TSS						Analyst: **KS**	
Suspended Solids	41	4.0		mg/L	1	8/14/2016 12:11:00 PM	26969
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **MED**	
Calcium	36	1.0		mg/L	1	9/6/2016 7:41:04 PM	D37002
Magnesium	6.1	1.0		mg/L	1	9/6/2016 7:41:04 PM	D37002

See lab report 1608623 for Rio Grande North E. coli results.

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-South
Project: CMC
Collection Date: 8/11/2016 11:30:00 AM
Lab ID: 1608678-002
Matrix: AQUEOUS
Received Date: 8/11/2016 1:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **JLF**	
Copper	0.0012	0.0010		mg/L	1	8/24/2016 9:46:33 PM	C36740
Lead	ND	0.00050		mg/L	1	8/24/2016 9:46:33 PM	C36740
SM2340B: HARDNESS						Analyst: **MED**	
Hardness (As CaCO3)	130	6.6		mg/L	1	9/6/2016 11:18:00 AM	R37002
SM5210B: BOD						Analyst: **SMS**	
Biochemical Oxygen Demand	DO Depletion<2.0	2.0		mg/L	1	8/16/2016 3:42:00 PM	26933
SM 9223B FECAL INDICATOR: E. COLI MPN Equivalent to MPN/100 mL						Analyst: **tnc**	
E. Coli	1106	10.00		CFU/100ml	10	8/12/2016 3:37:00 PM	26941
EPA METHOD 1664A						Analyst: **tnc**	
N-Hexane Extractable Material	ND	10		mg/L	1	8/15/2016 11:15:00 AM	26986
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/28/2016 7:02:07 PM	R36824
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	305	100	D	mg/L	1	8/16/2016 1:30:00 PM	26970
SM 4500 NH3: AMMONIA						Analyst: **CJS**	
Nitrogen, Ammonia	ND	2.0	D	mg/L	2	8/18/2016 2:36:00 PM	R36607
TOTAL NITROGEN						Analyst: **SRM**	
Nitrogen, Total	<2	1.0		mg/L	1	8/30/2016 11:53:00 AM	R36856
SM4500-H+B: PH						Analyst: **JRR**	
pH	8.24	1.68	H	pH units	1	8/15/2016 8:18:14 PM	R36527
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.38	0.010		mg/L	1	8/24/2016 11:42:07 AM	27121
SM 4500 NORG C: TKN						Analyst: **CJS**	
Nitrogen, Kjeldahl, Total	ND	2.0	D	mg/L	1	8/19/2016 2:28:00 PM	27057
SM 2540D: TSS						Analyst: **KS**	
Suspended Solids	330	4.0		mg/L	1	8/14/2016 12:11:00 PM	26969
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **MED**	
Calcium	40	1.0		mg/L	1	9/6/2016 7:53:00 PM	D37002
Magnesium	6.5	1.0		mg/L	1	9/6/2016 7:53:00 PM	D37002

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North Filtered
Project: CMC
Collection Date: 8/10/2016 12:50:00 PM
Lab ID: 1608678-003
Matrix: AQUEOUS
Received Date: 8/11/2016 1:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.030	0.010		mg/L	1	8/24/2016 11:43:37 AM	27121

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-South Filtered
Project: CMC
Collection Date: 8/11/2016 11:30:00 AM
Lab ID: 1608678-004
Matrix: AQUEOUS
Received Date: 8/11/2016 1:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.17	0.010		mg/L	1	8/24/2016 11:45:07 AM	27121

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160817078
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1608678
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160817078-001	**Sampling Date**	8/10/2016	**Date/Time Received**	8/17/2016 1:30 PM
Client Sample ID	1608678-001C / RIO GRANDE-NORTH	**Sampling Time**	12:50 PM		
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	8/24/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 160817078-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	99.2	70-130
4-Bromofluorobenzene	EPA 8260C	94.8	70-130
Toluene-d8	EPA 8260C	98.8	70-130

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160817078
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1608678
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160817078-004	**Sampling Date**	8/11/2016	**Date/Time Received**	8/17/2016 1:30 PM
Client Sample ID	1608678-002C / RIO GRANDE-SOUTH	**Sampling Time**	11:30 AM		
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	8/24/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 160817078-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	101.2	70-130
4-Bromofluorobenzene	EPA 8260C	96.0	70-130
Toluene-d8	EPA 8260C	98.8	70-130

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160817078
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1608678
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160817078-007	**Sampling Date**	8/10/2016	**Date/Time Received**	8/17/2016	1:30 PM	
Client Sample ID	1608678-005A / TRIP BLANK	**Sampling Time**					
Matrix	Water						
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	8/24/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 160817078-007

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	100.4	70-130
4-Bromofluorobenzene	EPA 8260C	95.2	70-130
Toluene-d8	EPA 8260C	91.2	70-130

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160817078
Address:	4901 HAWKINS NE SUITE D	**Project Name:**	1608678
	ALBUQUERQUE, NM 87109		
Attn:	ANDY FREEMAN		

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Tetrahydrofuran	8.46	ug/L	10	84.6	70-130	8/24/2016	8/24/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Tetrahydrofuran	ND	ug/L	0.5	8/24/2016	8/24/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160817078
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1608678
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160817078-002	**Sampling Date**	8/10/2016	**Date/Time Received**	8/17/2016 1:30 PM
Client Sample ID	1608678-001G / RIO GRANDE-NORTH	**Sampling Time**	12:50 PM	**Extraction Date**	8/17/2016
Matrix	Water				
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.1	0.2	8/31/2016	MAH	EPA 608	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.1	0.2	8/31/2016	MAH	EPA 608	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.1	0.2	8/31/2016	MAH	EPA 608	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.1	0.2	8/31/2016	MAH	EPA 608	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.1	0.2	8/31/2016	MAH	EPA 608	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.1	0.2	8/31/2016	MAH	EPA 608	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.1	0.2	8/31/2016	MAH	EPA 608	
Dieldrin	ND	ug/L	0.003	0.01	8/31/2016	MAH	EPA 608	

Surrogate Data

Sample Number 160817078-002

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 608	95.6	30-130

Screening Method for PCBS (Method 608) was used. There was not enough volume of sample remaining to test for PCBs using Method 1668.

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160817078
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1608678
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160817078-005	**Sampling Date**	8/11/2016	**Date/Time Received**	8/17/2016 1:30 PM
Client Sample ID	1608678-002G / RIO GRANDE-SOUTH	**Sampling Time**	11:30 AM	**Extraction Date**	8/17/2016
Matrix	Water				
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.1	0.8	8/31/2016	MAH	EPA 608	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.1	0.8	8/31/2016	MAH	EPA 608	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.1	0.8	8/31/2016	MAH	EPA 608	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.1	0.8	8/31/2016	MAH	EPA 608	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.1	0.8	8/31/2016	MAH	EPA 608	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.1	0.8	8/31/2016	MAH	EPA 608	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.1	0.8	8/31/2016	MAH	EPA 608	
Dieldrin	ND	ug/L	0.003	0.04	8/31/2016	MAH	EPA 608	

Surrogate Data

Sample Number 160817078-005

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 608	92.2	30-130

Authorized Signature

Todd Taruscio, Lab Manager

Screening Method for PCBS (Method 608) was used. There was not enough volume of sample remaining to test for PCBs using Method 1668.

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160817078
Address:	4901 HAWKINS NE SUITE D	**Project Name:**	1608678
	ALBUQUERQUE, NM 87109		
Attn:	ANDY FREEMAN		

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dieldrin	0.475	ug/L	0.5	95.0	30-130	8/17/2016	8/31/2016
Aroclor 1260 (PCB-1260)	6.33	ug/L	5	126.6	50-130	8/17/2016	8/31/2016
Aroclor 1016 (PCB-1016)	4.67	ug/L	5	93.4	50-130	8/17/2016	8/31/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
160817078-002	Dieldrin	ND	0.455	ug/L	0.5	91.0	30-150	8/17/2016	8/31/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dieldrin	0.451	ug/L	0.5	90.2	0.9	0-30	8/17/2016	8/31/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aroclor 1016 (PCB-1016)	ND	ug/L	0.2	8/17/2016	8/31/2016
Aroclor 1221 (PCB-1221)	ND	ug/L	0.2	8/17/2016	8/31/2016
Aroclor 1232 (PCB-1232)	ND	ug/L	0.2	8/17/2016	8/31/2016
Aroclor 1242 (PCB-1242)	ND	ug/L	0.2	8/17/2016	8/31/2016
Aroclor 1248 (PCB-1248)	ND	ug/L	0.2	8/17/2016	8/31/2016
Aroclor 1254 (PCB-1254)	ND	ug/L	0.2	8/17/2016	8/31/2016
Aroclor 1260 (PCB-1260)	ND	ug/L	0.2	8/17/2016	8/31/2016
Dieldrin	ND	ug/L	0.01	8/17/2016	8/31/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160817078
Project Name: 1608678

Analytical Results Report

Sample Number 160817078-002 **Sampling Date** 8/10/2016 **Date/Time Received** 8/17/2016 1:30 PM
Client Sample ID 1608678-001G / RIO GRANDE-NORTH **Sampling Time** 12:50 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Benzo[a]anthracene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Benzo[a]pyrene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Benzo[b]fluoranthene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Benzo[k]fluoranthene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Chrysene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Dibenz[a,h]anthracene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Dibenzofuran	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Pentachlorophenol	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	

Surrogate Data

Sample Number 160817078-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 625	82.8	53-122
2-Fluorobiphenyl	EPA 625	94.4	12-116
2-Fluorophenol	EPA 625	85.4	10-139
Nitrobenzene-d5	EPA 625	95.2	54-118
Phenol-d5	EPA 625	73.0	28-154
Terphenyl-d14	EPA 625	54.8	20-137

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160817078
Project Name: 1608678

Analytical Results Report

Sample Number 160817078-005 **Sampling Date** 8/11/2016 **Date/Time Received** 8/17/2016 1:30 PM
Client Sample ID 1608678-002G / RIO GRANDE-SOUTH **Sampling Time** 11:30 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Benzo[a]anthracene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Benzo[a]pyrene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Benzo[b]fluoranthene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Benzo[k]fluoranthene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Chrysene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Dibenz[a,h]anthracene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Dibenzofuran	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	
Pentachlorophenol	ND	ug/L	0.5	8/23/2016	HSW	EPA 625	

Surrogate Data

Sample Number 160817078-005

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 625	85.4	53-122
2-Fluorobiphenyl	EPA 625	96.0	12-116
2-Fluorophenol	EPA 625	90.6	10-139
Nitrobenzene-d5	EPA 625	99.2	54-118
Phenol-d5	EPA 625	78.8	28-154
Terphenyl-d14	EPA 625	47.6	20-137

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160817078
Project Name: 1608678

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pentachlorophenol	3.80	ug/L	5	76.0	22-138	8/16/2016	8/23/2016
bis(2-Ethylhexyl)phthalate	4.59	ug/L	5	91.8	51-149	8/16/2016	8/23/2016

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pentachlorophenol	3.52	ug/L	5	70.4	7.7	0-47	8/16/2016	8/23/2016
bis(2-Ethylhexyl)phthalate	4.94	ug/L	5	98.8	7.3	0-50	8/16/2016	8/23/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
160816052-001	Pentachlorophenol	ND	4.34	ug/L	5	86.8	22-138	8/16/2016	8/23/2016
160816052-001	bis(2-Ethylhexyl)phthalate	ND	5.55	ug/L	5	111.0	51-149	8/16/2016	8/23/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pentachlorophenol	4.37	ug/L	5	87.4	0.7	0-47	8/16/2016	8/23/2016
bis(2-Ethylhexyl)phthalate	5.12	ug/L	5	102.4	8.1	0-50	8/16/2016	8/23/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzidine	ND	ug/L	0.5	8/16/2016	8/23/2016
Benzo[a]anthracene	ND	ug/L	0.5	8/16/2016	8/23/2016
Benzo[a]pyrene	ND	ug/L	0.5	8/16/2016	8/23/2016
Benzo[b]fluoranthene	ND	ug/L	0.5	8/16/2016	8/23/2016
Benzo[k]fluoranthene	ND	ug/L	0.5	8/16/2016	8/23/2016
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	8/16/2016	8/23/2016
Chrysene	ND	ug/L	0.5	8/16/2016	8/23/2016
Dibenz[a,h]anthracene	ND	ug/L	0.5	8/16/2016	8/23/2016
Dibenzofuran	ND	ug/L	0.5	8/16/2016	8/23/2016
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	8/16/2016	8/23/2016

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0026; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160817078
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1608678
Attn:	ANDY FREEMAN		

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Pentachlorophenol	ND	ug/L	0.5	8/16/2016	8/23/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160817078
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1608678
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160817078-003	**Sampling Date**	8/10/2016	**Date/Time Received**	8/17/2016 1:30 PM
Client Sample ID	1608678-001I / RIO GRANDE-NORTH			**Sampling Time**	12:50 PM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	16.2	mg/L	5	8/22/2016 11:30:00 AM	JDB	EPA 410.4	

Sample Number	160817078-006	**Sampling Date**	8/11/2016	**Date/Time Received**	8/17/2016 1:30 PM
Client Sample ID	1608678-002I / RIO GRANDE-SOUTH			**Sampling Time**	11:30 AM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	17.0	mg/L	5	8/22/2016 11:30:00 AM	JDB	EPA 410.4	

Authorized Signature

Todd Taruscio, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160817078
Project Name: 1608678

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
COD	99.4	mg/L	100	99.4	90-110	8/22/2016	8/22/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
160817087-002	COD	6.75	103	mg/L	100	96.3	80-120	8/22/2016	8/22/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	108	mg/L	100	101.3	4.7	0-15	8/22/2016	8/22/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
COD	<5	mg/L	5	8/22/2016	8/22/2016

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
160817045-002	COD	13.2	13.9	mg/L	5.2	0-20	8/22/2016	8/22/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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	08/18/2016 20:41	WG899360

Wet Chemistry by Method 3500Cr C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.000500	1	08/18/2016 20:49	WG899360

Method Blank (MB)

(MB) R3157886-1 08/18/16 16:02

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

L853001-01 Original Sample (OS) • Duplicate (DUP)

(OS) L853001-01 08/18/16 16:46 • (DUP) R3157886-4 08/18/16 16:57

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

L854015-02 Original Sample (OS) • Duplicate (DUP)

(OS) L854015-02 08/18/16 20:58 • (DUP) R3157886-7 08/18/16 21:06

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

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3157886-2 08/18/16 16:10 • (LCSD) R3157886-3 08/18/16 16:19

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Hexavalent Chromium	0.00200	0.00201	0.00200	100	100	90.0-110			0.000	20

L853262-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L853262-02 08/18/16 17:51 • (MS) R3157886-5 08/18/16 18:02 • (MSD) R3157886-6 08/18/16 18:10

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Hexavalent Chromium	0.0500	ND	0.0509	0.0506	102	101	1	90.0-110			1.00	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
Rec.	Recovery.

Qualifier	Description

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

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1608678
Pace Project No.: 30193392

Sample: 1608678-001J Rio- Grande-North **Lab ID: 30193392001** Collected: 08/10/16 12:50 Received: 08/17/16 10:10 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample Acceptance Policy Waiver on file from the client.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**3.72 ± 1.97 (2.97) C:NA T:NA**	pCi/L	08/24/16 09:55	12587-46-1	

Sample: 1608678-002J Rio- Grande-South **Lab ID: 30193392002** Collected: 08/11/16 11:30 Received: 08/17/16 10:10 Matrix: Water

PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**10.6 ± 3.61 (2.54) C:NA T:NA**	pCi/L	08/26/16 18:05	12587-46-1	

REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1608678
Pace Project No.: 30193392

QC Batch: 231147
QC Batch Method: EPA 900.0
Analysis Method: EPA 900.0
Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 30193392002

METHOD BLANK: 1132561
Matrix: Water
Associated Lab Samples: 30193392002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	0.417 ± 0.907 (2.12) C:NA T:NA	pCi/L	08/27/16 09:44	

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1608678
Pace Project No.: 30193392

QC Batch: 230572
QC Batch Method: EPA 900.0
Analysis Method: EPA 900.0
Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 30193392001

METHOD BLANK: 1129987
Matrix: Water
Associated Lab Samples: 30193392001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	0.227 ± 0.547 (1.31) C:NA T:NA	pCi/L	08/24/16 09:51	

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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 1608678
Pace Project No.: 30193392

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.

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.

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: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(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.

REPORT OF LABORATORY ANALYSIS

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608678**

29-Nov-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-26986**	SampType:	**MBLK**	TestCode:	**EPA Method 1664A**					
Client ID:	**PBW**	Batch ID:	**26986**	RunNo:	**36530**					
Prep Date:	**8/15/2016**	Analysis Date:	**8/15/2016**	SeqNo:	**1131319**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	ND	10								
Silica Gel Treated N-Hexane Extrac	ND	10								

Sample ID	**LCS-26986**	SampType:	**LCS**	TestCode:	**EPA Method 1664A**					
Client ID:	**LCSW**	Batch ID:	**26986**	RunNo:	**36530**					
Prep Date:	**8/15/2016**	Analysis Date:	**8/15/2016**	SeqNo:	**1131320**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	40	10	40.00	0	100	78	114			
Silica Gel Treated N-Hexane Extrac	18	10	20.00	0	89.0	64	132			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608678**

29-Nov-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-D**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**D37002**	RunNo:	**37002**					
Prep Date:		Analysis Date:	**9/6/2016**	SeqNo:	**1146735**	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	**LCS-D**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**D37002**	RunNo:	**37002**					
Prep Date:		Analysis Date:	**9/6/2016**	SeqNo:	**1146739**	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			
Magnesium	55	1.0	50.00	0	109	85	115			

Sample ID	**LLLCS-D**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**D37002**	RunNo:	**37002**					
Prep Date:		Analysis Date:	**9/6/2016**	SeqNo:	**1146740**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	110	50	150			
Magnesium	ND	1.0	0.5000	0	110	50	150			

Sample ID	**1608678-001FMS**	SampType:	**MS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**Rio Grande-North**	Batch ID:	**D37002**	RunNo:	**37002**					
Prep Date:		Analysis Date:	**9/6/2016**	SeqNo:	**1147153**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	85	1.0	50.00	35.97	98.9	70	130			
Magnesium	57	1.0	50.00	6.083	102	70	130			

Sample ID	**1608678-001FMSD**	SampType:	**MSD**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**Rio Grande-North**	Batch ID:	**D37002**	RunNo:	**37002**					
Prep Date:		Analysis Date:	**9/6/2016**	SeqNo:	**1147154**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	85	1.0	50.00	35.97	97.9	70	130	0.611	20	
Magnesium	57	1.0	50.00	6.083	101	70	130	1.14	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608678**

29-Nov-16

Client: AMAFCA

Project: CMC

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **C36740**			RunNo: **36740**					
Prep Date:		Analysis Date: **8/24/2016**			SeqNo: **1138765**		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	98.5	85	115			
Lead	0.012	0.00050	0.01250	0	98.3	85	115			

Sample ID	**LLLCS**	SampType: **LCSLL**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **C36740**			RunNo: **36740**					
Prep Date:		Analysis Date: **8/24/2016**			SeqNo: **1138767**		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	102	50	150			
Lead	ND	0.00050	0.0005000	0	99.3	50	150			

Sample ID	**MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **C36740**			RunNo: **36740**					
Prep Date:		Analysis Date: **8/24/2016**			SeqNo: **1138769**		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								

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608678**

29-Nov-16

Client: AMAFCA

Project: CMC

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R36824**	RunNo: **36824**
Prep Date:	Analysis Date: **8/28/2016**	SeqNo: **1141482** 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: **R36824**	RunNo: **36824**
Prep Date:	Analysis Date: **8/28/2016**	SeqNo: **1141483** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	98.5	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608678**

29-Nov-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-26933**	SampType:	**MBLK**		TestCode:	**SM5210B: BOD**				
Client ID:	**PBW**	Batch ID:	**26933**		RunNo:	**36639**				
Prep Date:	**8/11/2016**	Analysis Date:	**8/16/2016**		SeqNo:	**1134895**	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	**MB--26933**	SampType:	**MBLK**		TestCode:	**SM5210B: BOD**				
Client ID:	**PBW**	Batch ID:	**26933**		RunNo:	**36639**				
Prep Date:	**8/11/2016**	Analysis Date:	**8/16/2016**		SeqNo:	**1134896**	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-26933**	SampType:	**LCS**		TestCode:	**SM5210B: BOD**				
Client ID:	**LCSW**	Batch ID:	**26933**		RunNo:	**36639**				
Prep Date:	**8/11/2016**	Analysis Date:	**8/16/2016**		SeqNo:	**1134897**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	190	2.0	198.0	0	94.8	56.9	131			

Sample ID	**LCSD-26933**	SampType:	**LCSD**		TestCode:	**SM5210B: BOD**				
Client ID:	**LCSS02**	Batch ID:	**26933**		RunNo:	**36639**				
Prep Date:	**8/11/2016**	Analysis Date:	**8/16/2016**		SeqNo:	**1134898**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	180	2.0	198.0	0	88.5	56.9	131	6.89	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608678**

29-Nov-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-26941**	SampType:	**MBLK**	TestCode:	**SM 9223B Fecal Indicator: E. coli MPN**				
Client ID:	**PBW**	Batch ID:	**26941**	RunNo:	**36490**				
Prep Date:	**8/11/2016**	Analysis Date:	**8/12/2016**	SeqNo:	**1130017**	Units:	**CFU/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.	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608678**

29-Nov-16

Client: AMAFCA

Project: CMC

Sample ID **MB**	SampType: **MBLK**	TestCode: **SM 4500 NH3: Ammonia**
Client ID: **PBW**	Batch ID: **R36607**	RunNo: **36607**
Prep Date:	Analysis Date: **8/18/2016**	SeqNo: **1133963** 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: **R36607**	RunNo: **36607**
Prep Date:	Analysis Date: **8/18/2016**	SeqNo: **1133964** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	10	1.0	10.00	0	101	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608678**

29-Nov-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27121**	SampType:	**MBLK**		TestCode:	**EPA Method 365.1: Total Phosphorous**				
Client ID:	**PBW**	Batch ID:	**27121**		RunNo:	**36723**				
Prep Date:	**8/23/2016**	Analysis Date:	**8/24/2016**		SeqNo:	**1138062**	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-27121**	SampType:	**LCS**		TestCode:	**EPA Method 365.1: Total Phosphorous**				
Client ID:	**LCSW**	Batch ID:	**27121**		RunNo:	**36723**				
Prep Date:	**8/23/2016**	Analysis Date:	**8/24/2016**		SeqNo:	**1138063**	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	98.6	90	110			

Sample ID	**1608678-001DMS**	SampType:	**MS**		TestCode:	**EPA Method 365.1: Total Phosphorous**				
Client ID:	**Rio Grande-North**	Batch ID:	**27121**		RunNo:	**36723**				
Prep Date:	**8/23/2016**	Analysis Date:	**8/24/2016**		SeqNo:	**1138065**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.33	0.010	0.2500	0.08070	98.0	90	110			

Sample ID	**1608678-001DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 365.1: Total Phosphorous**				
Client ID:	**Rio Grande-North**	Batch ID:	**27121**		RunNo:	**36723**				
Prep Date:	**8/23/2016**	Analysis Date:	**8/24/2016**		SeqNo:	**1138066**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.33	0.010	0.2500	0.08070	99.1	90	110	0.825	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608678**

29-Nov-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-26970**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**26970**	RunNo:	**36538**					
Prep Date:	**8/14/2016**	Analysis Date:	**8/16/2016**	SeqNo:	**1131506**	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-26970**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**26970**	RunNo:	**36538**					
Prep Date:	**8/14/2016**	Analysis Date:	**8/16/2016**	SeqNo:	**1131507**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	995	20.0	1000	0	99.5	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608678**

29-Nov-16

Client: AMAFCA

Project: CMC

Sample ID **MB-27057**	SampType: **MBLK**	TestCode: **SM 4500 Norg C: TKN**							
Client ID: **PBW**	Batch ID: **27057**	RunNo: **36645**							
Prep Date: **8/18/2016**	Analysis Date: **8/19/2016**	SeqNo: **1134995**	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-27057**	SampType: **LCS**	TestCode: **SM 4500 Norg C: TKN**							
Client ID: **LCSW**	Batch ID: **27057**	RunNo: **36645**							
Prep Date: **8/18/2016**	Analysis Date: **8/19/2016**	SeqNo: **1134996**	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	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608678**

29-Nov-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-26969**	SampType:	**MBLK**	TestCode:	**SM 2540D: TSS**					
Client ID:	**PBW**	Batch ID:	**26969**	RunNo:	**36514**					
Prep Date:	**8/13/2016**	Analysis Date:	**8/14/2016**	SeqNo:	**1130650**	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-26969**	SampType:	**LCS**	TestCode:	**SM 2540D: TSS**					
Client ID:	**LCSW**	Batch ID:	**26969**	RunNo:	**36514**					
Prep Date:	**8/13/2016**	Analysis Date:	**8/14/2016**	SeqNo:	**1130651**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	94	4.0	92.50	0	102	83.35	118.92			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: AMAFCA Work Order Number: 1608678 RcptNo: 1

Received by/date: AF 08/11/16

Logged By: Ashley Gallegos 8/11/2016 1:00:00 PM AG

Completed By: Ashley Gallegos 8/11/2016 1:44:34 PM AG

Reviewed By: aJ/dg 08/11/16 @ 1455

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
5. 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.

6. Sample(s) in proper container(s)? Yes ☑ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
9. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
11. Were any sample containers received broken? Yes ☐ No ☑
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
14. Is it clear what analyses were requested? Yes ☑ No ☐
15. 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: JC

Special Handling (if applicable)

16. 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:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.4	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

email or Fax#: pchavez@amafca.org

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: C Johannesen

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.9°C

HEAL No. 1608678 ~~1608309~~

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	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)	See table	E. coli num	Diss Phos.		Air Bubbles (Y or N)
8-10-16	1250	AQ	Rio Grande-North	Numerous													X				
8-11-16	1130	AQ	Rio Grande-South	"													X	X			
—	—	AQ	Trip Blank	2 VOAs	HCL																
			Rio Grande-North	Filtered															X		
			Rio Grande-South																X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-11-16	1300			8/11/16	1300
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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

Analysis Request

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.

AMAFCA and CMC samples

Hardness
TSS
TDS
COD
BOD
DO
Oil & grease
E. coli
pH
Total kjeldahl nitrogen
Nitrate plus nitrite
Dissolved phosphorus
Ammonia plus organic nitrogen
Total Phosphorus
Chromium IV
Copper-dissolved
Lead-dissolved
PCBs
Gross Alpha
Tetrahydrofuran
Benzo(a)pyrene
Benzo(b)fluoranthene, alternate name 3, 4 Benzofluoranthene
Benzo(k)fluoranthene
Chrysene
Indeno(1,2,3-cd)pyrene
Dieldrin
Pentachlorophenol
Benzidine
Benzo(a)anthracene
Pentachlorophenol
Dibenzofuran
Dibenzo(a,h)anthracene
Bis(2-ethylhexyl)phthalate

AMAFCA E.Coli only sites:

- Bear Arroyo
- Main Hanh Arroyo
- Embudo

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 06, 2016

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

RE: CMC OrderNo.: 1608H83

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/31/2016 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 qualifers 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 #NM0190

Sincerely,

Field Data - Provided by DBS&A (field notebook & e-mails):
8/31/16 - Rio Grande North
DO = 7.06 mg/L, pH = 9.03, Conductivity = 305 umhos/cm, and Temperature = 21.18 °C

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1608H83**
Date Reported: **9/6/2016**

CLIENT: AMAFCA
Project: CMC
Lab ID: 1608H83-001
Matrix: AQUEOUS
Client Sample ID: Rio Grande-North-0831-16
Collection Date: 8/31/2016 11:45:00 AM
Received Date: 8/31/2016 1:35:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	88.2	1.000		CFU/100ml	1	9/1/2016 4:31:00 PM	27292

Equivalent to MPN/100 mL

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **AMAFCA** Work Order Number: **1608H83** RcptNo: **1**

Received by/date: 08/31/16

Logged By: **Lindsay Mangin** **8/31/2016 1:35:00 PM**

Completed By: **Lindsay Mangin** **8/31/2016 2:39:04 PM**

Reviewed By: 08/31/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	Adjusted?
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

16. 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: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.7	Good	Not Present			

Chain-of-Custody Record

ent: AMAFCA

iling Address:

one #:

ail or Fax#: pchavez@AMAFCA.ORG

/QC Package:

Standard ☐ Level 4 (Full Validation)

creditation

NELAP ☐ Other

EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: CMC

Project #:

Project Manager: Patrick Chavez

Sampler: C. Johannesen - PDSA

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

ate	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1608H83	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)	E. Coli - Num				Air Bubbles (Y or N)
-16	1145	AQ	Rio Grande - North - 0831-16	1 poly		-001												X				

te:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
-10	1535			08/31/16	1335	
te:	Time:	Relinquished by:	Received by:	Date	Time	

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: www.hallenvironmental.com

September 13, 2016

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

RE: CMC OrderNo.: 1609289

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/7/2016 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 qualifers 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 #NM0190

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Data - Provided by DBS&A (field notebook & e-mails):
9/7/16 - Rio Grande North
DO = 7.29 mg/L, pH = 8.07, Conductivity = 319 umhos/cm, and Temperature = 21.19 °C

Analytical Report
Lab Order **1609289**
Date Reported: **9/13/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande North 090716
Project: CMC
Collection Date: 9/7/2016 1:00:00 PM
Lab ID: 1609289-001
Matrix: AQUEOUS
Received Date: 9/7/2016 3:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	82.0	1.000		CFU/100ml	1	9/8/2016 4:56:00 PM	27390

Equivalent to MPN/100 mL

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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Sample Log-In Check List

Client Name: **AMAFCA** Work Order Number: **1609289** RcptNo: **1**

Received by/date: LM 09/07/16

Logged By: **Ashley Gallegos** 9/7/2016 1:00:00 PM

Completed By: **Ashley Gallegos** 9/7/2016 3:02:19 PM

Reviewed By: JC 09/07/16 @ 1530

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. 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.			
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

16. 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: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	17.4	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

Email or Fax#: pchavez@amafca.org

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: C. Johannesen

On Ice: ☑ Yes ☐ No

Sample Temperature: 17.4

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.	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)	E. Coli - Num				Air Bubbles (Y or N)
9-16	1300	AQ	Rio Grande North-090716			1609289-001												X				

Relinquished by: Received by: Date 09/07/16 Time 1500

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.

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Hall Environmental Analysis Laboratory
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September 19, 2016

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

RE: CMC OrderNo.: 1609527

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/12/2016 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 qualifers 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 #NM0190

Sincerely,

Field Data - Provided by DBS&A (field notebook & e-mails):
9/12/16 - Rio Grande North
DO = 6.24 mg/L, pH = 8.53, Conductivity = 318 umhos/cm, and Temperature = 20.01°C

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1609527**
Date Reported: **9/19/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande North 091216
Project: CMC
Collection Date: 9/12/2016 11:00:00 AM
Lab ID: 1609527-001
Matrix: AQUEOUS
Received Date: 9/12/2016 1:10:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	55.6	1.000		CFU/100ml	1	9/13/2016 5:02:00 PM	27458

Equivalent to MPN/100 mL

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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Sample Log-In Check List

Client Name: **AMAFCA** Work Order Number: **1609527** RcptNo: **1**

Received by/date: AG 09/12/16
Logged By: **Lindsay Mangin** 9/12/2016 1:10:00 PM
Completed By: **Lindsay Mangin** 9/12/2016 1:35:49 PM
Reviewed By: AJS 09/12/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
5. 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.
6. Sample(s) in proper container(s)? Yes ☑ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
9. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
11. Were any sample containers received broken? Yes ☐ No ☑
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
14. Is it clear what analyses were requested? Yes ☑ No ☐
15. 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:

Special Handling (if applicable)

16. 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:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	7.0	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

email or Fax#: pchavez@amafca.org

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:

On Ice: ☒ Yes ☐ No

Sample Temperature: 7.0

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www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	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)	E. coli: - NUM				Air Bubbles (Y or N)
12-16	1100	AQ	Rio Grande-North-091216	1	HNO_3	1609527 -001												X				

Date	Time	Relinquished by:	Received by:	Date	Time
12-10	1310			09/12/16	1310
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.

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Hall Environmental Analysis Laboratory
4901 Hawkins NE
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Website: www.hallenvironmental.com

December 02, 2016

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

RE: CMC OrderNo.: 1609609

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/13/2016 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 18, 2016.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,<<>>



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Data - Provided by DBS&A (field notebook & e-mails):
9/12/16 - Rio Grande North
DO = 6.24 mg/L, pH = 8.53, Conductivity = 318 umhos/cm, and Temperature = 20.01°C
9/13/16 - Rio Grande South
DO = 6.32 mg/L, pH = 8.45, Conductivity = 412 umhos/cm, and Temperature = 18.7 °C

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Case Narrative

WO#: **1609609**
Date: **12/2/2016**

CLIENT: AMAFCA
Project: CMC

Analytical Notes Regarding EPA method 1668
The sample ID equivalents are listed below.
1609609-001G = Rio Grande-North 091216
1609609-002G = Rio Grande-South 091316

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609609-001B

Client Sample ID: Rio Grande-North 091216
Collection Date: 9/12/2016 11:00:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD						Analyst: **SMS**	
Biochemical Oxygen Demand	DO Depletion<2.0	2.0		mg/L	1	9/19/2016 12:12:00 PM	27487

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North 091216
Project: CMC
Collection Date: 9/12/2016 11:00:00 AM
Lab ID: 1609609-001D
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/13/2016 5:23:31 PM	R37171
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	9/13/2016 5:23:31 PM	R37171
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	201	20.0		mg/L	1	9/19/2016 11:25:00 AM	27539
SM 4500 NH3: AMMONIA						Analyst: **CJS**	
Nitrogen, Ammonia	ND	1.0		mg/L	1	10/4/2016 2:28:00 PM	R37673
TOTAL NITROGEN						Analyst: **SRM**	
Nitrogen, Total	ND	1.0		mg/L	1	10/6/2016 10:37:00 AM	R37732
SM4500-H+B: PH						Analyst: **JRR**	
pH	8.25	1.68	H	pH units	1	9/13/2016 2:02:43 PM	R37155
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.052	0.010		mg/L	1	9/27/2016 11:43:24 AM	27693
SM 4500 NORG C: TKN						Analyst: **CJS**	
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	10/3/2016 2:12:00 PM	27768
SM 2540D: TSS						Analyst: **KS**	
Suspended Solids	29	4.0		mg/L	1	9/16/2016 10:58:00 AM	27523

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609609-001E

Client Sample ID: Rio Grande-North 091216
Collection Date: 9/12/2016 11:00:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 1664A						Analyst: **tnc**	
N-Hexane Extractable Material	ND	9.4		mg/L	1	9/14/2016 9:45:00 AM	27492

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North 091216
Project: CMC
Collection Date: 9/12/2016 11:00:00 AM
Lab ID: 1609609-001F
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS						Analyst: **JLF**	
Copper	0.0024	0.0010		mg/L	1	9/30/2016 4:35:12 PM	C37623
Lead	ND	0.00050		mg/L	1	9/30/2016 4:35:12 PM	C37623
SM2340B: HARDNESS						Analyst: **MED**	
Hardness (As CaCO3)	130	6.6		mg/L	1	10/5/2016 12:00:00 PM	R37699
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Calcium	41	1.0		mg/L	1	10/4/2016 12:35:44 AM	D37643
Magnesium	6.7	1.0		mg/L	1	10/5/2016 8:28:16 PM	B37699

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609609-002A

Client Sample ID: Rio Grande-South 091316
Collection Date: 9/13/2016 7:15:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	959	10.00		CFU/100ml	10	9/14/2016 1:25:00 PM	27474

Equivalent to MPN/100 mL

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609609-002B

Client Sample ID: Rio Grande-South 091316
Collection Date: 9/13/2016 7:15:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD						Analyst: **SMS**	
Biochemical Oxygen Demand	DO Depletion<2.0	2.0		mg/L	1	9/19/2016 12:12:00 PM	27487

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-South 091316
Project: CMC
Collection Date: 9/13/2016 7:15:00 AM
Lab ID: 1609609-002D
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/13/2016 6:13:09 PM	R37171
Nitrogen, Nitrate (As N)	0.83	0.10		mg/L	1	9/13/2016 6:13:09 PM	R37171
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	288	40.0	D	mg/L	1	9/19/2016 11:25:00 AM	27539
SM 4500 NH3: AMMONIA						Analyst: **CJS**	
Nitrogen, Ammonia	ND	1.0		mg/L	1	10/4/2016 2:28:00 PM	R37673
TOTAL NITROGEN						Analyst: **SRM**	
Nitrogen, Total	ND	1.0		mg/L	1	10/6/2016 10:37:00 AM	R37732
SM4500-H+B: PH						Analyst: **JRR**	
pH	8.12	1.68	H	pH units	1	9/13/2016 2:06:57 PM	R37155
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.65	0.010		mg/L	1	9/27/2016 11:47:54 AM	27693
SM 4500 NORG C: TKN						Analyst: **CJS**	
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	10/3/2016 2:12:00 PM	27768
SM 2540D: TSS						Analyst: **KS**	
Suspended Solids	130	4.0		mg/L	1	9/16/2016 10:58:00 AM	27523

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609609-002E

Client Sample ID: Rio Grande-South 091316
Collection Date: 9/13/2016 7:15:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 1664A						Analyst: **tnc**	
N-Hexane Extractable Material	ND	11		mg/L	1	9/14/2016 9:45:00 AM	27492

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-South 091316
Project: CMC
Collection Date: 9/13/2016 7:15:00 AM
Lab ID: 1609609-002F
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS						Analyst: **JLF**	
Copper	0.0016	0.0010		mg/L	1	9/30/2016 4:38:16 PM	C37623
Lead	ND	0.00050		mg/L	1	9/30/2016 4:38:16 PM	C37623
SM2340B: HARDNESS						Analyst: **MED**	
Hardness (As CaCO3)	150	6.6		mg/L	1	10/5/2016 12:00:00 PM	R37699
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Calcium	46	1.0		mg/L	1	10/4/2016 12:39:56 AM	D37643
Magnesium	7.3	1.0		mg/L	1	10/5/2016 8:32:03 PM	B37699

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609609-003A

Client Sample ID: Rio Grande-North 091216 Filtere
Collection Date: 9/12/2016 11:00:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.018	0.010		mg/L	1	9/27/2016 11:49:24 AM	27693

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609609-004A

Client Sample ID: Rio Grande-South 091316 Filtere
Collection Date: 9/13/2016 7:15:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.50	0.010		mg/L	1	9/27/2016 11:50:54 AM	27693

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160915048
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609609
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160915048-001	**Sampling Date**	9/12/2016	**Date/Time Received**	9/15/2016 11:50 AM
Client Sample ID	1609609-001C / RIO GRANDE-NORTH 091216			**Sampling Time**	11:00 AM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	9/20/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 160915048-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	99.2	70-130
4-Bromofluorobenzene	EPA 8260C	99.2	70-130
Toluene-d8	EPA 8260C	102.0	70-130

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160915048
Address:	4901 HAWKINS NE SUITE D	**Project Name:**	1609609
	ALBUQUERQUE, NM 87109		
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160915048-004	**Sampling Date**	9/13/2016	**Date/Time Received**	9/15/2016 11:50 AM
Client Sample ID	1609609-002C / RIO GRANDE-SOUTH 091316			**Sampling Time**	7:15 AM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	9/20/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 160915048-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	98.0	70-130
4-Bromofluorobenzene	EPA 8260C	97.6	70-130
Toluene-d8	EPA 8260C	92.4	70-130

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160915048
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609609
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160915048-007	**Sampling Date**	9/13/2016	**Date/Time Received**	9/15/2016 11:50 AM
Client Sample ID	1609609-005A / TRIP BLANK			**Sampling Time**	
Matrix	Water				
Comments					

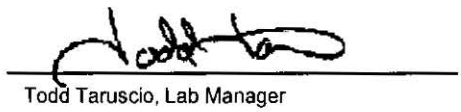
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	9/20/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 160915048-007

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	100.0	70-130
4-Bromofluorobenzene	EPA 8260C	99.6	70-130
Toluene-d8	EPA 8260C	99.2	70-130

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160915048
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609609
Attn:	ANDY FREEMAN		

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Tetrahydrofuran	11.4	ug/L	10	114.0	70-130	9/20/2016	9/20/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Tetrahydrofuran	ND	ug/L	0.5	9/20/2016	9/20/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160915048
Project Name: 1609609

Also tested with Method 1668 -results are included later in lab report

Analytical Results Report

Sample Number	160915048-002	**Sampling Date**	9/12/2016	**Date/Time Received**	9/15/2016	11:50 AM
Client Sample ID	1609609-001G / RIO GRANDE-NORTH 091216					
Matrix	Water	**Sampling Time**	11:00 AM	**Extraction Date**	9/19/2016	
Comments						

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.1	0.2	9/29/2016	MAH	EPA 608	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.1	0.2	9/29/2016	MAH	EPA 608	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.1	0.2	9/29/2016	MAH	EPA 608	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.1	0.2	9/29/2016	MAH	EPA 608	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.1	0.2	9/29/2016	MAH	EPA 608	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.1	0.2	9/29/2016	MAH	EPA 608	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.1	0.2	9/29/2016	MAH	EPA 608	
Dieldrin	ND	ug/L	0.003	0.01	9/29/2016	MAH	EPA 608	

Surrogate Data

Sample Number 160915048-002

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 608	97.2	30-130

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160915048
Project Name: 1609609

Also tested with Method 1668 -results are included later in lab report

Analytical Results Report

Sample Number	160915048-005	**Sampling Date**	9/13/2016	**Date/Time Received**	9/15/2016 11:50 AM
Client Sample ID	1609609-002G / RIO GRANDE-SOUTH 091316				
Matrix	Water	**Sampling Time**	7:15 AM	**Extraction Date**	9/20/2016
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.1	0.2	9/26/2016	MAH	EPA 608	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.1	0.2	9/26/2016	MAH	EPA 608	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.1	0.2	9/26/2016	MAH	EPA 608	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.1	0.2	9/26/2016	MAH	EPA 608	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.1	0.2	9/26/2016	MAH	EPA 608	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.1	0.2	9/26/2016	MAH	EPA 608	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.1	0.2	9/26/2016	MAH	EPA 608	
Dieldrin	ND	ug/L	0.003	0.01	9/26/2016	MAH	EPA 608	

Surrogate Data

Sample Number 160915048-005

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 608	71.2	30-130

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160915048
Project Name: 1609609

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dieldrin	0.420	ug/L	0.5	84.0	30-130	9/20/2016	9/26/2016
Aroclor 1260 (PCB-1260)	5.03	ug/L	5	100.6	50-130	9/20/2016	9/26/2016
Aroclor 1016 (PCB-1016)	4.79	ug/L	5	95.8	50-130	9/20/2016	9/26/2016
Dieldrin	0.472	ug/L	0.5	94.4	30-130	9/19/2016	9/28/2016
Aroclor 1260 (PCB-1260)	6.16	ug/L	5	123.2	50-130	9/19/2016	9/28/2016
Aroclor 1016 (PCB-1016)	4.73	ug/L	5	94.6	50-130	9/19/2016	9/28/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
160915048-005	Dieldrin	ND	0.420	ug/L	0.5	84.0	30-150	9/20/2016	9/26/2016
160915048-002	Dieldrin	ND	0.508	ug/L	0.5	101.6	30-150	9/19/2016	9/28/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dieldrin	0.420	ug/L	0.5	84.0	0.0	0-30	9/20/2016	9/26/2016
Dieldrin	0.485	ug/L	0.5	97.0	4.6	0-30	9/19/2016	9/28/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aroclor 1016 (PCB-1016)	ND	ug/L	0.2	9/20/2016	9/26/2016
Aroclor 1016 (PCB-1016)	ND	ug/L	0.2	9/19/2016	9/28/2016
Aroclor 1221 (PCB-1221)	ND	ug/L	0.2	9/19/2016	9/28/2016
Aroclor 1221 (PCB-1221)	ND	ug/L	0.2	9/20/2016	9/26/2016
Aroclor 1232 (PCB-1232)	ND	ug/L	0.2	9/19/2016	9/28/2016
Aroclor 1232 (PCB-1232)	ND	ug/L	0.2	9/20/2016	9/26/2016
Aroclor 1242 (PCB-1242)	ND	ug/L	0.2	9/20/2016	9/26/2016
Aroclor 1242 (PCB-1242)	ND	ug/L	0.2	9/19/2016	9/28/2016
Aroclor 1248 (PCB-1248)	ND	ug/L	0.2	9/20/2016	9/26/2016
Aroclor 1248 (PCB-1248)	ND	ug/L	0.2	9/19/2016	9/28/2016
Aroclor 1254 (PCB-1254)	ND	ug/L	0.2	9/19/2016	9/28/2016
Aroclor 1254 (PCB-1254)	ND	ug/L	0.2	9/20/2016	9/26/2016

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160915048
Address:	4901 HAWKINS NE SUITE D	**Project Name:**	1609609
	ALBUQUERQUE, NM 87109		
Attn:	ANDY FREEMAN		

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aroclor 1260 (PCB-1260)	ND	ug/L	0.2	9/19/2016	9/28/2016
Aroclor 1260 (PCB-1260)	ND	ug/L	0.2	9/20/2016	9/26/2016
Dieldrin	ND	ug/L	0.01	9/20/2016	9/26/2016
Dieldrin	ND	ug/L	0.01	9/19/2016	9/28/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013, MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160915048
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609609
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160915048-002	**Sampling Date**	9/12/2016	**Date/Time Received**	9/15/2016	11:50 AM
Client Sample ID	1609609-001G / RIO GRANDE-NORTH 091216			**Extraction Date**	9/19/2016	
Matrix	Water	**Sampling Time**	11:00 AM			
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Benzo[a]anthracene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Benzo[a]pyrene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Benzo[b]fluoranthene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Benzo[k]fluoranthene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Chrysene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Dibenz[a,h]anthracene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Dibenzofuran	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Pentachlorophenol	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	

Surrogate Data

Sample Number 160915048-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 625	78.8	53-122
2-Fluorobiphenyl	EPA 625	90.0	12-116
2-Fluorophenol	EPA 625	56.2	10-139
Nitrobenzene-d5	EPA 625	92.8	54-118
Phenol-d5	EPA 625	65.6	28-154
Terphenyl-d14	EPA 625	83.6	20-137

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160915048
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609609
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160915048-005	**Sampling Date**	9/13/2016	**Date/Time Received**	9/15/2016	11:50 AM
Client Sample ID	1609609-002G / RIO GRANDE-SOUTH 091316			**Extraction Date**	9/19/2016	
Matrix	Water	**Sampling Time**	7:15 AM			
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Benzo[a]anthracene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Benzo[a]pyrene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Benzo[b]fluoranthene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Benzo[k]fluoranthene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Chrysene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Dibenz[a,h]anthracene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Dibenzofuran	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	
Pentachlorophenol	ND	ug/L	0.5	9/23/2016	HSW	EPA 625	

Surrogate Data

Sample Number 160915048-005

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 625	89.0	53-122
2-Fluorobiphenyl	EPA 625	94.4	12-116
2-Fluorophenol	EPA 625	63.2	10-139
Nitrobenzene-d5	EPA 625	94.4	54-118
Phenol-d5	EPA 625	76.0	28-154
Terphenyl-d14	EPA 625	81.2	20-137

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160915048
Project Name: 1609609

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pentachlorophenol	3.59	ug/L	5	71.8	22-138	9/19/2016	9/23/2016
bis(2-Ethylhexyl)phthalate	5.47	ug/L	5	109.4	43-148	9/19/2016	9/23/2016

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pentachlorophenol	4.19	ug/L	5	83.8	15.4	0-47	9/19/2016	9/23/2016
bis(2-Ethylhexyl)phthalate	5.11	ug/L	5	102.2	6.8	0-50	9/19/2016	9/23/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzidine	ND	ug/L	0.5	9/19/2016	9/23/2016
Benzo[a]anthracene	ND	ug/L	0.5	9/19/2016	9/23/2016
Benzo[a]pyrene	ND	ug/L	0.5	9/19/2016	9/23/2016
Benzo[b]fluoranthene	ND	ug/L	0.5	9/19/2016	9/23/2016
Benzo[k]fluoranthene	ND	ug/L	0.5	9/19/2016	9/23/2016
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	9/19/2016	9/23/2016
Chrysene	ND	ug/L	0.5	9/19/2016	9/23/2016
Dibenz[a,h]anthracene	ND	ug/L	0.5	9/19/2016	9/23/2016
Dibenzofuran	ND	ug/L	0.5	9/19/2016	9/23/2016
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	9/19/2016	9/23/2016
Pentachlorophenol	ND	ug/L	0.5	9/19/2016	9/23/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160915048
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609609
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160915048-003	**Sampling Date**	9/12/2016	**Date/Time Received**	9/15/2016 11:50 AM
Client Sample ID	1609609-001I / RIO GRANDE-NORTH 091216			**Sampling Time**	11:00 AM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	12.3	mg/L	5	9/20/2016 1:30:00 PM	JDB	EPA 410.4	

Sample Number	160915048-006	**Sampling Date**	9/13/2016	**Date/Time Received**	9/15/2016 11:50 AM
Client Sample ID	1609609-002I / RIO GRANDE-SOUTH 091316			**Sampling Time**	7:15 AM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	18.6	mg/L	5	9/20/2016 1:30:00 PM	JDB	EPA 410.4	

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160915048
Project Name: 1609609

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
COD	100	mg/L	100	100.0	90-110	9/20/2016	9/20/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
160908039-002	COD	<5	105	mg/L	100	105.0	80-120	9/20/2016	9/20/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	101	mg/L	100	101.0	3.9	0-15	9/20/2016	9/20/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
COD	<5	mg/L	5	9/20/2016	9/20/2016

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
160908039-004	COD	<5	<5	mg/L	0.0	0-20	9/20/2016	9/20/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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	09/21/2016 10:04	WG909188

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	09/21/2016 10:15	WG909188

Method Blank (MB)

(MB) R3165101-1 09/21/16 08:20

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

L859362-02 Original Sample (OS) • Duplicate (DUP)

(OS) L859362-02 09/21/16 09:13 • (DUP) R3165101-4 09/21/16 09:21

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

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3165101-2 09/21/16 08:29 • (LCSD) R3165101-3 09/21/16 08:37

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Hexavalent Chromium	0.00200	0.00198	0.00199	99.0	100	90.0-110			0.000	20

L860098-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L860098-02 09/21/16 10:31 • (MS) R3165101-5 09/21/16 10:40 • (MSD) R3165101-6 09/21/16 10:48

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Hexavalent Chromium	0.0500	ND	0.0514	0.0507	103	101	1	90.0-110			1.00	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
Rec.	Recovery.

Qualifier	Description

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1609609
Pace Project No.: 30196687

Rio Grande North

Sample: 1609609-001J **Lab ID: 30196687001** Collected: 09/12/16 11:00 Received: 09/21/16 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Sample Acceptance Policy Waiver on file from the client.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**2.32 ± 1.47 (1.84) C:NA T:NA**	pCi/L	10/14/16 08:15	12587-46-1	

Rio Grande South

Sample: 1609609-002J **Lab ID: 30196687002** Collected: 09/13/16 07:15 Received: 09/21/16 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**6.16 ± 2.62 (2.53) C:NA T:NA**	pCi/L	10/14/16 08:15	12587-46-1	

REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1609609
Pace Project No.: 30196687

QC Batch: 236514 Analysis Method: EPA 900.0
QC Batch Method: EPA 900.0 Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 30196687001, 30196687002

METHOD BLANK: 1161992 Matrix: Water
Associated Lab Samples: 30196687001, 30196687002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	-0.388 ± 0.644 (1.98) C:NA T:NA	pCi/L	10/14/16 08:04	

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

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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 1609609
Pace Project No.: 30196687

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.

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.

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: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(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.

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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

November 18, 2016

Ms. Jodey Kougioulis
New Mexico Environment Department
121 Tijeras Avenue NE
Suite 1000
Albuquerque, New Mexico 87102

Re: HiSol PCB's and Dioxins
Work Order: 9998
SDG: 1609609_1609C98

Dear Ms. Kougioulis:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 28, 2016. 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

Enclosures

problem solved

WO# 9998

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Company Name: HALL ENVIRONMENTAL	Project Manager: ANDY FREEMAN
Address: 4901 HAWKINS NE SUITE D	Project Name & # :
City: ALBUQUERQUE State: NM Zip: 87109	Email Address : andy@hallenvironmental.com
Phone: (505) 345-3975	Purchase Order #:
Fax: (505) 345-4107	Sampler Name & phone:

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

✓ Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
× Mail
× Fax
× Email

Provide Sample Description / **List Analyses Requested** / **Note Special Instructions/Comments**

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	PCB EPA1668
	1609609-001G	9/12/16 11:00am	WATER	1	1L	×
	1609609-002G	9/13/16 7:15am	WATER	1	1L	×
	1609C98-001G	9/21/16 12:15pm	WATER	1	1L	×
	1609C98-002G	9/22/16 11:00am	WATER	1	1L	×

CALL ANDY FREEMAN @ HALL ENVIRONMENTAL WITH QUESTIONS

REPORT AND BILL TO HALL ENVIRONMENTAL

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature (°C): 10.2°C
Preservative:
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	Travis Hrcare		Anatek	10/27/16	11:45
Received by	Melissa O'Donnio		CFA	28Oct16	14:15
Relinquished by		MJO 28Oct16			
Received by					
Relinquished by					
Received by					

10.2°C

MJD 28Oct16

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: ~~HALL~~ NMED	Work Order: 9998
Shipping Company: Fed Ex	Date/Time Received: 28Oct2016 14:15

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?	MJD		
Samples < 2x background?	MJD		

* Notify RSO of any responses in this column immediately.

MJD 28Oct16

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	Chain of Custody documents included with shipment?	✓			
3	Samples requiring cold preservation within 0-6°C?			✓	Preservation Method: ice bags blue ice dry ice none other (describe) 10.2° C
4	Aqueous samples found to have visible solids?	✓			Sample IDs, containers affected: c/i all samples
5	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: pH=7 for all samples If preservative added, Lot#:
6	Samples requiring preservation have no residual chlorine?	✓			Sample IDs, containers affected: If preservative added, Lot#:
7	Samples received within holding time?	✓			Sample IDs, tests affected:
8	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
9	Date & time of COC match date & time on containers?	✓			Sample IDs, containers affected:
10	Number of containers received match number indicated on COC?	✓			List type and number of containers / Sample IDs, containers affected: 1-1L WMA each
11	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: MJD Date: 28Oct2016

CF-UD-F-7

Subject: RE: 1609609_1609C98
From: Anne Thorne <anne@hallenvironmental.com>
Date: 11/7/2016 9:36 AM
To: Cynde Larkins <cynde.larkins@cfanalytical.com>

Good morning Cynde

Please proceed with analysis.

at

From: Cynde Larkins [mailto:cynde.larkins@cfanalytical.com]
Sent: Friday, November 04, 2016 8:41 PM
To: Anne Thorne <anne@hallenvironmental.com>
Cc: Melissa O'Dorisio <mel00770@cfanalytical.com>
Subject: 1609609_1609C98

Anne,

The samples for 1609609_1609C98 were received at a temperature of 10.2°C. Do we have your permission to proceed with extraction and analysis?

Thanks,

--

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

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PCB Congeners Analysis

Case Narrative

PCBC Case Narrative
New Mexico Environment Department (NMED)
SDG 1609609_1609C98
Work Order 9998

Method/Analysis Information

Product:	**PCB Congeners Method 1668A High Solids Prep for Liquids**
Analytical Method:	EPA Method 1668A HS
Extraction Method:	SW846 3520C, 3540C
Analytical Batch Number:	33209
Clean Up Batch Number:	33208
Extraction Batch Number:	33207

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA Method 1668A HS:

Sample ID	Client ID
9998001	1609609-001G
9998002	1609609-002G
9998003	1609C98-001G
9998004	1609C98-002G
12017259	Method Blank (MB)
12017260	Laboratory Control Sample (LCS)
12017261	Laboratory Control Sample Duplicate (LCSD)

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# 6.

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
Several surrogates recovered above the acceptance limits, however all native analytes still met acceptance criteria. 12017261 (LCSD).

Several surrogates recovered below the acceptance limits. Recovery issues may be matrix-related, as all other samples in the batch had acceptable recoveries. No further sample was available for re-extraction, therefore the data is reported. 9998001 (1609609-001G), 9998002 (1609609-002G), 9998003 (1609C98-001G) and 9998004 (1609C98-002G).

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

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
HRP791_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

Qualifier Definition Report
for

NMED001 New Mexico Environment Department

Client SDG: 1609609_1609C98 CFA Work Order: 9998

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
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.
h Preparation or preservation holding time was exceeded

DL Indicates that sample is diluted.
RA Indicates that sample is re-analyzed without re-extraction.
RE Indicates that sample is re-extracted.

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: Heather Patterson **Name: Heather Patterson**

Date: 18 NOV 2016 **Title: Group Leader**

Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1	BJ	21.1	17.3	pg/L	8.14	49.3
2051-61-8	PCB-2	J	15.7	12.8	pg/L	7.50	49.3
2051-62-9	PCB-3	J	22.5	19.9	pg/L	7.37	49.3
13029-08-8	PCB-4	J	46.5	37.3	pg/L	13.4	49.3
16605-91-7	PCB-5	U	8.19	8.19	pg/L	8.19	49.3
25569-80-6	PCB-6	J	12.2	8.12	pg/L	5.97	49.3
33284-50-3	PCB-7	U	6.76	6.76	pg/L	6.76	49.3
34883-43-7	PCB-8	BJ	38.5	34.7	pg/L	5.43	49.3
34883-39-1	PCB-9	U	6.71	6.71	pg/L	6.71	24.7
33146-45-1	PCB-10	U	4.56	4.56	pg/L	4.56	24.7
2050-67-1	PCB-11	B	808	803	pg/L	7.08	49.3
PCB-12/13	PCB-12/PCB-13	CU	7.35	7.35	pg/L	7.35	49.3
34883-41-5	PCB-14	U	6.61	6.61	pg/L	6.61	49.3
2050-68-2	PCB-15	J	40.1	34.9	pg/L	6.88	49.3
38444-78-9	PCB-16	J	10.1	6.84	pg/L	3.87	24.7
37680-66-3	PCB-17	BJ	11.8	8.62	pg/L	3.28	24.7
PCB-18/30	PCB-18/PCB-30	BCJ	25.2	22.8	pg/L	2.74	49.3
38444-73-4	PCB-19	J	23.3	19.8	pg/L	8.93	24.7
PCB-20/28	PCB-20/PCB-28	BCJ	46.9	44.5	pg/L	2.42	49.3
PCB-21/33	PCB-21/PCB-33	BCJ	22.6	20.4	pg/L	2.37	49.3
38444-85-8	PCB-22	J	17.1	14.6	pg/L	2.66	24.7
55720-44-0	PCB-23	U	2.44	2.44	pg/L	2.44	24.7
55702-45-9	PCB-24	U	2.52	2.52	pg/L	2.52	24.7
55712-37-3	PCB-25	U	2.32	2.32	pg/L	2.32	24.7
PCB-26/29	PCB-26/PCB-29	CJ	8.39	6.21	pg/L	2.24	49.3
38444-76-7	PCB-27	U	4.12	2.32	pg/L	2.32	24.7
16606-02-3	PCB-31		34.2	32.2	pg/L	2.20	24.7
38444-77-8	PCB-32	J	6.36	4.48	pg/L	2.12	24.7
37680-68-5	PCB-34	U	2.34	2.34	pg/L	2.34	24.7
37680-69-6	PCB-35	BJ	9.13	6.03	pg/L	4.61	49.3
38444-87-0	PCB-36	U	4.09	4.09	pg/L	4.09	24.7
38444-90-5	PCB-37	BJ	12.4	9.3	pg/L	4.22	24.7

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
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
53555-66-1	PCB-38	U	4.17	4.17	pg/L	4.17	24.7
38444-88-1	PCB-39	U	4.29	4.29	pg/L	4.29	24.7
PCB-40/71	PCB-40/PCB-71	CU	5.23	2.44	pg/L	2.44	49.3
52663-59-9	PCB-41	U	3.6	3.6	pg/L	3.60	49.3
36559-22-5	PCB-42	U	3.01	3.01	pg/L	3.01	49.3
70362-46-8	PCB-43	U	3.38	3.38	pg/L	3.38	49.3
PCB-44/47/65	PCB-44/PCB-65/PCB-47	CJ	21.0	17.8	pg/L	2.61	74.0
PCB-45/51	PCB-45/PCB-51	BCJ	4.76	1.58	pg/L	1.41	49.3
41464-47-5	PCB-46	U	1.65	1.48	pg/L	1.48	24.7
70362-47-9	PCB-48	U	3.77	2.91	pg/L	2.91	24.7
PCB-49/69	PCB-49/PCB-69	BCJ	9.64	6.81	pg/L	2.44	49.3
PCB-50/53	PCB-50/PCB-53	BCU	2.66	1.31	pg/L	1.31	49.3
35693-99-3	PCB-52	J	23.1	19.9	pg/L	2.64	24.7
15968-05-5	PCB-54	U	5.72	5.72	pg/L	5.72	24.7
74338-24-2	PCB-55	U	2.15	2.15	pg/L	2.15	24.7
41464-43-1	PCB-56	BJK	6.34	3.13	pg/L	2.29	24.7
70424-67-8	PCB-57	U	1.9	1.9	pg/L	1.90	24.7
41464-49-7	PCB-58	U	2.1	2.1	pg/L	2.10	24.7
PCB-59/62/75	PCB-59/PCB-62/PCB-75	CU	2.07	2.07	pg/L	2.07	74.0
33025-41-1	PCB-60	U	4.27	2.15	pg/L	2.15	24.7
PCB-61-76	PCB-61/PCB-70/PCB-74/PCB-76	BCJ	25.0	22.2	pg/L	2.02	98.7
74472-34-7	PCB-63	U	1.8	1.8	pg/L	1.80	24.7
52663-58-8	PCB-64	J	6.29	3.61	pg/L	2.22	24.7
32598-10-0	PCB-66	BJ	11.7	8.89	pg/L	1.92	24.7
73575-53-8	PCB-67	U	1.7	1.7	pg/L	1.70	24.7
73575-52-7	PCB-68	KU	2.07	1.87	pg/L	1.87	24.7
41464-42-0	PCB-72	U	1.8	1.8	pg/L	1.80	24.7
74338-23-1	PCB-73	U	2.2	2.2	pg/L	2.20	24.7
32598-13-3	PCB-77	U	1.78	1.78	pg/L	1.78	24.7
70362-49-1	PCB-78	U	2.05	2.05	pg/L	2.05	24.7
41464-48-6	PCB-79	U	1.73	1.73	pg/L	1.73	24.7
33284-52-5	PCB-80	U	1.75	1.75	pg/L	1.75	24.7

Comments:

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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
70362-50-4	PCB-81	U	1.8	1.8	pg/L	1.80	24.7
52663-62-4	PCB-82	U	2.12	2.12	pg/L	2.12	24.7
60145-20-2	PCB-83	U	2.2	2.2	pg/L	2.20	24.7
52663-60-2	PCB-84	U	2.76	2.07	pg/L	2.07	24.7
PCB-85-117	PCB-85/PCB-116/PCB-117	CU	1.95	1.6	pg/L	1.60	74.0
PCB-86-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-	BCJ	8.21	5.1	pg/L	1.70	148
PCB-88/91	PCB-88/PCB-91	CU	2	2	pg/L	2.00	49.3
73575-57-2	PCB-89	U	1.97	1.97	pg/L	1.97	24.7
PCB-90-113	PCB-90/PCB-101/PCB-113	BCJ	8.26	5.21	pg/L	1.68	74.0
52663-61-3	PCB-92	U	1.9	1.9	pg/L	1.90	24.7
PCB-93/100	PCB-93/PCB-100	CU	2	2	pg/L	2.00	49.3
73575-55-0	PCB-94	U	2.2	2.2	pg/L	2.20	24.7
38379-99-6	PCB-95	BJ	5.85	2.77	pg/L	1.78	24.7
73575-54-9	PCB-96	U	.863	.863	pg/L	0.863	24.7
PCB-98/102	PCB-98/PCB-102	CU	2.05	2.05	pg/L	2.05	49.3
38380-01-7	PCB-99	BU	3.77	1.97	pg/L	1.97	24.7
60145-21-3	PCB-103	U	1.7	1.7	pg/L	1.70	24.7
56558-16-8	PCB-104	U	4.04	4.04	pg/L	4.04	24.7
32598-14-4	PCB-105	U	2.49	1.58	pg/L	1.58	24.7
70424-69-0	PCB-106	U	1.53	1.53	pg/L	1.53	24.7
70424-68-9	PCB-107	U	1.5	1.5	pg/L	1.50	24.7
PCB-108/124	PCB-108/PCB-124	CU	1.68	1.68	pg/L	1.68	49.3
PCB-110/115	PCB-110/PCB-115	BCJ	7.55	4.57	pg/L	1.60	49.3
39635-32-0	PCB-111	U	1.5	1.5	pg/L	1.50	24.7
74472-36-9	PCB-112	U	1.31	1.31	pg/L	1.31	24.7
74472-37-0	PCB-114	U	1.65	1.65	pg/L	1.65	24.7
31508-00-6	PCB-118	BU	4.41	1.53	pg/L	1.53	24.7
68194-12-7	PCB-120	U	1.26	1.26	pg/L	1.26	24.7
56558-18-0	PCB-121	U	1.53	1.53	pg/L	1.53	24.7
76842-07-4	PCB-122	U	1.7	1.7	pg/L	1.70	24.7
65510-44-3	PCB-123	U	1.6	1.6	pg/L	1.60	24.7
57465-28-8	PCB-126	U	1.7	1.7	pg/L	1.70	24.7

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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
39635-33-1	PCB-127	U	1.63	1.63	pg/L	1.63	24.7
PCB-128/166	PCB-128/PCB-166	CU	1.48	1.48	pg/L	1.48	49.3
PCB-129-163	PCB-129/PCB-138/PCB-163	BCJ	6.56	2.34	pg/L	1.68	74.0
52663-66-8	PCB-130	U	1.8	1.8	pg/L	1.80	24.7
61798-70-7	PCB-131	U	2.12	2.12	pg/L	2.12	24.7
38380-05-1	PCB-132	BKU	2.17	1.95	pg/L	1.95	24.7
35694-04-3	PCB-133	U	1.73	1.73	pg/L	1.73	24.7
52704-70-8	PCB-134	U	2.2	2.2	pg/L	2.20	24.7
PCB-135/151	PCB-135/PCB-151	BCU	2.66	1.06	pg/L	1.06	49.3
38411-22-2	PCB-136	BU	1.23	.765	pg/L	0.765	24.7
35694-06-5	PCB-137	U	1.9	1.9	pg/L	1.90	24.7
PCB-139/140	PCB-139/PCB-140	CU	1.63	1.63	pg/L	1.63	49.3
52712-04-6	PCB-141	U	1.55	1.55	pg/L	1.55	24.7
41411-61-4	PCB-142	U	1.8	1.8	pg/L	1.80	24.7
68194-15-0	PCB-143	U	1.65	1.65	pg/L	1.65	24.7
68194-14-9	PCB-144	U	.937	.937	pg/L	0.937	24.7
74472-40-5	PCB-145	U	.863	.863	pg/L	0.863	24.7
51908-16-8	PCB-146	U	1.31	1.31	pg/L	1.31	24.7
PCB-147/149	PCB-147/PCB-149	BCU	4.88	1.6	pg/L	1.60	49.3
74472-41-6	PCB-148	U	1.01	1.01	pg/L	1.01	24.7
68194-08-1	PCB-150	U	.839	.839	pg/L	0.839	24.7
68194-09-2	PCB-152	U	.765	.765	pg/L	0.765	24.7
PCB-153/168	PCB-153/PCB-168	BCU	4.88	1.38	pg/L	1.38	49.3
60145-22-4	PCB-154	U	.839	.839	pg/L	0.839	24.7
33979-03-2	PCB-155	U	1.26	1.26	pg/L	1.26	24.7
PCB-156/157	PCB-156/PCB-157	BCKU	1.28	1.09	pg/L	1.09	49.3
74472-42-7	PCB-158	U	1.13	1.13	pg/L	1.13	24.7
39635-35-3	PCB-159	U	.863	.863	pg/L	0.863	24.7
41411-62-5	PCB-160	U	1.41	1.41	pg/L	1.41	24.7
74472-43-8	PCB-161	U	1.21	1.21	pg/L	1.21	24.7
39635-34-2	PCB-162	U	.937	.937	pg/L	0.937	24.7
74472-45-0	PCB-164	U	1.18	1.18	pg/L	1.18	24.7

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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-46-1	PCB-165	U	1.5	1.5	pg/L	1.50	24.7
52663-72-6	PCB-167	U	.814	.814	pg/L	0.814	24.7
32774-16-6	PCB-169	U	.913	.913	pg/L	0.913	24.7
35065-30-6	PCB-170	BU	1.31	1.09	pg/L	1.09	24.7
PCB-171/173	PCB-171/PCB-173	CU	1.09	1.09	pg/L	1.09	49.3
52663-74-8	PCB-172	U	1.11	1.11	pg/L	1.11	24.7
38411-25-5	PCB-174	BU	1.95	1.04	pg/L	1.04	24.7
40186-70-7	PCB-175	U	.913	.913	pg/L	0.913	24.7
52663-65-7	PCB-176	U	.715	.715	pg/L	0.715	24.7
52663-70-4	PCB-177	BU	1.28	1.11	pg/L	1.11	24.7
52663-67-9	PCB-178	U	.962	.962	pg/L	0.962	24.7
52663-64-6	PCB-179	BKU	1.06	.715	pg/L	0.715	24.7
PCB-180/193	PCB-180/PCB-193	CU	.962	.962	pg/L	0.962	49.3
74472-47-2	PCB-181	U	1.13	1.13	pg/L	1.13	24.7
60145-23-5	PCB-182	U	.888	.888	pg/L	0.888	24.7
PCB-183/185	PCB-183/PCB-185	BCU	1.87	1.04	pg/L	1.04	49.3
74472-48-3	PCB-184	U	.715	.715	pg/L	0.715	24.7
74472-49-4	PCB-186	U	.789	.789	pg/L	0.789	24.7
52663-68-0	PCB-187	BU	2.42	.937	pg/L	0.937	24.7
74487-85-7	PCB-188	U	.814	.814	pg/L	0.814	24.7
39635-31-9	PCB-189	U	.962	.962	pg/L	0.962	24.7
41411-64-7	PCB-190	U	.814	.814	pg/L	0.814	24.7
74472-50-7	PCB-191	U	.814	.814	pg/L	0.814	24.7
74472-51-8	PCB-192	U	.962	.962	pg/L	0.962	24.7
35694-08-7	PCB-194	BU	1.78	.814	pg/L	0.814	24.7
52663-78-2	PCB-195	U	.863	.863	pg/L	0.863	24.7
42740-50-1	PCB-196	U	1.04	.863	pg/L	0.863	24.7
PCB-197/200	PCB-197/PCB-200	CU	.715	.715	pg/L	0.715	49.3
PCB-198/199	PCB-198/PCB-199	BCU	2.07	.913	pg/L	0.913	49.3
40186-71-8	PCB-201	U	.666	.666	pg/L	0.666	24.7
2136-99-4	PCB-202	U	.715	.715	pg/L	0.715	24.7
52663-76-0	PCB-203	BU	0.913	.888	pg/L	0.888	24.7

Comments:

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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-52-9	PCB-204	U	.691	.691	pg/L	0.691	24.7
74472-53-0	PCB-205	U	.691	.691	pg/L	0.691	24.7
40186-72-9	PCB-206	U	.913	.913	pg/L	0.913	24.7
52663-79-3	PCB-207	U	.666	.666	pg/L	0.666	24.7
52663-77-1	PCB-208	U	.691	.691	pg/L	0.691	24.7
2051-24-3	PCB-209	BU	2.32	.839	pg/L	0.839	24.7
27323-18-8	Total monoCB		59.4	50	pg/L		
25512-42-9	Total diCB		945	918	pg/L		
25323-68-6	Total triCB		232	196	pg/L		
26914-33-0	Total tetraCB		119	80.8	pg/L		
25429-29-2	Total pentaCB		45.3	17.6	pg/L		
26601-64-9	Total hexaCB		20.2	2.34	pg/L		
28655-71-2	Total heptaCB	U	8.83	0	pg/L		
55722-26-4	Total octaCB	U	5.80	0	pg/L		
53742-07-7	Total nonaCB	U	0	0	pg/L		
DECACB(Tot)	Total decaCB	U	2.32	0	pg/L		
1336-36-3	Total PCB		1440	1260	pg/L		
TEQ 7	TOTAL (TEQ ND=1/2 DL)_2005		0.0994		pg/L		
TEQ 8	TOTAL (TEQ ND=0)_2005		0.000207		pg/L		

=0.0014 ug/L

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-1-MoCB		278	2470	pg/L	11.3	*	(15%-150%)
13C-3-MoCB		302	2470	pg/L	12.3	*	(15%-150%)
13C-4-DiCB		282	2470	pg/L	11.4	*	(25%-150%)
13C-15-DiCB		787	2470	pg/L	31.9		(25%-150%)
13C-19-TrCB		379	2470	pg/L	15.4	*	(25%-150%)
13C-37-TrCB		1030	2470	pg/L	41.7		(25%-150%)
13C-54-TeCB		182	2470	pg/L	7.40	*	(25%-150%)
13C-77-TeCB		2010	2470	pg/L	81.6		(25%-150%)
13C-81-TeCB		1870	2470	pg/L	75.6		(25%-150%)
13C-104-PeCB		243	2470	pg/L	9.85	*	(25%-150%)
13C-105-PeCB		1770	2470	pg/L	71.9		(25%-150%)
13C-114-PeCB		1620	2470	pg/L	65.7		(25%-150%)
13C-118-PeCB		1690	2470	pg/L	68.4		(25%-150%)
13C-123-PeCB		1670	2470	pg/L	67.9		(25%-150%)
13C-126-PeCB		1920	2470	pg/L	78.0		(25%-150%)
13C-155-HxCB		705	2470	pg/L	28.6		(25%-150%)
13C-156-HxCB	C	3470	4930	pg/L	70.4		(25%-150%)
13C-167-HxCB		1780	2470	pg/L	72.0		(25%-150%)
13C-169-HxCB		1820	2470	pg/L	73.8		(25%-150%)
13C-188-HpCB		1570	2470	pg/L	63.5		(25%-150%)
13C-189-HpCB		1950	2470	pg/L	79.1		(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1930	2470	pg/L	78.4	(25%-150%)
13C-205-OcCB		2210	2470	pg/L	89.7	(25%-150%)
13C-206-NoCB		2170	2470	pg/L	88.1	(25%-150%)
13C-208-NoCB		2050	2470	pg/L	83.0	(25%-150%)
13C-209-DeCB		2220	2470	pg/L	89.8	(25%-150%)
13C-28-TrCB		1520	2470	pg/L	61.7	(30%-135%)
13C-111-PeCB		2020	2470	pg/L	81.8	(30%-135%)
13C-178-HpCB		2070	2470	pg/L	84.0	(30%-135%)

Comments:

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J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1	BJ	21.3	17.5	pg/L	8.95	51.4
2051-61-8	PCB-2	J	15.1	12.2	pg/L	8.56	51.4
2051-62-9	PCB-3	J	15.3	12.6	pg/L	8.72	51.4
13029-08-8	PCB-4	J	48.3	39.2	pg/L	12.5	51.4
16605-91-7	PCB-5	C	9.08	9.08	pg/L	9.08	51.4
25569-80-6	PCB-6	J	12.7	8.62	pg/L	6.61	51.4
33284-50-3	PCB-7	U	7.51	7.51	pg/L	7.51	51.4
34883-43-7	PCB-8	BJ	36.7	33	pg/L	6.02	51.4
34883-39-1	PCB-9	U	7.43	7.43	pg/L	7.43	25.7
33146-45-1	PCB-10	U	4.27	4.27	pg/L	4.27	25.7
2050-67-1	PCB-11	B	863	859	pg/L	7.84	51.4
PCB-12/13	PCB-12/PCB-13	CU	8.15	8.15	pg/L	8.15	51.4
34883-41-5	PCB-14	U	7.33	7.33	pg/L	7.33	51.4
2050-68-2	PCB-15	BJ	34.1	28.8	pg/L	7.79	51.4
38444-78-9	PCB-16	J	10.6	7.35	pg/L	3.39	25.7
37680-66-3	PCB-17	BJ	14.0	10.8	pg/L	2.88	25.7
PCB-18/30	PCB-18/PCB-30	BCJ	26.8	24.5	pg/L	2.39	51.4
38444-73-4	PCB-19	J	11.6	8.1	pg/L	7.74	25.7
PCB-20/28	PCB-20/PCB-28	BCJ	51.9	49.6	pg/L	2.11	51.4
PCB-21/33	PCB-21/PCB-33	BCJ	21.3	19.2	pg/L	2.08	51.4
38444-85-8	PCB-22	J	18.0	15.5	pg/L	2.31	25.7
55720-44-0	PCB-23	U	2.13	2.13	pg/L	2.13	25.7
55702-45-9	PCB-24	U	2.21	2.21	pg/L	2.21	25.7
55712-37-3	PCB-25	U	2.03	2.03	pg/L	2.03	25.7
PCB-26/29	PCB-26/PCB-29	CJ	8.00	5.82	pg/L	1.98	51.4
38444-76-7	PCB-27	U	2.03	2.03	pg/L	2.03	25.7
16606-02-3	PCB-31		36.1	34.1	pg/L	1.93	25.7
38444-77-8	PCB-32	J	7.17	5.29	pg/L	1.88	25.7
37680-68-5	PCB-34	U	2.06	2.06	pg/L	2.06	25.7
37680-69-6	PCB-35	BJ	9.85	6.75	pg/L	5.50	51.4
38444-87-0	PCB-36	U	4.91	4.91	pg/L	4.91	25.7
38444-90-5	PCB-37	BJ	17.8	14.8	pg/L	5.12	25.7

Comments:

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
53555-66-1	PCB-38	U	4.99	4.99	pg/L	4.99	25.7
38444-88-1	PCB-39	U	5.12	5.12	pg/L	5.12	25.7
PCB-40/71	PCB-40/PCB-71	CJ	7.82	4.58	pg/L	2.06	51.4
52663-59-9	PCB-41	U	3.01	3.01	pg/L	3.01	51.4
36559-22-5	PCB-42	J	7.64	3.95	pg/L	2.52	51.4
70362-46-8	PCB-43	U	2.83	2.83	pg/L	2.83	51.4
PCB-44/47/65	PCB-44/PCB-65/PCB-47	CU	2.19	2.19	pg/L	2.19	77.1
PCB-45/51	PCB-45/PCB-51	BCJ	5.50	2.32	pg/L	1.34	51.4
41464-47-5	PCB-46	U	1.41	1.41	pg/L	1.41	25.7
70362-47-9	PCB-48	U	5.35	2.42	pg/L	2.42	25.7
PCB-49/69	PCB-49/PCB-69	BCJ	15.3	12.5	pg/L	2.06	51.4
PCB-50/53	PCB-50/PCB-53	BCU	3.11	1.26	pg/L	1.26	51.4
35693-99-3	PCB-52		42.1	38.9	pg/L	2.21	25.7
15968-05-5	PCB-54	U	5.14	5.14	pg/L	5.14	25.7
74338-24-2	PCB-55	U	1.83	1.83	pg/L	1.83	25.7
41464-43-1	PCB-56	BJ	12.2	8.96	pg/L	1.98	25.7
70424-67-8	PCB-57	U	1.62	1.62	pg/L	1.62	25.7
41464-49-7	PCB-58	U	1.88	1.8	pg/L	1.80	25.7
PCB-59/62/75	PCB-59/PCB-62/PCB-75	CU	2.78	1.72	pg/L	1.72	77.1
33025-41-1	PCB-60	J	7.64	4.5	pg/L	1.85	25.7
PCB-61-76	PCB-61/PCB-70/PCB-74/PCB-76	BCJ	50.3	47.5	pg/L	1.75	103
74472-34-7	PCB-63	U	1.54	1.54	pg/L	1.54	25.7
52663-58-8	PCB-64	J	11.3	8.61	pg/L	1.85	25.7
32598-10-0	PCB-66	BJ	22.8	20	pg/L	1.65	25.7
73575-53-8	PCB-67	U	1.47	1.47	pg/L	1.47	25.7
73575-52-7	PCB-68	U	1.62	1.62	pg/L	1.62	25.7
41464-42-0	PCB-72	U	1.54	1.54	pg/L	1.54	25.7
74338-23-1	PCB-73	U	1.83	1.83	pg/L	1.83	25.7
32598-13-3	PCB-77	BU	3.88	1.54	pg/L	1.54	25.7
70362-49-1	PCB-78	U	1.75	1.75	pg/L	1.75	25.7
41464-48-6	PCB-79	U	1.49	1.49	pg/L	1.49	25.7
33284-52-5	PCB-80	U	1.52	1.52	pg/L	1.52	25.7

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
70362-50-4	PCB-81	U	1.57	1.57	pg/L	1.57	25.7
52663-62-4	PCB-82	U	4.83	2.7	pg/L	2.70	25.7
60145-20-2	PCB-83	U	2.8	2.8	pg/L	2.80	25.7
52663-60-2	PCB-84	J	9.51	5.51	pg/L	2.62	25.7
PCB-85-117	PCB-85/PCB-116/PCB-117	CJ	8.18	5	pg/L	2.03	77.1
PCB-86-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-	CJ	32.3	29.2	pg/L	2.19	154
PCB-88/91	PCB-88/PCB-91	CU	5.25	2.52	pg/L	2.52	51.4
73575-57-2	PCB-89	U	2.49	2.49	pg/L	2.49	25.7
PCB-90-113	PCB-90/PCB-101/PCB-113	CJ	52.5	49.5	pg/L	2.13	77.1
52663-61-3	PCB-92	J	8.90	5.4	pg/L	2.39	25.7
PCB-93/100	PCB-93/PCB-100	CU	2.52	2.52	pg/L	2.52	51.4
73575-55-0	PCB-94	U	2.78	2.78	pg/L	2.78	25.7
38379-99-6	PCB-95		31.8	28.8	pg/L	2.26	25.7
73575-54-9	PCB-96	U	.746	.746	pg/L	0.746	25.7
PCB-98/102	PCB-98/PCB-102	CU	2.6	2.6	pg/L	2.60	51.4
38380-01-7	PCB-99	J	18.9	15.4	pg/L	2.52	25.7
60145-21-3	PCB-103	U	2.16	2.16	pg/L	2.16	25.7
56558-16-8	PCB-104	U	3.34	3.34	pg/L	3.34	25.7
32598-14-4	PCB-105	J	15.0	11.4	pg/L	1.77	25.7
70424-69-0	PCB-106	U	1.72	1.72	pg/L	1.72	25.7
70424-68-9	PCB-107	U	3.39	1.67	pg/L	1.67	25.7
PCB-108/124	PCB-108/PCB-124	CU	2.60	1.88	pg/L	1.88	51.4
PCB-110/115	PCB-110/PCB-115	C	65.4	62.4	pg/L	2.03	51.4
39635-32-0	PCB-111	U	1.9	1.9	pg/L	1.90	25.7
74472-36-9	PCB-112	U	1.67	1.67	pg/L	1.67	25.7
74472-37-0	PCB-114	U	1.88	1.88	pg/L	1.88	25.7
31508-00-6	PCB-118		34.4	31.1	pg/L	1.67	25.7
68194-12-7	PCB-120	U	1.62	1.62	pg/L	1.62	25.7
56558-18-0	PCB-121	U	1.93	1.93	pg/L	1.93	25.7
76842-07-4	PCB-122	U	1.9	1.9	pg/L	1.90	25.7
65510-44-3	PCB-123	U	1.77	1.77	pg/L	1.77	25.7
57465-28-8	PCB-126	U	1.93	1.93	pg/L	1.93	25.7

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
39635-33-1	PCB-127	U	1.83	1.83	pg/L	1.83	25.7
PCB-128/166	PCB-128/PCB-166	CJ	11.8	7.84	pg/L	1.29	51.4
PCB-129-163	PCB-129/PCB-138/PCB-163	C	138	134	pg/L	1.47	77.1
52663-66-8	PCB-130	U	5.45	1.59	pg/L	1.59	25.7
61798-70-7	PCB-131	U	1.85	1.85	pg/L	1.85	25.7
38380-05-1	PCB-132		35.5	30	pg/L	1.70	25.7
35694-04-3	PCB-133	U	1.52	1.52	pg/L	1.52	25.7
52704-70-8	PCB-134	U	4.91	1.93	pg/L	1.93	25.7
PCB-135/151	PCB-135/PCB-151	CJ	41.5	36	pg/L	1.08	51.4
38411-22-2	PCB-136	J	12.7	9.08	pg/L	0.797	25.7
35694-06-5	PCB-137	U	3.11	1.67	pg/L	1.67	25.7
PCB-139/140	PCB-139/PCB-140	CU	1.41	1.41	pg/L	1.41	51.4
52712-04-6	PCB-141	J	24.8	19.7	pg/L	1.36	25.7
41411-61-4	PCB-142	U	1.57	1.57	pg/L	1.57	25.7
68194-15-0	PCB-143	U	1.44	1.44	pg/L	1.44	25.7
68194-14-9	PCB-144	U	5.37	.977	pg/L	0.977	25.7
74472-40-5	PCB-145	U	.9	.9	pg/L	0.900	25.7
51908-16-8	PCB-146	J	14.4	10.1	pg/L	1.13	25.7
PCB-147/149	PCB-147/PCB-149	C	95.5	90.8	pg/L	1.41	51.4
74472-41-6	PCB-148	U	1.03	1.03	pg/L	1.03	25.7
68194-08-1	PCB-150	U	.849	.849	pg/L	0.849	25.7
68194-09-2	PCB-152	U	.771	.771	pg/L	0.771	25.7
PCB-153/168	PCB-153/PCB-168	C	116	112	pg/L	1.21	51.4
60145-22-4	PCB-154	KU	1.31	.849	pg/L	0.849	25.7
33979-03-2	PCB-155	U	1.21	1.21	pg/L	1.21	25.7
PCB-156/157	PCB-156/PCB-157	BCJ	9.36	4.44	pg/L	1.44	51.4
74472-42-7	PCB-158	J	11.3	7.75	pg/L	1.00	25.7
39635-35-3	PCB-159	U	1.13	1.13	pg/L	1.13	25.7
41411-62-5	PCB-160	U	1.23	1.23	pg/L	1.23	25.7
74472-43-8	PCB-161	U	1.05	1.05	pg/L	1.05	25.7
39635-34-2	PCB-162	U	1.23	1.23	pg/L	1.23	25.7
74472-45-0	PCB-164	J	8.49	4.74	pg/L	1.03	25.7

Comments:

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-46-1	PCB-165	U	1.31	1.31	pg/L	1.31	25.7
52663-72-6	PCB-167	BU	4.50	1.11	pg/L	1.11	25.7
32774-16-6	PCB-169	U	1.18	1.18	pg/L	1.18	25.7
35065-30-6	PCB-170		46.6	42.4	pg/L	1.34	25.7
PCB-171/173	PCB-171/PCB-173	CJ	14.9	10.4	pg/L	1.34	51.4
52663-74-8	PCB-172	J	9.36	5.01	pg/L	1.36	25.7
38411-25-5	PCB-174		49.8	45.2	pg/L	1.26	25.7
40186-70-7	PCB-175	U	2.39	.9	pg/L	0.900	25.7
52663-65-7	PCB-176	J	5.37	1.56	pg/L	0.694	25.7
52663-70-4	PCB-177	J	29.8	25.4	pg/L	1.36	25.7
52663-67-9	PCB-178	J	10.2	5.01	pg/L	0.951	25.7
52663-64-6	PCB-179	J	18.0	14.1	pg/L	0.694	25.7
PCB-180/193	PCB-180/PCB-193	CU	1.16	1.16	pg/L	1.16	51.4
74472-47-2	PCB-181	U	1.39	1.39	pg/L	1.39	25.7
60145-23-5	PCB-182	U	.9	.9	pg/L	0.900	25.7
PCB-183/185	PCB-183/PCB-185	CJ	34.7	30.7	pg/L	1.29	51.4
74472-48-3	PCB-184	U	.72	.72	pg/L	0.720	25.7
74472-49-4	PCB-186	U	.797	.797	pg/L	0.797	25.7
52663-68-0	PCB-187		63.4	58.4	pg/L	0.951	25.7
74487-85-7	PCB-188	U	.797	.797	pg/L	0.797	25.7
39635-31-9	PCB-189	BU	2.34	.977	pg/L	0.977	25.7
41411-64-7	PCB-190	J	10.2	7.03	pg/L	1.00	25.7
74472-50-7	PCB-191	U	1.90	.977	pg/L	0.977	25.7
74472-51-8	PCB-192	U	1.18	1.18	pg/L	1.18	25.7
35694-08-7	PCB-194	J	20.8	16.5	pg/L	0.771	25.7
52663-78-2	PCB-195	J	9.44	4.8	pg/L	0.849	25.7
42740-50-1	PCB-196	J	11.5	6.04	pg/L	1.08	25.7
PCB-197/200	PCB-197/PCB-200	CU	4.11	.9	pg/L	0.900	51.4
PCB-198/199	PCB-198/PCB-199	CJ	24.3	18.4	pg/L	1.16	51.4
40186-71-8	PCB-201	U	2.93	.849	pg/L	0.849	25.7
2136-99-4	PCB-202	U	4.63	.926	pg/L	0.926	25.7
52663-76-0	PCB-203	J	15.0	9.46	pg/L	1.11	25.7

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
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL	
74472-52-9	PCB-204	U	.874	.874	pg/L	0.874	25.7	
74472-53-0	PCB-205	BU	1.57	.669	pg/L	0.669	25.7	
40186-72-9	PCB-206	U	6.53	1.21	pg/L	1.21	25.7	
52663-79-3	PCB-207	U	1.34	.9	pg/L	0.900	25.7	
52663-77-1	PCB-208	U	1.83	.951	pg/L	0.951	25.7	
2051-24-3	PCB-209	BU	2.96	.926	pg/L	0.926	25.7	
27323-18-8	Total monoCB		51.7	42.3	pg/L			
25512-42-9	Total diCB		995	968	pg/L			
25323-68-6	Total triCB		233	202	pg/L			
26914-33-0	Total tetraCB		200	152	pg/L			
25429-29-2	Total pentaCB		293	244	pg/L			
26601-64-9	Total hexaCB		543	466	pg/L			
28655-71-2	Total heptaCB		299	245	pg/L			
55722-26-4	Total octaCB		94.3	55.2	pg/L			
53742-07-7	Total nonaCB	U	9.69	0	pg/L			
DECACB(Tot)	Total decaCB	U	2.96	0	pg/L			
1336-36-3	Total PCB		2720	2370	pg/L			=0.0027 ug/L
TEQ 7	TOTAL (TEQ ND=1/2 DL)_2005		0.117		pg/L			
TEQ 8	TOTAL (TEQ ND=0)_2005		0.00235		pg/L			

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-1-MoCB		296	2570	pg/L	11.5	*	(15%-150%)
13C-3-MoCB		325	2570	pg/L	12.7	*	(15%-150%)
13C-4-DiCB		307	2570	pg/L	11.9	*	(25%-150%)
13C-15-DiCB		927	2570	pg/L	36.0		(25%-150%)
13C-19-TrCB		452	2570	pg/L	17.6	*	(25%-150%)
13C-37-TrCB		1180	2570	pg/L	46.1		(25%-150%)
13C-54-TeCB		216	2570	pg/L	8.41	*	(25%-150%)
13C-77-TeCB		2310	2570	pg/L	89.8		(25%-150%)
13C-81-TeCB		2150	2570	pg/L	83.6		(25%-150%)
13C-104-PeCB		310	2570	pg/L	12.1	*	(25%-150%)
13C-105-PeCB		2040	2570	pg/L	79.2		(25%-150%)
13C-114-PeCB		1870	2570	pg/L	72.5		(25%-150%)
13C-118-PeCB		1930	2570	pg/L	75.2		(25%-150%)
13C-123-PeCB		1930	2570	pg/L	75.2		(25%-150%)
13C-126-PeCB		2170	2570	pg/L	84.4		(25%-150%)
13C-155-HxCB		849	2570	pg/L	33.0		(25%-150%)
13C-156-HxCB	C	3800	5140	pg/L	73.9		(25%-150%)
13C-167-HxCB		1950	2570	pg/L	75.9		(25%-150%)
13C-169-HxCB		1990	2570	pg/L	77.4		(25%-150%)
13C-188-HpCB		1760	2570	pg/L	68.4		(25%-150%)
13C-189-HpCB		2130	2570	pg/L	82.9		(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		2100	2570	pg/L	81.7	(25%-150%)
13C-205-OcCB		2400	2570	pg/L	93.4	(25%-150%)
13C-206-NoCB		2320	2570	pg/L	90.4	(25%-150%)
13C-208-NoCB		2210	2570	pg/L	86.0	(25%-150%)
13C-209-DeCB		2370	2570	pg/L	92.1	(25%-150%)
13C-28-TrCB		1640	2570	pg/L	63.8	(30%-135%)
13C-111-PeCB		2210	2570	pg/L	86.0	(30%-135%)
13C-178-HpCB		2240	2570	pg/L	87.1	(30%-135%)

Comments:

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K Estimated Maximum Possible Concentration
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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998003	**Date Collected:**	09/21/2016 12:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 08:19	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-5			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	852.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1	BJ	26.9	23.1	pg/L	8.65	46.9
2051-61-8	PCB-2	U	8.14	8.14	pg/L	8.14	46.9
2051-62-9	PCB-3	J	18.4	15.7	pg/L	8.16	46.9
13029-08-8	PCB-4	J	44.9	35.7	pg/L	12.8	46.9
16605-91-7	PCB-5	U	9.15	9.15	pg/L	9.15	46.9
25569-80-6	PCB-6	JK	13.5	9.35	pg/L	6.66	46.9
33284-50-3	PCB-7	U	7.55	7.55	pg/L	7.55	46.9
34883-43-7	PCB-8	BJ	36.0	32.2	pg/L	6.05	46.9
34883-39-1	PCB-9	U	7.48	7.48	pg/L	7.48	23.4
33146-45-1	PCB-10	U	4.34	4.34	pg/L	4.34	23.4
2050-67-1	PCB-11	B	852	847	pg/L	7.90	46.9
PCB-12/13	PCB-12/PCB-13	CU	8.21	8.21	pg/L	8.21	46.9
34883-41-5	PCB-14	U	7.36	7.36	pg/L	7.36	46.9
2050-68-2	PCB-15	J	44.9	39.7	pg/L	7.81	46.9
38444-78-9	PCB-16	J	10.2	6.96	pg/L	3.85	23.4
37680-66-3	PCB-17	BJ	13.8	10.6	pg/L	3.26	23.4
PCB-18/30	PCB-18/PCB-30	BCJ	27.6	25.3	pg/L	2.72	46.9
38444-73-4	PCB-19	JK	26.5	23	pg/L	8.86	23.4
PCB-20/28	PCB-20/PCB-28	BC	49.6	47.2	pg/L	2.39	46.9
PCB-21/33	PCB-21/PCB-33	BCJ	23.0	20.8	pg/L	2.34	46.9
38444-85-8	PCB-22	J	18.6	16.1	pg/L	2.65	23.4
55720-44-0	PCB-23	U	2.42	2.42	pg/L	2.42	23.4
55702-45-9	PCB-24	U	2.51	2.51	pg/L	2.51	23.4
55712-37-3	PCB-25	U	2.3	2.3	pg/L	2.30	23.4
PCB-26/29	PCB-26/PCB-29	CJ	8.11	5.94	pg/L	2.25	46.9
38444-76-7	PCB-27	U	3.87	2.32	pg/L	2.32	23.4
16606-02-3	PCB-31	U	2.2	2.2	pg/L	2.20	23.4
38444-77-8	PCB-32	J	6.54	4.66	pg/L	2.11	23.4
37680-68-5	PCB-34	U	2.32	2.32	pg/L	2.32	23.4
37680-69-6	PCB-35	BU	7.81	4.99	pg/L	4.99	46.9
38444-87-0	PCB-36	U	4.43	4.43	pg/L	4.43	23.4
38444-90-5	PCB-37	BJ	14.5	11.5	pg/L	4.57	23.4

Comments:

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1609609_1609C98**	**Client:**	**NMED001**	**Project:**	**NMED00113**
Lab Sample ID:	**9998003**	**Date Collected:**	**09/21/2016 12:15**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**10/28/2016 14:15**		
Client ID:	**1609C98-001G**			**Prep Basis:**	**As Received**
Batch ID:	**33209**	**Method:**	**EPA Method 1668A HS**		
Run Date:	**11/10/2016 08:19**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09nov16a_2-5**			**Dilution:**	**1**
Prep Batch:	**33207**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-NOV-16**	**Prep Aliquot:**	**852.9 mL**		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
53555-66-1	PCB-38	U	4.53	4.53	pg/L	4.53	23.4
38444-88-1	PCB-39	U	4.64	4.64	pg/L	4.64	23.4
PCB-40/71	PCB-40/PCB-71	CJ	5.49	2.25	pg/L	1.69	46.9
52663-59-9	PCB-41	U	2.49	2.49	pg/L	2.49	46.9
36559-22-5	PCB-42	U	4.41	2.06	pg/L	2.06	46.9
70362-46-8	PCB-43	U	2.34	2.34	pg/L	2.34	46.9
PCB-44/47/65	PCB-44/PCB-65/PCB-47	CJ	24.3	21.1	pg/L	1.81	70.3
PCB-45/51	PCB-45/PCB-51	BCJ	4.99	1.82	pg/L	1.24	46.9
41464-47-5	PCB-46	U	1.31	1.31	pg/L	1.31	23.4
70362-47-9	PCB-48	U	3.66	1.99	pg/L	1.99	23.4
PCB-49/69	PCB-49/PCB-69	BCJ	9.36	6.52	pg/L	1.69	46.9
PCB-50/53	PCB-50/PCB-53	BCU	1.83	1.17	pg/L	1.17	46.9
35693-99-3	PCB-52	J	23.4	20.2	pg/L	1.83	23.4
15968-05-5	PCB-54	U	5.49	5.49	pg/L	5.49	23.4
74338-24-2	PCB-55	U	1.59	1.59	pg/L	1.59	23.4
41464-43-1	PCB-56	BJ	7.08	3.88	pg/L	1.71	23.4
70424-67-8	PCB-57	U	1.41	1.41	pg/L	1.41	23.4
41464-49-7	PCB-58	U	1.57	1.57	pg/L	1.57	23.4
PCB-59/62/75	PCB-59/PCB-62/PCB-75	CU	1.43	1.43	pg/L	1.43	70.3
33025-41-1	PCB-60	U	3.68	1.59	pg/L	1.59	23.4
PCB-61-76	PCB-61/PCB-70/PCB-74/PCB-76	BCJ	28.8	26	pg/L	1.52	93.8
74472-34-7	PCB-63	U	1.34	1.34	pg/L	1.34	23.4
52663-58-8	PCB-64	J	6.68	4.01	pg/L	1.52	23.4
32598-10-0	PCB-66	BJ	13.2	10.5	pg/L	1.43	23.4
73575-53-8	PCB-67	U	1.27	1.27	pg/L	1.27	23.4
73575-52-7	PCB-68	U	2.09	1.41	pg/L	1.41	23.4
41464-42-0	PCB-72	U	1.36	1.36	pg/L	1.36	23.4
74338-23-1	PCB-73	U	1.52	1.52	pg/L	1.52	23.4
32598-13-3	PCB-77	BKU	1.66	1.29	pg/L	1.29	23.4
70362-49-1	PCB-78	U	1.52	1.52	pg/L	1.52	23.4
41464-48-6	PCB-79	U	1.29	1.29	pg/L	1.29	23.4
33284-52-5	PCB-80	U	1.31	1.31	pg/L	1.31	23.4

Comments:

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K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998003	**Date Collected:**	09/21/2016 12:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 08:19	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-5			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	852.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
70362-50-4	PCB-81	U	1.38	1.38	pg/L	1.38	23.4
52663-62-4	PCB-82	U	1.78	1.5	pg/L	1.50	23.4
60145-20-2	PCB-83	U	1.57	1.57	pg/L	1.57	23.4
52663-60-2	PCB-84	U	3.26	1.48	pg/L	1.48	23.4
PCB-85-117	PCB-85/PCB-116/PCB-117	CU	1.45	1.15	pg/L	1.15	70.3
PCB-86-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-	BCJ	8.14	5.02	pg/L	1.22	141
PCB-88/91	PCB-88/PCB-91	CU	1.85	1.41	pg/L	1.41	46.9
73575-57-2	PCB-89	U	1.41	1.41	pg/L	1.41	23.4
PCB-90-113	PCB-90/PCB-101/PCB-113	BCJ	11.4	8.32	pg/L	1.20	70.3
52663-61-3	PCB-92	U	2.02	1.34	pg/L	1.34	23.4
PCB-93/100	PCB-93/PCB-100	CU	1.41	1.41	pg/L	1.41	46.9
73575-55-0	PCB-94	U	1.55	1.55	pg/L	1.55	23.4
38379-99-6	PCB-95	BJ	8.56	5.48	pg/L	1.27	23.4
73575-54-9	PCB-96	U	.633	.633	pg/L	0.633	23.4
PCB-98/102	PCB-98/PCB-102	CU	1.45	1.45	pg/L	1.45	46.9
38380-01-7	PCB-99	BU	4.83	1.41	pg/L	1.41	23.4
60145-21-3	PCB-103	U	1.22	1.22	pg/L	1.22	23.4
56558-16-8	PCB-104	U	5.02	5.02	pg/L	5.02	23.4
32598-14-4	PCB-105	U	3.63	1.57	pg/L	1.57	23.4
70424-69-0	PCB-106	U	1.59	1.59	pg/L	1.59	23.4
70424-68-9	PCB-107	U	1.57	1.57	pg/L	1.57	23.4
PCB-108/124	PCB-108/PCB-124	CU	1.76	1.76	pg/L	1.76	46.9
PCB-110/115	PCB-110/PCB-115	BCJ	12.7	9.71	pg/L	1.15	46.9
39635-32-0	PCB-111	U	1.08	1.08	pg/L	1.08	23.4
74472-36-9	PCB-112	U	.938	.938	pg/L	0.938	23.4
74472-37-0	PCB-114	U	1.71	1.71	pg/L	1.71	23.4
31508-00-6	PCB-118	BJ	8.00	4.77	pg/L	1.57	23.4
68194-12-7	PCB-120	U	.891	.891	pg/L	0.891	23.4
56558-18-0	PCB-121	U	1.08	1.08	pg/L	1.08	23.4
76842-07-4	PCB-122	U	1.81	1.81	pg/L	1.81	23.4
65510-44-3	PCB-123	U	1.69	1.69	pg/L	1.69	23.4
57465-28-8	PCB-126	U	1.62	1.62	pg/L	1.62	23.4

Comments:

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1609609_1609C98**	**Client:**	**NMED001**	**Project:**	**NMED00113**
Lab Sample ID:	**9998003**	**Date Collected:**	**09/21/2016 12:15**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**10/28/2016 14:15**		
Client ID:	**1609C98-001G**			**Prep Basis:**	**As Received**
Batch ID:	**33209**	**Method:**	**EPA Method 1668A HS**		
Run Date:	**11/10/2016 08:19**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09nov16a_2-5**			**Dilution:**	**1**
Prep Batch:	**33207**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-NOV-16**	**Prep Aliquot:**	**852.9 mL**		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
39635-33-1	PCB-127	U	1.71	1.71	pg/L	1.71	23.4
PCB-128/166	PCB-128/PCB-166	CU	1.45	1.34	pg/L	1.34	46.9
PCB-129-163	PCB-129/PCB-138/PCB-163	BCJ	9.07	4.86	pg/L	1.52	70.3
52663-66-8	PCB-130	U	1.64	1.64	pg/L	1.64	23.4
61798-70-7	PCB-131	U	1.92	1.92	pg/L	1.92	23.4
38380-05-1	PCB-132	BU	2.81	1.76	pg/L	1.76	23.4
35694-04-3	PCB-133	U	1.57	1.57	pg/L	1.57	23.4
52704-70-8	PCB-134	U	1.99	1.99	pg/L	1.99	23.4
PCB-135/151	PCB-135/PCB-151	BCU	3.21	.868	pg/L	0.868	46.9
38411-22-2	PCB-136	BU	1.34	.633	pg/L	0.633	23.4
35694-06-5	PCB-137	U	1.71	1.71	pg/L	1.71	23.4
PCB-139/140	PCB-139/PCB-140	CU	1.48	1.48	pg/L	1.48	46.9
52712-04-6	PCB-141	KU	1.62	1.41	pg/L	1.41	23.4
41411-61-4	PCB-142	U	1.64	1.64	pg/L	1.64	23.4
68194-15-0	PCB-143	U	1.5	1.5	pg/L	1.50	23.4
68194-14-9	PCB-144	U	0.844	.774	pg/L	0.774	23.4
74472-40-5	PCB-145	U	.727	.727	pg/L	0.727	23.4
51908-16-8	PCB-146	U	1.17	1.17	pg/L	1.17	23.4
PCB-147/149	PCB-147/PCB-149	BCJ	6.43	1.74	pg/L	1.45	46.9
74472-41-6	PCB-148	U	.844	.844	pg/L	0.844	23.4
68194-08-1	PCB-150	U	.68	.68	pg/L	0.680	23.4
68194-09-2	PCB-152	U	.61	.61	pg/L	0.610	23.4
PCB-153/168	PCB-153/PCB-168	BCJ	7.13	3.43	pg/L	1.24	46.9
60145-22-4	PCB-154	U	.68	.68	pg/L	0.680	23.4
33979-03-2	PCB-155	U	1.55	1.55	pg/L	1.55	23.4
PCB-156/157	PCB-156/PCB-157	BCU	1.22	1.03	pg/L	1.03	46.9
74472-42-7	PCB-158	U	1.03	1.03	pg/L	1.03	23.4
39635-35-3	PCB-159	U	.868	.868	pg/L	0.868	23.4
41411-62-5	PCB-160	U	1.27	1.27	pg/L	1.27	23.4
74472-43-8	PCB-161	U	1.08	1.08	pg/L	1.08	23.4
39635-34-2	PCB-162	U	.938	.938	pg/L	0.938	23.4
74472-45-0	PCB-164	U	1.08	1.08	pg/L	1.08	23.4

Comments:

B The target analyte was detected in the associated blank.
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U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998003	**Date Collected:**	09/21/2016 12:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 08:19	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-5			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	852.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-46-1	PCB-165	U	1.36	1.36	pg/L	1.36	23.4
52663-72-6	PCB-167	U	.774	.774	pg/L	0.774	23.4
32774-16-6	PCB-169	U	.844	.844	pg/L	0.844	23.4
35065-30-6	PCB-170	BU	1.83	1.15	pg/L	1.15	23.4
PCB-171/173	PCB-171/PCB-173	CU	1.15	1.15	pg/L	1.15	46.9
52663-74-8	PCB-172	U	1.17	1.17	pg/L	1.17	23.4
38411-25-5	PCB-174	BU	2.44	1.08	pg/L	1.08	23.4
40186-70-7	PCB-175	U	.821	.821	pg/L	0.821	23.4
52663-65-7	PCB-176	U	.633	.633	pg/L	0.633	23.4
52663-70-4	PCB-177	BU	1.27	1.15	pg/L	1.15	23.4
52663-67-9	PCB-178	U	.868	.868	pg/L	0.868	23.4
52663-64-6	PCB-179	BU	1.03	.633	pg/L	0.633	23.4
PCB-180/193	PCB-180/PCB-193	CU	.985	.985	pg/L	0.985	46.9
74472-47-2	PCB-181	U	1.2	1.2	pg/L	1.20	23.4
60145-23-5	PCB-182	U	.821	.821	pg/L	0.821	23.4
PCB-183/185	PCB-183/PCB-185	BCU	1.95	1.1	pg/L	1.10	46.9
74472-48-3	PCB-184	U	.657	.657	pg/L	0.657	23.4
74472-49-4	PCB-186	U	.727	.727	pg/L	0.727	23.4
52663-68-0	PCB-187	BU	3.02	.868	pg/L	0.868	23.4
74487-85-7	PCB-188	U	.774	.774	pg/L	0.774	23.4
39635-31-9	PCB-189	U	.844	.844	pg/L	0.844	23.4
41411-64-7	PCB-190	U	.868	.868	pg/L	0.868	23.4
74472-50-7	PCB-191	U	.844	.844	pg/L	0.844	23.4
74472-51-8	PCB-192	U	1.01	1.01	pg/L	1.01	23.4
35694-08-7	PCB-194	BU	1.10	.68	pg/L	0.680	23.4
52663-78-2	PCB-195	U	.727	.727	pg/L	0.727	23.4
42740-50-1	PCB-196	U	.68	.68	pg/L	0.680	23.4
PCB-197/200	PCB-197/PCB-200	CU	.563	.563	pg/L	0.563	46.9
PCB-198/199	PCB-198/PCB-199	BCU	1.13	.75	pg/L	0.750	46.9
40186-71-8	PCB-201	U	.539	.539	pg/L	0.539	23.4
2136-99-4	PCB-202	U	.586	.586	pg/L	0.586	23.4
52663-76-0	PCB-203	BU	0.961	.703	pg/L	0.703	23.4

Comments:

B The target analyte was detected in the associated blank.
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K Estimated Maximum Possible Concentration
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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1609609_1609C98**	**Client:**	**NMED001**	**Project:**	**NMED00113**
Lab Sample ID:	**9998003**	**Date Collected:**	**09/21/2016 12:15**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**10/28/2016 14:15**		
Client ID:	**1609C98-001G**			**Prep Basis:**	**As Received**
Batch ID:	**33209**	**Method:**	**EPA Method 1668A HS**		
Run Date:	**11/10/2016 08:19**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09nov16a_2-5**			**Dilution:**	**1**
Prep Batch:	**33207**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-NOV-16**	**Prep Aliquot:**	**852.9 mL**		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-52-9	PCB-204	U	.563	.563	pg/L	0.563	23.4
74472-53-0	PCB-205	U	.563	.563	pg/L	0.563	23.4
40186-72-9	PCB-206	U	.797	.797	pg/L	0.797	23.4
52663-79-3	PCB-207	U	.586	.586	pg/L	0.586	23.4
52663-77-1	PCB-208	U	.633	.633	pg/L	0.633	23.4
2051-24-3	PCB-209	BU	1.78	.703	pg/L	0.703	23.4
27323-18-8	Total monoCB		45.3	38.8	pg/L		
25512-42-9	Total diCB		978	955	pg/L		
25323-68-6	Total triCB		184	149	pg/L		
26914-33-0	Total tetraCB		139	96.2	pg/L		
25429-29-2	Total pentaCB		67.6	33.3	pg/L		
26601-64-9	Total hexaCB		33.5	10	pg/L		
28655-71-2	Total heptaCB	U	11.5	0	pg/L		
55722-26-4	Total octaCB	U	3.19	0	pg/L		
53742-07-7	Total nonaCB	U	0	0	pg/L		
DECACB(Tot)	Total decaCB	U	1.78	0	pg/L		
1336-36-3	Total PCB		1460	1280	pg/L		
TEQ 7	TOTAL (TEQ ND=1/2 DL)_2005		0.0943		pg/L		
TEQ 8	TOTAL (TEQ ND=0)_2005		0.000386		pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-1-MoCB		230	2340	pg/L	9.80	*	(15%-150%)
13C-3-MoCB		262	2340	pg/L	11.2	*	(15%-150%)
13C-4-DiCB		240	2340	pg/L	10.2	*	(25%-150%)
13C-15-DiCB		710	2340	pg/L	30.3		(25%-150%)
13C-19-TrCB		336	2340	pg/L	14.3	*	(25%-150%)
13C-37-TrCB		839	2340	pg/L	35.8		(25%-150%)
13C-54-TeCB		150	2340	pg/L	6.41	*	(25%-150%)
13C-77-TeCB		1860	2340	pg/L	79.4		(25%-150%)
13C-81-TeCB		1650	2340	pg/L	70.6		(25%-150%)
13C-104-PeCB		138	2340	pg/L	5.91	*	(25%-150%)
13C-105-PeCB		1680	2340	pg/L	71.8		(25%-150%)
13C-114-PeCB		1470	2340	pg/L	62.6		(25%-150%)
13C-118-PeCB		1540	2340	pg/L	65.6		(25%-150%)
13C-123-PeCB		1510	2340	pg/L	64.4		(25%-150%)
13C-126-PeCB		1890	2340	pg/L	80.6		(25%-150%)
13C-155-HxCB		452	2340	pg/L	19.3	*	(25%-150%)
13C-156-HxCB	C	3350	4690	pg/L	71.5		(25%-150%)
13C-167-HxCB		1690	2340	pg/L	72.0		(25%-150%)
13C-169-HxCB		1790	2340	pg/L	76.1		(25%-150%)
13C-188-HpCB		1340	2340	pg/L	57.1		(25%-150%)
13C-189-HpCB		1920	2340	pg/L	81.8		(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998003	**Date Collected:**	09/21/2016 12:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 08:19	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-5			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	852.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1800	2340	pg/L	76.7	(25%-150%)
13C-205-OcCB		2150	2340	pg/L	91.6	(25%-150%)
13C-206-NoCB		2130	2340	pg/L	90.9	(25%-150%)
13C-208-NoCB		1940	2340	pg/L	82.8	(25%-150%)
13C-209-DeCB		2180	2340	pg/L	93.1	(25%-150%)
13C-28-TrCB		1430	2340	pg/L	61.0	(30%-135%)
13C-111-PeCB		1920	2340	pg/L	81.9	(30%-135%)
13C-178-HpCB		1950	2340	pg/L	83.1	(30%-135%)

Comments:

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

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1	BJ	22.5	18.7	pg/L	11.2	43.1
2051-61-8	PCB-2	J	14.0	11.1	pg/L	10.2	43.1
2051-62-9	PCB-3	JK	27.7	25	pg/L	9.90	43.1
13029-08-8	PCB-4		53.9	44.8	pg/L	14.3	43.1
16605-91-7	PCB-5	U	10.1	10.1	pg/L	10.1	43.1
25569-80-6	PCB-6	JK	12.8	8.72	pg/L	7.34	43.1
33284-50-3	PCB-7	U	8.31	8.31	pg/L	8.31	43.1
34883-43-7	PCB-8	BJ	36.2	32.4	pg/L	6.67	43.1
34883-39-1	PCB-9	U	8.24	8.24	pg/L	8.24	21.5
33146-45-1	PCB-10	U	4.69	4.69	pg/L	4.69	21.5
2050-67-1	PCB-11	B	1100	1100	pg/L	8.70	43.1
PCB-12/13	PCB-12/PCB-13	CU	9.04	9.04	pg/L	9.04	43.1
34883-41-5	PCB-14	U	8.12	8.12	pg/L	8.12	43.1
2050-68-2	PCB-15	BJ	32.7	27.4	pg/L	8.52	43.1
38444-78-9	PCB-16	J	15.5	12.3	pg/L	4.82	21.5
37680-66-3	PCB-17	BJ	12.9	9.7	pg/L	4.09	21.5
PCB-18/30	PCB-18/PCB-30	BCJ	23.2	20.9	pg/L	3.40	43.1
38444-73-4	PCB-19	J	14.2	10.7	pg/L	9.15	21.5
PCB-20/28	PCB-20/PCB-28	BC	62.5	60.2	pg/L	3.01	43.1
PCB-21/33	PCB-21/PCB-33	BCJ	28.7	26.5	pg/L	2.95	43.1
38444-85-8	PCB-22	J	22.2	19.7	pg/L	3.32	21.5
55720-44-0	PCB-23	U	3.04	3.04	pg/L	3.04	21.5
55702-45-9	PCB-24	U	3.14	3.14	pg/L	3.14	21.5
55712-37-3	PCB-25	J	5.23	3.26	pg/L	2.88	21.5
PCB-26/29	PCB-26/PCB-29	CU	2.82	2.82	pg/L	2.82	43.1
38444-76-7	PCB-27	U	3.90	2.91	pg/L	2.91	21.5
16606-02-3	PCB-31	U	2.76	2.76	pg/L	2.76	21.5
38444-77-8	PCB-32	J	8.63	6.75	pg/L	2.65	21.5
37680-68-5	PCB-34	U	2.93	2.93	pg/L	2.93	21.5
37680-69-6	PCB-35	BJ	11.5	8.4	pg/L	6.54	43.1
38444-87-0	PCB-36	U	5.83	5.83	pg/L	5.83	21.5
38444-90-5	PCB-37	BJ	22.0	19	pg/L	6.29	21.5

Comments:

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1609609_1609C98**	**Client:**	**NMED001**	**Project:**	**NMED00113**
Lab Sample ID:	**9998004**	**Date Collected:**	**09/22/2016 11:00**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**10/28/2016 14:15**		
Client ID:	**1609C98-002G**			**Prep Basis:**	**As Received**
Batch ID:	**33209**	**Method:**	**EPA Method 1668A HS**		
Run Date:	**11/10/2016 09:25**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09nov16a_2-6**			**Dilution:**	**1**
Prep Batch:	**33207**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-NOV-16**	**Prep Aliquot:**	**929.1 mL**		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
53555-66-1	PCB-38	U	5.92	5.92	pg/L	5.92	21.5
38444-88-1	PCB-39	U	6.09	6.09	pg/L	6.09	21.5
PCB-40/71	PCB-40/PCB-71	CJ	9.00	5.76	pg/L	2.13	43.1
52663-59-9	PCB-41	U	3.14	3.14	pg/L	3.14	43.1
36559-22-5	PCB-42	U	5.92	2.6	pg/L	2.60	43.1
70362-46-8	PCB-43	U	2.95	2.95	pg/L	2.95	43.1
PCB-44/47/65	PCB-44/PCB-65/PCB-47	CU	2.28	2.28	pg/L	2.28	64.6
PCB-45/51	PCB-45/PCB-51	BCJ	6.46	3.28	pg/L	1.40	43.1
41464-47-5	PCB-46	U	1.49	1.49	pg/L	1.49	21.5
70362-47-9	PCB-48	U	2.54	2.54	pg/L	2.54	21.5
PCB-49/69	PCB-49/PCB-69	BCJ	15.0	12.2	pg/L	2.13	43.1
PCB-50/53	PCB-50/PCB-53	BCU	2.88	1.31	pg/L	1.31	43.1
35693-99-3	PCB-52		38.3	35.1	pg/L	2.30	21.5
15968-05-5	PCB-54	U	6.05	6.05	pg/L	6.05	21.5
74338-24-2	PCB-55	U	2.32	2.32	pg/L	2.32	21.5
41464-43-1	PCB-56	BJ	11.6	8.42	pg/L	2.50	21.5
70424-67-8	PCB-57	U	2.07	2.07	pg/L	2.07	21.5
41464-49-7	PCB-58	U	2.28	2.28	pg/L	2.28	21.5
PCB-59/62/75	PCB-59/PCB-62/PCB-75	CU	1.79	1.79	pg/L	1.79	64.6
33025-41-1	PCB-60	J	6.50	3.36	pg/L	2.32	21.5
PCB-61-76	PCB-61/PCB-70/PCB-74/PCB-76	BCJ	46.2	43.4	pg/L	2.20	86.1
74472-34-7	PCB-63	U	1.96	1.96	pg/L	1.96	21.5
52663-58-8	PCB-64	J	10.6	7.96	pg/L	1.94	21.5
32598-10-0	PCB-66	BJ	20.6	17.9	pg/L	2.09	21.5
73575-53-8	PCB-67	U	1.83	1.83	pg/L	1.83	21.5
73575-52-7	PCB-68	U	2.04	2.04	pg/L	2.04	21.5
41464-42-0	PCB-72	U	1.96	1.96	pg/L	1.96	21.5
74338-23-1	PCB-73	U	1.92	1.92	pg/L	1.92	21.5
32598-13-3	PCB-77	BU	3.19	1.83	pg/L	1.83	21.5
70362-49-1	PCB-78	U	2.22	2.22	pg/L	2.22	21.5
41464-48-6	PCB-79	U	1.89	1.89	pg/L	1.89	21.5
33284-52-5	PCB-80	U	1.92	1.92	pg/L	1.92	21.5

Comments:

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
70362-50-4	PCB-81	U	2.11	2.11	pg/L	2.11	21.5
52663-62-4	PCB-82	U	3.21	2.3	pg/L	2.30	21.5
60145-20-2	PCB-83	KU	2.76	2.39	pg/L	2.39	21.5
52663-60-2	PCB-84	U	5.60	2.24	pg/L	2.24	21.5
PCB-85-117	PCB-85/PCB-116/PCB-117	CU	4.50	1.74	pg/L	1.74	64.6
PCB-86-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-	BCJ	18.6	15.5	pg/L	1.85	129
PCB-88/91	PCB-88/PCB-91	CU	3.75	2.15	pg/L	2.15	43.1
73575-57-2	PCB-89	U	2.13	2.13	pg/L	2.13	21.5
PCB-90-113	PCB-90/PCB-101/PCB-113	CJ	29.0	26	pg/L	1.83	64.6
52663-61-3	PCB-92	U	5.14	2.04	pg/L	2.04	21.5
PCB-93/100	PCB-93/PCB-100	CU	2.17	2.17	pg/L	2.17	43.1
73575-55-0	PCB-94	U	2.39	2.39	pg/L	2.39	21.5
38379-99-6	PCB-95	J	17.1	14.1	pg/L	1.94	21.5
73575-54-9	PCB-96	U	.818	.818	pg/L	0.818	21.5
PCB-98/102	PCB-98/PCB-102	CU	2.24	2.24	pg/L	2.24	43.1
38380-01-7	PCB-99	BJ	11.5	8.02	pg/L	2.15	21.5
60145-21-3	PCB-103	U	1.85	1.85	pg/L	1.85	21.5
56558-16-8	PCB-104	U	8.59	8.59	pg/L	8.59	21.5
32598-14-4	PCB-105	J	7.32	3.7	pg/L	1.83	21.5
70424-69-0	PCB-106	U	1.96	1.96	pg/L	1.96	21.5
70424-68-9	PCB-107	U	1.92	1.92	pg/L	1.92	21.5
PCB-108/124	PCB-108/PCB-124	CU	2.13	2.13	pg/L	2.13	43.1
PCB-110/115	PCB-110/PCB-115	CJ	33.3	30.3	pg/L	1.74	43.1
39635-32-0	PCB-111	U	1.64	1.64	pg/L	1.64	21.5
74472-36-9	PCB-112	U	1.42	1.42	pg/L	1.42	21.5
74472-37-0	PCB-114	U	2.09	2.09	pg/L	2.09	21.5
31508-00-6	PCB-118	BJ	18.6	15.4	pg/L	1.92	21.5
68194-12-7	PCB-120	U	1.38	1.38	pg/L	1.38	21.5
56558-18-0	PCB-121	U	1.66	1.66	pg/L	1.66	21.5
76842-07-4	PCB-122	U	2.17	2.17	pg/L	2.17	21.5
65510-44-3	PCB-123	U	2.07	2.07	pg/L	2.07	21.5
57465-28-8	PCB-126	U	1.85	1.85	pg/L	1.85	21.5

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
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
39635-33-1	PCB-127	U	2.09	2.09	pg/L	2.09	21.5
PCB-128/166	PCB-128/PCB-166	CJ	5.34	1.4	pg/L	1.23	43.1
PCB-129-163	PCB-129/PCB-138/PCB-163	CJ	53.3	49.1	pg/L	1.40	64.6
52663-66-8	PCB-130	U	2.48	1.51	pg/L	1.51	21.5
61798-70-7	PCB-131	U	1.77	1.77	pg/L	1.77	21.5
38380-05-1	PCB-132	J	13.8	8.32	pg/L	1.61	21.5
35694-04-3	PCB-133	U	1.44	1.44	pg/L	1.44	21.5
52704-70-8	PCB-134	U	2.35	1.83	pg/L	1.83	21.5
PCB-135/151	PCB-135/PCB-151	CJ	15.9	10.4	pg/L	1.08	43.1
38411-22-2	PCB-136	J	5.53	1.91	pg/L	0.796	21.5
35694-06-5	PCB-137	U	1.79	1.57	pg/L	1.57	21.5
PCB-139/140	PCB-139/PCB-140	CU	1.36	1.36	pg/L	1.36	43.1
52712-04-6	PCB-141	J	8.52	3.43	pg/L	1.29	21.5
41411-61-4	PCB-142	U	1.51	1.51	pg/L	1.51	21.5
68194-15-0	PCB-143	U	1.38	1.38	pg/L	1.38	21.5
68194-14-9	PCB-144	U	1.96	.969	pg/L	0.969	21.5
74472-40-5	PCB-145	U	.883	.883	pg/L	0.883	21.5
51908-16-8	PCB-146	J	5.83	1.51	pg/L	1.10	21.5
PCB-147/149	PCB-147/PCB-149	CJ	38.0	33.3	pg/L	1.33	43.1
74472-41-6	PCB-148	U	1.1	1.1	pg/L	1.10	21.5
68194-08-1	PCB-150	U	.861	.861	pg/L	0.861	21.5
68194-09-2	PCB-152	U	.775	.775	pg/L	0.775	21.5
PCB-153/168	PCB-153/PCB-168	CJ	43.4	39.7	pg/L	1.14	43.1
60145-22-4	PCB-154	U	.861	.861	pg/L	0.861	21.5
33979-03-2	PCB-155	U	3.1	3.1	pg/L	3.10	21.5
PCB-156/157	PCB-156/PCB-157	BCU	3.92	1.27	pg/L	1.27	43.1
74472-42-7	PCB-158	J	4.54	1.03	pg/L	0.947	21.5
39635-35-3	PCB-159	U	1.1	1.1	pg/L	1.10	21.5
41411-62-5	PCB-160	U	1.16	1.16	pg/L	1.16	21.5
74472-43-8	PCB-161	U	.99	.99	pg/L	0.990	21.5
39635-34-2	PCB-162	U	1.18	1.18	pg/L	1.18	21.5
74472-45-0	PCB-164	U	3.40	.99	pg/L	0.990	21.5

Comments:

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K Estimated Maximum Possible Concentration
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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-46-1	PCB-165	U	1.25	1.25	pg/L	1.25	21.5
52663-72-6	PCB-167	BU	1.66	.947	pg/L	0.947	21.5
32774-16-6	PCB-169	U	1.01	1.01	pg/L	1.01	21.5
35065-30-6	PCB-170	J	17.0	12.7	pg/L	1.68	21.5
PCB-171/173	PCB-171/PCB-173	CJ	6.67	2.2	pg/L	1.70	43.1
52663-74-8	PCB-172	U	3.70	1.72	pg/L	1.72	21.5
38411-25-5	PCB-174	J	19.1	14.4	pg/L	1.59	21.5
40186-70-7	PCB-175	U	1.05	1.05	pg/L	1.05	21.5
52663-65-7	PCB-176	U	1.87	.818	pg/L	0.818	21.5
52663-70-4	PCB-177	J	11.8	7.42	pg/L	1.70	21.5
52663-67-9	PCB-178	U	3.94	1.12	pg/L	1.12	21.5
52663-64-6	PCB-179	J	7.47	3.56	pg/L	0.818	21.5
PCB-180/193	PCB-180/PCB-193	CU	1.46	1.46	pg/L	1.46	43.1
74472-47-2	PCB-181	U	1.77	1.77	pg/L	1.77	21.5
60145-23-5	PCB-182	U	1.03	1.03	pg/L	1.03	21.5
PCB-183/185	PCB-183/PCB-185	CJ	13.3	9.24	pg/L	1.61	43.1
74472-48-3	PCB-184	U	.84	.84	pg/L	0.840	21.5
74472-49-4	PCB-186	U	.926	.926	pg/L	0.926	21.5
52663-68-0	PCB-187	J	24.7	19.7	pg/L	1.10	21.5
74487-85-7	PCB-188	U	1.1	1.1	pg/L	1.10	21.5
39635-31-9	PCB-189	U	.861	.861	pg/L	0.861	21.5
41411-64-7	PCB-190	U	3.66	1.27	pg/L	1.27	21.5
74472-50-7	PCB-191	U	1.25	1.25	pg/L	1.25	21.5
74472-51-8	PCB-192	U	1.49	1.49	pg/L	1.49	21.5
35694-08-7	PCB-194	BJ	6.46	2.2	pg/L	0.883	21.5
52663-78-2	PCB-195	U	3.32	.947	pg/L	0.947	21.5
42740-50-1	PCB-196	U	3.62	.99	pg/L	0.990	21.5
PCB-197/200	PCB-197/PCB-200	CU	1.46	.818	pg/L	0.818	43.1
PCB-198/199	PCB-198/PCB-199	CJ	8.57	2.64	pg/L	1.05	43.1
40186-71-8	PCB-201	U	1.21	.775	pg/L	0.775	21.5
2136-99-4	PCB-202	U	1.72	.883	pg/L	0.883	21.5
52663-76-0	PCB-203	U	4.63	1.01	pg/L	1.01	21.5

Comments:

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-52-9	PCB-204	U	.796	.796	pg/L	0.796	21.5
74472-53-0	PCB-205	U	.71	.71	pg/L	0.710	21.5
40186-72-9	PCB-206	U	2.30	.861	pg/L	0.861	21.5
52663-79-3	PCB-207	U	.646	.646	pg/L	0.646	21.5
52663-77-1	PCB-208	U	1.01	.689	pg/L	0.689	21.5
2051-24-3	PCB-209	BU	2.69	.689	pg/L	0.689	21.5
27323-18-8	Total monoCB		36.5	29.8	pg/L		
25512-42-9	Total diCB		1230	1200	pg/L		
25323-68-6	Total triCB		231	197	pg/L		
26914-33-0	Total tetraCB		176	137	pg/L		
25429-29-2	Total pentaCB		158	113	pg/L		
26601-64-9	Total hexaCB		212	150	pg/L		
28655-71-2	Total heptaCB		113	69.3	pg/L		
55722-26-4	Total octaCB		31.0	4.84	pg/L		
53742-07-7	Total nonaCB	U	3.32	0	pg/L		
DECACB(Tot)	Total decaCB	U	2.69	0	pg/L		
1336-36-3	Total PCB		2190	1910	pg/L		
TEQ 7	TOTAL (TEQ ND=1/2 DL)_2005		0.109		pg/L		
TEQ 8	TOTAL (TEQ ND=0)_2005		0.00126		pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-1-MoCB		175	2150	pg/L	8.15	*	(15%-150%)
13C-3-MoCB		190	2150	pg/L	8.84	*	(15%-150%)
13C-4-DiCB		184	2150	pg/L	8.56	*	(25%-150%)
13C-15-DiCB		566	2150	pg/L	26.3		(25%-150%)
13C-19-TrCB		270	2150	pg/L	12.5	*	(25%-150%)
13C-37-TrCB		572	2150	pg/L	26.6		(25%-150%)
13C-54-TeCB		113	2150	pg/L	5.25	*	(25%-150%)
13C-77-TeCB		1440	2150	pg/L	66.8		(25%-150%)
13C-81-TeCB		1200	2150	pg/L	55.6		(25%-150%)
13C-104-PeCB		84.4	2150	pg/L	3.92	*	(25%-150%)
13C-105-PeCB		1410	2150	pg/L	65.5		(25%-150%)
13C-114-PeCB		1180	2150	pg/L	54.6		(25%-150%)
13C-118-PeCB		1230	2150	pg/L	57.2		(25%-150%)
13C-123-PeCB		1190	2150	pg/L	55.5		(25%-150%)
13C-126-PeCB		1650	2150	pg/L	76.7		(25%-150%)
13C-155-HxCB		232	2150	pg/L	10.8	*	(25%-150%)
13C-156-HxCB	C	2920	4310	pg/L	67.8		(25%-150%)
13C-167-HxCB		1470	2150	pg/L	68.2		(25%-150%)
13C-169-HxCB		1560	2150	pg/L	72.7		(25%-150%)
13C-188-HpCB		979	2150	pg/L	45.5		(25%-150%)
13C-189-HpCB		1670	2150	pg/L	77.8		(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1530	2150	pg/L	71.0	(25%-150%)
13C-205-OcCB		1900	2150	pg/L	88.3	(25%-150%)
13C-206-NoCB		1850	2150	pg/L	86.0	(25%-150%)
13C-208-NoCB		1720	2150	pg/L	80.1	(25%-150%)
13C-209-DeCB		1910	2150	pg/L	88.7	(25%-150%)
13C-28-TrCB		1290	2150	pg/L	59.8	(30%-135%)
13C-111-PeCB		1930	2150	pg/L	89.7	(30%-135%)
13C-178-HpCB		1930	2150	pg/L	89.8	(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
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

PCB Congeners

Surrogate Recovery Report

SDG Number: 1609609_1609C98

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12017260	LCS for batch 33207	13C-1-MoCB		55.0	(15%-140%)
		13C-3-MoCB		51.8	(15%-140%)
		13C-4-DiCB		52.1	(30%-140%)
		13C-15-DiCB		89.3	(30%-140%)
		13C-19-TrCB		81.3	(30%-140%)
		13C-37-TrCB		72.9	(30%-140%)
		13C-54-TeCB		54.8	(30%-140%)
		13C-77-TeCB		94.6	(30%-140%)
		13C-81-TeCB		95.3	(30%-140%)
		13C-104-PeCB		58.4	(30%-140%)
		13C-105-PeCB		82.9	(30%-140%)
		13C-114-PeCB		80.7	(30%-140%)
		13C-118-PeCB		82.8	(30%-140%)
		13C-123-PeCB		84.1	(30%-140%)
		13C-126-PeCB		85.5	(30%-140%)
		13C-155-HxCB		66.4	(30%-140%)
		13C-156-HxCB	C	74.3	(30%-140%)
		13C-167-HxCB		76.9	(30%-140%)
		13C-169-HxCB		77.2	(30%-140%)
		13C-188-HpCB		77.6	(30%-140%)
		13C-189-HpCB		78.5	(30%-140%)
		13C-202-OcCB		84.9	(30%-140%)
		13C-205-OcCB		97.1	(30%-140%)
		13C-206-NoCB		101	(30%-140%)
		13C-208-NoCB		90.5	(30%-140%)
		13C-209-DeCB		108	(30%-140%)
		13C-28-TrCB		63.8	(40%-125%)
		13C-111-PeCB		81.4	(40%-125%)
		13C-178-HpCB		85.5	(40%-125%)
12017261	LCSD for batch 33207	13C-1-MoCB		52.3	(15%-140%)
		13C-3-MoCB		48.6	(15%-140%)
		13C-4-DiCB		49.2	(30%-140%)
		13C-15-DiCB		153 *	(30%-140%)
		13C-19-TrCB		97.5	(30%-140%)
		13C-37-TrCB		110	(30%-140%)
		13C-54-TeCB		55.8	(30%-140%)
		13C-77-TeCB		146 *	(30%-140%)
		13C-81-TeCB		146 *	(30%-140%)
		13C-104-PeCB		75.8	(30%-140%)
		13C-105-PeCB		126	(30%-140%)
		13C-114-PeCB		122	(30%-140%)
		13C-118-PeCB		124	(30%-140%)
		13C-123-PeCB		126	(30%-140%)
		13C-126-PeCB		134	(30%-140%)
		13C-155-HxCB		87.5	(30%-140%)
		13C-156-HxCB	C	110	(30%-140%)
		13C-167-HxCB		114	(30%-140%)
		13C-169-HxCB		117	(30%-140%)
		13C-188-HpCB		108	(30%-140%)
		13C-189-HpCB		116	(30%-140%)
		13C-202-OcCB		122	(30%-140%)
		13C-205-OcCB		140	(30%-140%)

PCB Congeners

Surrogate Recovery Report

SDG Number: 1609609_1609C98

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12017261	LCSD for batch 33207	13C-206-NoCB		146 *	(30%-140%)
		13C-208-NoCB		131	(30%-140%)
		13C-209-DeCB		158 *	(30%-140%)
		13C-28-TrCB		72.9	(40%-125%)
		13C-111-PeCB		101	(40%-125%)
		13C-178-HpCB		104	(40%-125%)
12017259	MB for batch 33207	13C-1-MoCB		33.1	(15%-150%)
		13C-3-MoCB		33.0	(15%-150%)
		13C-4-DiCB		31.7	(25%-150%)
		13C-15-DiCB		83.7	(25%-150%)
		13C-19-TrCB		59.1	(25%-150%)
		13C-37-TrCB		64.3	(25%-150%)
		13C-54-TeCB		36.1	(25%-150%)
		13C-77-TeCB		86.3	(25%-150%)
		13C-81-TeCB		85.3	(25%-150%)
		13C-104-PeCB		45.4	(25%-150%)
		13C-105-PeCB		75.7	(25%-150%)
		13C-114-PeCB		72.4	(25%-150%)
		13C-118-PeCB		74.1	(25%-150%)
		13C-123-PeCB		74.2	(25%-150%)
		13C-126-PeCB		81.2	(25%-150%)
		13C-155-HxCB		53.4	(25%-150%)
		13C-156-HxCB	C	67.7	(25%-150%)
		13C-167-HxCB		69.6	(25%-150%)
		13C-169-HxCB		72.5	(25%-150%)
		13C-188-HpCB		66.4	(25%-150%)
		13C-189-HpCB		71.0	(25%-150%)
		13C-202-OcCB		75.9	(25%-150%)
		13C-205-OcCB		86.1	(25%-150%)
		13C-206-NoCB		89.2	(25%-150%)
		13C-208-NoCB		80.8	(25%-150%)
		13C-209-DeCB		96.6	(25%-150%)
		13C-28-TrCB		60.9	(30%-135%)
		13C-111-PeCB		81.0	(30%-135%)
		13C-178-HpCB		84.7	(30%-135%)
9998001	1609609-001G	13C-1-MoCB		11.3 *	(15%-150%)
		13C-3-MoCB		12.3 *	(15%-150%)
		13C-4-DiCB		11.4 *	(25%-150%)
		13C-15-DiCB		31.9	(25%-150%)
		13C-19-TrCB		15.4 *	(25%-150%)
		13C-37-TrCB		41.7	(25%-150%)
		13C-54-TeCB		7.40 *	(25%-150%)
		13C-77-TeCB		81.6	(25%-150%)
		13C-81-TeCB		75.6	(25%-150%)
		13C-104-PeCB		9.85 *	(25%-150%)
		13C-105-PeCB		71.9	(25%-150%)
		13C-114-PeCB		65.7	(25%-150%)
		13C-118-PeCB		68.4	(25%-150%)
		13C-123-PeCB		67.9	(25%-150%)
		13C-126-PeCB		78.0	(25%-150%)
		13C-155-HxCB		28.6	(25%-150%)

Surrogate Recovery Report

SDG Number: 1609609_1609C98

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
9998001	1609609-001G	13C-156-HxCB	C	70.4	(25%-150%)
		13C-167-HxCB		72.0	(25%-150%)
		13C-169-HxCB		73.8	(25%-150%)
		13C-188-HpCB		63.5	(25%-150%)
		13C-189-HpCB		79.1	(25%-150%)
		13C-202-OcCB		78.4	(25%-150%)
		13C-205-OcCB		89.7	(25%-150%)
		13C-206-NoCB		88.1	(25%-150%)
		13C-208-NoCB		83.0	(25%-150%)
		13C-209-DeCB		89.8	(25%-150%)
		13C-28-TrCB		61.7	(30%-135%)
		13C-111-PeCB		81.8	(30%-135%)
		13C-178-HpCB		84.0	(30%-135%)
9998002	1609609-002G	13C-1-MoCB		11.5 *	(15%-150%)
		13C-3-MoCB		12.7 *	(15%-150%)
		13C-4-DiCB		11.9 *	(25%-150%)
		13C-15-DiCB		36.0	(25%-150%)
		13C-19-TrCB		17.6 *	(25%-150%)
		13C-37-TrCB		46.1	(25%-150%)
		13C-54-TeCB		8.41 *	(25%-150%)
		13C-77-TeCB		89.8	(25%-150%)
		13C-81-TeCB		83.6	(25%-150%)
		13C-104-PeCB		12.1 *	(25%-150%)
		13C-105-PeCB		79.2	(25%-150%)
		13C-114-PeCB		72.5	(25%-150%)
		13C-118-PeCB		75.2	(25%-150%)
		13C-123-PeCB		75.2	(25%-150%)
		13C-126-PeCB		84.4	(25%-150%)
		13C-155-HxCB		33.0	(25%-150%)
		13C-156-HxCB	C	73.9	(25%-150%)
		13C-167-HxCB		75.9	(25%-150%)
		13C-169-HxCB		77.4	(25%-150%)
		13C-188-HpCB		68.4	(25%-150%)
		13C-189-HpCB		82.9	(25%-150%)
		13C-202-OcCB		81.7	(25%-150%)
		13C-205-OcCB		93.4	(25%-150%)
		13C-206-NoCB		90.4	(25%-150%)
		13C-208-NoCB		86.0	(25%-150%)
		13C-209-DeCB		92.1	(25%-150%)
		13C-28-TrCB		63.8	(30%-135%)
		13C-111-PeCB		86.0	(30%-135%)
		13C-178-HpCB		87.1	(30%-135%)
9998003	1609C98-001G	13C-1-MoCB		9.80 *	(15%-150%)
		13C-3-MoCB		11.2 *	(15%-150%)
		13C-4-DiCB		10.2 *	(25%-150%)
		13C-15-DiCB		30.3	(25%-150%)
		13C-19-TrCB		14.3 *	(25%-150%)
		13C-37-TrCB		35.8	(25%-150%)
		13C-54-TeCB		6.41 *	(25%-150%)
		13C-77-TeCB		79.4	(25%-150%)
		13C-81-TeCB		70.6	(25%-150%)

PCB Congeners
Surrogate Recovery Report

SDG Number: 1609609_1609C98

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
9998003	1609C98-001G	13C-104-PeCB		5.91 *	(25%-150%)
		13C-105-PeCB		71.8	(25%-150%)
		13C-114-PeCB		62.6	(25%-150%)
		13C-118-PeCB		65.6	(25%-150%)
		13C-123-PeCB		64.4	(25%-150%)
		13C-126-PeCB		80.6	(25%-150%)
		13C-155-HxCB		19.3 *	(25%-150%)
		13C-156-HxCB	C	71.5	(25%-150%)
		13C-167-HxCB		72.0	(25%-150%)
		13C-169-HxCB		76.1	(25%-150%)
		13C-188-HpCB		57.1	(25%-150%)
		13C-189-HpCB		81.8	(25%-150%)
		13C-202-OcCB		76.7	(25%-150%)
		13C-205-OcCB		91.6	(25%-150%)
		13C-206-NoCB		90.9	(25%-150%)
		13C-208-NoCB		82.8	(25%-150%)
		13C-209-DeCB		93.1	(25%-150%)
		13C-28-TrCB		61.0	(30%-135%)
		13C-111-PeCB		81.9	(30%-135%)
		13C-178-HpCB		83.1	(30%-135%)
9998004	1609C98-002G	13C-1-MoCB		8.15 *	(15%-150%)
		13C-3-MoCB		8.84 *	(15%-150%)
		13C-4-DiCB		8.56 *	(25%-150%)
		13C-15-DiCB		26.3	(25%-150%)
		13C-19-TrCB		12.5 *	(25%-150%)
		13C-37-TrCB		26.6	(25%-150%)
		13C-54-TeCB		5.25 *	(25%-150%)
		13C-77-TeCB		66.8	(25%-150%)
		13C-81-TeCB		55.6	(25%-150%)
		13C-104-PeCB		3.92 *	(25%-150%)
		13C-105-PeCB		65.5	(25%-150%)
		13C-114-PeCB		54.6	(25%-150%)
		13C-118-PeCB		57.2	(25%-150%)
		13C-123-PeCB		55.5	(25%-150%)
		13C-126-PeCB		76.7	(25%-150%)
		13C-155-HxCB		10.8 *	(25%-150%)
		13C-156-HxCB	C	67.8	(25%-150%)
		13C-167-HxCB		68.2	(25%-150%)
		13C-169-HxCB		72.7	(25%-150%)
		13C-188-HpCB		45.5	(25%-150%)
		13C-189-HpCB		77.8	(25%-150%)
		13C-202-OcCB		71.0	(25%-150%)
		13C-205-OcCB		88.3	(25%-150%)
		13C-206-NoCB		86.0	(25%-150%)
		13C-208-NoCB		80.1	(25%-150%)
		13C-209-DeCB		88.7	(25%-150%)
		13C-28-TrCB		59.8	(30%-135%)
		13C-111-PeCB		89.7	(30%-135%)
		13C-178-HpCB		89.8	(30%-135%)

* Recovery outside Acceptance Limits

PCB Congeners

Surrogate Recovery Report

SDG Number: 1609609_1609C98

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits

* 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: 1609609_1609C98 **Sample Type:** Laboratory Control Sample
Client ID: LCS for batch 33207 **Matrix:** WATER
Lab Sample ID: 12017260
Instrument: HRP791 **Analysis Date:** 11/09/2016 16:41 **Dilution:** 1
Analyst: MJC **Prep Batch ID:** 33207
Batch ID: 33209

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits
2051-60-7	LCS	PCB-1	500		518	104	50-150
2051-62-9	LCS	PCB-3	500		604	121	50-150
13029-08-8	LCS	PCB-4	500		499	99.7	50-150
2050-68-2	LCS	PCB-15	500		523	105	50-150
38444-73-4	LCS	PCB-19	500		494	98.8	50-150
38444-90-5	LCS	PCB-37	500		484	96.8	50-150
15968-05-5	LCS	PCB-54	1000		1000	100	50-150
32598-13-3	LCS	PCB-77	1000		942	94.2	50-150
70362-50-4	LCS	PCB-81	1000		1120	112	50-150
56558-16-8	LCS	PCB-104	1000		1060	106	50-150
32598-14-4	LCS	PCB-105	1000		1180	118	50-150
74472-37-0	LCS	PCB-114	1000		1020	102	50-150
31508-00-6	LCS	PCB-118	1000		977	97.7	50-150
65510-44-3	LCS	PCB-123	1000		916	91.6	50-150
57465-28-8	LCS	PCB-126	1000		1010	101	50-150
33979-03-2	LCS	PCB-155	1000		980	98	50-150
38380-08-4	LCS	PCB-156/PCB-157	2000	C	2230	111	50-150
52663-72-6	LCS	PCB-167	1000		1150	115	50-150
32774-16-6	LCS	PCB-169	1000		1010	101	50-150
74487-85-7	LCS	PCB-188	1000		972	97.2	50-150
39635-31-9	LCS	PCB-189	1000		971	97.1	50-150
2136-99-4	LCS	PCB-202	1500		1430	95	50-150
74472-53-0	LCS	PCB-205	1500		1290	85.7	50-150
40186-72-9	LCS	PCB-206	1500		1410	93.7	50-150
52663-77-1	LCS	PCB-208	1500		1490	99.4	50-150
2051-24-3	LCS	PCB-209	1500		1380	91.8	50-150

PCB Congeners

Quality Control Summary
Spike Recovery Report

SDG Number: 1609609_1609C98
Client ID: LCSD for batch 33207
Lab Sample ID: 12017261
Instrument: HRP791
Analyst: MJC

Sample Type: Laboratory Control Sample Duplicate
Matrix: WATER
Analysis Date: 11/09/2016 17:47 **Dilution:** 1
Prep Batch ID: 33207
Batch ID: 33209

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
2051-60-7	LCSD	PCB-1	500		454	90.9	50-150	13.2	0-20
2051-62-9	LCSD	PCB-3	500		544	109	50-150	10.5	0-20
13029-08-8	LCSD	PCB-4	500		424	84.7	50-150	16.2	0-20
2050-68-2	LCSD	PCB-15	500		473	94.6	50-150	9.99	0-20
38444-73-4	LCSD	PCB-19	500		447	89.5	50-150	9.89	0-20
38444-90-5	LCSD	PCB-37	500		420	84.1	50-150	14.1	0-20
15968-05-5	LCSD	PCB-54	1000		876	87.6	50-150	13.3	0-20
32598-13-3	LCSD	PCB-77	1000		826	82.6	50-150	13.2	0-20
70362-50-4	LCSD	PCB-81	1000		968	96.8	50-150	14.7	0-20
56558-16-8	LCSD	PCB-104	1000		920	92	50-150	13.9	0-20
32598-14-4	LCSD	PCB-105	1000		1030	103	50-150	12.9	0-20
74472-37-0	LCSD	PCB-114	1000		888	88.8	50-150	13.9	0-20
31508-00-6	LCSD	PCB-118	1000		842	84.2	50-150	14.9	0-20
65510-44-3	LCSD	PCB-123	1000		793	79.3	50-150	14.4	0-20
57465-28-8	LCSD	PCB-126	1000		906	90.6	50-150	10.9	0-20
33979-03-2	LCSD	PCB-155	1000		873	87.3	50-150	11.6	0-20
38380-08-4	LCSD	PCB-156/PCB-157	2000	C	1920	95.9	50-150	14.9	0-20
52663-72-6	LCSD	PCB-167	1000		996	99.6	50-150	14.4	0-20
32774-16-6	LCSD	PCB-169	1000		864	86.4	50-150	15.6	0-20
74487-85-7	LCSD	PCB-188	1000		834	83.4	50-150	15.3	0-20
39635-31-9	LCSD	PCB-189	1000		831	83.1	50-150	15.5	0-20
2136-99-4	LCSD	PCB-202	1500		1220	81.3	50-150	15.5	0-20
74472-53-0	LCSD	PCB-205	1500		1110	74.2	50-150	14.4	0-20
40186-72-9	LCSD	PCB-206	1500		1200	79.8	50-150	16.1	0-20
52663-77-1	LCSD	PCB-208	1500		1290	85.7	50-150	14.8	0-20
2051-24-3	LCSD	PCB-209	1500		1190	79.2	50-150	14.8	0-20

Method Blank Summary

SDG Number:	**1609609_1609C98**	**Client:**	**NMED001**	**Matrix:**	**WATER**
Client ID:	**MB for batch 33207**	**Instrument ID:**	**HRP791**	**Data File:**	**c09nov16a-4**
Lab Sample ID:	**12017259**	**Prep Date:**	**08-NOV-16**	**Analyzed:**	**11/09/16 18:53**
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 33207	12017260	c09nov16a-2	11/09/16	1641
02	LCSD for batch 33207	12017261	c09nov16a-3	11/09/16	1747
03	1609609-001G	9998001	c09nov16a_2-3	11/10/16	0606
04	1609609-002G	9998002	c09nov16a_2-4	11/10/16	0713
05	1609C98-001G	9998003	c09nov16a_2-5	11/10/16	0819
06	1609C98-002G	9998004	c09nov16a_2-6	11/10/16	0925

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1609609_1609C98**	**Client:**	**NMED001**	**Project:**	**NMED00113**
Lab Sample ID:	**12017259**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33207**				
Client ID:	**MB for batch 33207**			**Prep Basis:**	**As Received**
Batch ID:	**33209**	**Method:**	**EPA Method 1668A HS**		
Run Date:	**11/09/2016 18:53**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09nov16a-4**			**Dilution:**	**1**
Prep Batch:	**33207**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-NOV-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1	KU	5.92	4.76	pg/L	4.76	40.0
2051-61-8	PCB-2	U	4.74	4.74	pg/L	4.74	40.0
2051-62-9	PCB-3	U	4.62	4.62	pg/L	4.62	40.0
13029-08-8	PCB-4	U	5.28	5.28	pg/L	5.28	40.0
16605-91-7	PCB-5	U	4.24	4.24	pg/L	4.24	40.0
25569-80-6	PCB-6	U	3.04	3.04	pg/L	3.04	40.0
33284-50-3	PCB-7	U	3.44	3.44	pg/L	3.44	40.0
34883-43-7	PCB-8	J	10.3	6.58	pg/L	2.76	40.0
34883-39-1	PCB-9	U	3.44	3.44	pg/L	3.44	20.0
33146-45-1	PCB-10	U	1.86	1.86	pg/L	1.86	20.0
2050-67-1	PCB-11		317	312	pg/L	3.70	40.0
PCB-12/13	PCB-12/PCB-13	CU	3.88	3.88	pg/L	3.88	40.0
34883-41-5	PCB-14	U	3.44	3.44	pg/L	3.44	40.0
2050-68-2	PCB-15	U	7.74	3.36	pg/L	3.36	40.0
38444-78-9	PCB-16	U	1.98	1.98	pg/L	1.98	20.0
37680-66-3	PCB-17	U	4.12	1.74	pg/L	1.74	20.0
PCB-18/30	PCB-18/PCB-30	CJ	6.62	4.31	pg/L	1.46	40.0
38444-73-4	PCB-19	U	2.36	2.36	pg/L	2.36	20.0
PCB-20/28	PCB-20/PCB-28	CJ	17.6	15.2	pg/L	1.30	40.0
PCB-21/33	PCB-21/PCB-33	CJ	10.3	8.17	pg/L	1.34	40.0
38444-85-8	PCB-22	U	1.44	1.44	pg/L	1.44	20.0
55720-44-0	PCB-23	U	1.36	1.36	pg/L	1.36	20.0
55702-45-9	PCB-24	U	2.92	1.4	pg/L	1.40	20.0
55712-37-3	PCB-25	U	1.26	1.26	pg/L	1.26	20.0
PCB-26/29	PCB-26/PCB-29	CU	1.26	1.26	pg/L	1.26	40.0
38444-76-7	PCB-27	U	1.26	1.26	pg/L	1.26	20.0
16606-02-3	PCB-31	U	1.18	1.18	pg/L	1.18	20.0
38444-77-8	PCB-32	U	1.14	1.14	pg/L	1.14	20.0
37680-68-5	PCB-34	U	1.3	1.3	pg/L	1.30	20.0
37680-69-6	PCB-35	U	3.66	2.76	pg/L	2.76	40.0
38444-87-0	PCB-36	U	3.20	2.44	pg/L	2.44	20.0
38444-90-5	PCB-37	U	4.98	2.64	pg/L	2.64	20.0

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1609609_1609C98**	**Client:**	**NMED001**	**Project:**	**NMED00113**
Lab Sample ID:	**12017259**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33207**				
Client ID:	**MB for batch 33207**			**Prep Basis:**	**As Received**
Batch ID:	**33209**	**Method:**	**EPA Method 1668A HS**		
Run Date:	**11/09/2016 18:53**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09nov16a-4**			**Dilution:**	**1**
Prep Batch:	**33207**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-NOV-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
53555-66-1	PCB-38	U	2.52	2.52	pg/L	2.52	20.0
38444-88-1	PCB-39	U	2.56	2.56	pg/L	2.56	20.0
PCB-40/71	PCB-40/PCB-71	CU	2.32	2.32	pg/L	2.32	40.0
52663-59-9	PCB-41	U	3.1	3.1	pg/L	3.10	40.0
36559-22-5	PCB-42	U	2.9	2.9	pg/L	2.90	40.0
70362-46-8	PCB-43	U	2.98	2.98	pg/L	2.98	40.0
PCB-44/47/65	PCB-44/PCB-65/PCB-47	CU	2.4	2.4	pg/L	2.40	60.0
PCB-45/51	PCB-45/PCB-51	CU	2.26	1.1	pg/L	1.10	40.0
41464-47-5	PCB-46	U	1.16	1.16	pg/L	1.16	20.0
70362-47-9	PCB-48	U	2.72	2.72	pg/L	2.72	20.0
PCB-49/69	PCB-49/PCB-69	CU	4.96	2.24	pg/L	2.24	40.0
PCB-50/53	PCB-50/PCB-53	CU	1.08	1.04	pg/L	1.04	40.0
35693-99-3	PCB-52	U	2.38	2.38	pg/L	2.38	20.0
15968-05-5	PCB-54	U	1.4	1.4	pg/L	1.40	20.0
74338-24-2	PCB-55	U	1.52	1.52	pg/L	1.52	20.0
41464-43-1	PCB-56	U	4.32	1.58	pg/L	1.58	20.0
70424-67-8	PCB-57	U	1.34	1.34	pg/L	1.34	20.0
41464-49-7	PCB-58	U	1.5	1.5	pg/L	1.50	20.0
PCB-59/62/75	PCB-59/PCB-62/PCB-75	CU	1.9	1.9	pg/L	1.90	60.0
33025-41-1	PCB-60	U	1.5	1.5	pg/L	1.50	20.0
PCB-61-76	PCB-61/PCB-70/PCB-74/PCB-76	CJ	16.0	13.2	pg/L	1.42	80.0
74472-34-7	PCB-63	U	1.28	1.28	pg/L	1.28	20.0
52663-58-8	PCB-64	U	2.04	2.04	pg/L	2.04	20.0
32598-10-0	PCB-66	J	7.58	4.8	pg/L	1.34	20.0
73575-53-8	PCB-67	U	1.2	1.2	pg/L	1.20	20.0
73575-52-7	PCB-68	U	1.32	1.32	pg/L	1.32	20.0
41464-42-0	PCB-72	U	1.26	1.26	pg/L	1.26	20.0
74338-23-1	PCB-73	U	2.1	2.1	pg/L	2.10	20.0
32598-13-3	PCB-77	U	1.68	1.32	pg/L	1.32	20.0
70362-49-1	PCB-78	U	1.44	1.44	pg/L	1.44	20.0
41464-48-6	PCB-79	U	1.22	1.22	pg/L	1.22	20.0
33284-52-5	PCB-80	U	1.2	1.2	pg/L	1.20	20.0

Comments:

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

J Value is estimated

K Estimated Maximum Possible Concentration

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

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1609609_1609C98**	**Client:**	**NMED001**	**Project:**	**NMED00113**
Lab Sample ID:	**12017259**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33207**				
Client ID:	**MB for batch 33207**			**Prep Basis:**	**As Received**
Batch ID:	**33209**	**Method:**	**EPA Method 1668A HS**		
Run Date:	**11/09/2016 18:53**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09nov16a-4**			**Dilution:**	**1**
Prep Batch:	**33207**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-NOV-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
70362-50-4	PCB-81	U	1.28	1.28	pg/L	1.28	20.0
52663-62-4	PCB-82	U	1.62	1.62	pg/L	1.62	20.0
60145-20-2	PCB-83	U	1.74	1.74	pg/L	1.74	20.0
52663-60-2	PCB-84	U	1.6	1.6	pg/L	1.60	20.0
PCB-85-117	PCB-85/PCB-116/PCB-117	CU	1.22	1.22	pg/L	1.22	60.0
PCB-86-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-	CJ	4.42	1.3	pg/L	1.30	120
PCB-88/91	PCB-88/PCB-91	CU	1.52	1.52	pg/L	1.52	40.0
73575-57-2	PCB-89	U	1.52	1.52	pg/L	1.52	20.0
PCB-90-113	PCB-90/PCB-101/PCB-113	CJ	5.62	2.56	pg/L	1.28	60.0
52663-61-3	PCB-92	U	1.46	1.46	pg/L	1.46	20.0
PCB-93/100	PCB-93/PCB-100	CU	1.5	1.5	pg/L	1.50	40.0
73575-55-0	PCB-94	U	1.66	1.66	pg/L	1.66	20.0
38379-99-6	PCB-95	U	3.20	1.4	pg/L	1.40	20.0
73575-54-9	PCB-96	U	.68	.68	pg/L	0.680	20.0
PCB-98/102	PCB-98/PCB-102	CU	1.6	1.6	pg/L	1.60	40.0
38380-01-7	PCB-99	U	2.48	1.42	pg/L	1.42	20.0
60145-21-3	PCB-103	U	1.32	1.32	pg/L	1.32	20.0
56558-16-8	PCB-104	U	.94	.94	pg/L	0.940	20.0
32598-14-4	PCB-105	U	1.84	1.84	pg/L	1.84	20.0
70424-69-0	PCB-106	U	1.66	1.66	pg/L	1.66	20.0
70424-68-9	PCB-107	U	1.56	1.56	pg/L	1.56	20.0
PCB-108/124	PCB-108/PCB-124	CU	1.78	1.78	pg/L	1.78	40.0
PCB-110/115	PCB-110/PCB-115	CJ	4.54	1.57	pg/L	1.22	40.0
39635-32-0	PCB-111	U	1.16	1.16	pg/L	1.16	20.0
74472-36-9	PCB-112	U	1.04	1.04	pg/L	1.04	20.0
74472-37-0	PCB-114	U	1.8	1.8	pg/L	1.80	20.0
31508-00-6	PCB-118	U	4.12	1.7	pg/L	1.70	20.0
68194-12-7	PCB-120	U	1.04	1.04	pg/L	1.04	20.0
56558-18-0	PCB-121	U	1.18	1.18	pg/L	1.18	20.0
76842-07-4	PCB-122	U	1.78	1.78	pg/L	1.78	20.0
65510-44-3	PCB-123	U	1.76	1.76	pg/L	1.76	20.0
57465-28-8	PCB-126	U	1.98	1.98	pg/L	1.98	20.0

Comments:

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

J Value is estimated

K Estimated Maximum Possible Concentration

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

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017259			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	MB for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 18:53	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
39635-33-1	PCB-127	U	1.68	1.68	pg/L	1.68	20.0
PCB-128/166	PCB-128/PCB-166	CU	1.3	1.3	pg/L	1.30	40.0
PCB-129-163	PCB-129/PCB-138/PCB-163	CJ	6.20	1.98	pg/L	1.46	60.0
52663-66-8	PCB-130	U	1.58	1.58	pg/L	1.58	20.0
61798-70-7	PCB-131	U	1.9	1.9	pg/L	1.90	20.0
38380-05-1	PCB-132	U	2.36	1.72	pg/L	1.72	20.0
35694-04-3	PCB-133	U	1.52	1.52	pg/L	1.52	20.0
52704-70-8	PCB-134	U	2.14	2.14	pg/L	2.14	20.0
PCB-135/151	PCB-135/PCB-151	CU	2.82	1.04	pg/L	1.04	40.0
38411-22-2	PCB-136	U	0.860	.76	pg/L	0.760	20.0
35694-06-5	PCB-137	U	1.64	1.64	pg/L	1.64	20.0
PCB-139/140	PCB-139/PCB-140	CU	1.46	1.46	pg/L	1.46	40.0
52712-04-6	PCB-141	U	1.4	1.4	pg/L	1.40	20.0
41411-61-4	PCB-142	U	1.62	1.62	pg/L	1.62	20.0
68194-15-0	PCB-143	U	1.44	1.44	pg/L	1.44	20.0
68194-14-9	PCB-144	U	.96	.96	pg/L	0.960	20.0
74472-40-5	PCB-145	U	.84	.84	pg/L	0.840	20.0
51908-16-8	PCB-146	U	1.2	1.2	pg/L	1.20	20.0
PCB-147/149	PCB-147/PCB-149	CU	4.98	1.44	pg/L	1.44	40.0
74472-41-6	PCB-148	U	.96	.96	pg/L	0.960	20.0
68194-08-1	PCB-150	U	.82	.82	pg/L	0.820	20.0
68194-09-2	PCB-152	U	.72	.72	pg/L	0.720	20.0
PCB-153/168	PCB-153/PCB-168	CU	4.28	1.22	pg/L	1.22	40.0
60145-22-4	PCB-154	U	.86	.86	pg/L	0.860	20.0
33979-03-2	PCB-155	U	.76	.76	pg/L	0.760	20.0
PCB-156/157	PCB-156/PCB-157	CU	2.14	1.48	pg/L	1.48	40.0
74472-42-7	PCB-158	U	1	1	pg/L	1.00	20.0
39635-35-3	PCB-159	U	1.1	1.1	pg/L	1.10	20.0
41411-62-5	PCB-160	U	1.26	1.26	pg/L	1.26	20.0
74472-43-8	PCB-161	U	1.06	1.06	pg/L	1.06	20.0
39635-34-2	PCB-162	U	1.16	1.16	pg/L	1.16	20.0
74472-45-0	PCB-164	U	1.08	1.08	pg/L	1.08	20.0

Comments:

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

J Value is estimated

K Estimated Maximum Possible Concentration

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

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017259			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	MB for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 18:53	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-46-1	PCB-165	U	1.32	1.32	pg/L	1.32	20.0
52663-72-6	PCB-167	U	1.14	1.1	pg/L	1.10	20.0
32774-16-6	PCB-169	U	1.2	1.2	pg/L	1.20	20.0
35065-30-6	PCB-170	U	2.24	1.08	pg/L	1.08	20.0
PCB-171/173	PCB-171/PCB-173	CU	1.20	1.1	pg/L	1.10	40.0
52663-74-8	PCB-172	U	1.1	1.1	pg/L	1.10	20.0
38411-25-5	PCB-174	U	3.08	1.04	pg/L	1.04	20.0
40186-70-7	PCB-175	U	.8	.8	pg/L	0.800	20.0
52663-65-7	PCB-176	U	.64	.64	pg/L	0.640	20.0
52663-70-4	PCB-177	U	1.22	1.12	pg/L	1.12	20.0
52663-67-9	PCB-178	U	.84	.84	pg/L	0.840	20.0
52663-64-6	PCB-179	U	0.660	.64	pg/L	0.640	20.0
PCB-180/193	PCB-180/PCB-193	CU	.92	.92	pg/L	0.920	40.0
74472-47-2	PCB-181	U	1.14	1.14	pg/L	1.14	20.0
60145-23-5	PCB-182	U	.78	.78	pg/L	0.780	20.0
PCB-183/185	PCB-183/PCB-185	CU	1.78	1.06	pg/L	1.06	40.0
74472-48-3	PCB-184	U	.64	.64	pg/L	0.640	20.0
74472-49-4	PCB-186	U	.72	.72	pg/L	0.720	20.0
52663-68-0	PCB-187	U	3.04	.84	pg/L	0.840	20.0
74487-85-7	PCB-188	U	.68	.68	pg/L	0.680	20.0
39635-31-9	PCB-189	U	1.30	1.08	pg/L	1.08	20.0
41411-64-7	PCB-190	U	.82	.82	pg/L	0.820	20.0
74472-50-7	PCB-191	U	.8	.8	pg/L	0.800	20.0
74472-51-8	PCB-192	U	.96	.96	pg/L	0.960	20.0
35694-08-7	PCB-194	U	1.52	.72	pg/L	0.720	20.0
52663-78-2	PCB-195	U	.78	.78	pg/L	0.780	20.0
42740-50-1	PCB-196	U	.8	.8	pg/L	0.800	20.0
PCB-197/200	PCB-197/PCB-200	CU	.66	.66	pg/L	0.660	40.0
PCB-198/199	PCB-198/PCB-199	CKU	1.18	.84	pg/L	0.840	40.0
40186-71-8	PCB-201	U	.64	.64	pg/L	0.640	20.0
2136-99-4	PCB-202	U	.7	.7	pg/L	0.700	20.0
52663-76-0	PCB-203	U	0.920	.82	pg/L	0.820	20.0

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1609609_1609C98**	**Client:**	**NMED001**	**Project:**	**NMED00113**
Lab Sample ID:	**12017259**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33207**				
Client ID:	**MB for batch 33207**			**Prep Basis:**	**As Received**
Batch ID:	**33209**	**Method:**	**EPA Method 1668A HS**		
Run Date:	**11/09/2016 18:53**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09nov16a-4**			**Dilution:**	**1**
Prep Batch:	**33207**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-NOV-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-52-9	PCB-204	U	.64	.64	pg/L	0.640	20.0
74472-53-0	PCB-205	U	0.640	.62	pg/L	0.620	20.0
40186-72-9	PCB-206	U	1.06	1.06	pg/L	1.06	20.0
52663-79-3	PCB-207	U	.78	.78	pg/L	0.780	20.0
52663-77-1	PCB-208	U	.84	.84	pg/L	0.840	20.0
2051-24-3	PCB-209	U	1.22	.68	pg/L	0.680	20.0
27323-18-8	Total monoCB	U	0	0	pg/L		
25512-42-9	Total diCB		335	319	pg/L		
25323-68-6	Total triCB		53.5	27.7	pg/L		
26914-33-0	Total tetraCB		37.9	18	pg/L		
25429-29-2	Total pentaCB		24.4	5.43	pg/L		
26601-64-9	Total hexaCB		24.8	1.98	pg/L		
28655-71-2	Total heptaCB	U	14.5	0	pg/L		
55722-26-4	Total octaCB	U	3.08	0	pg/L		
53742-07-7	Total nonaCB	U	0	0	pg/L		
DECACB(Tot)	Total decaCB	U	1.22	0	pg/L		
1336-36-3	Total PCB		495	372	pg/L		
TEQ 7	TOTAL (TEQ ND=1/2 DL)_2005		0.118		pg/L		
TEQ 8	TOTAL (TEQ ND=0)_2005		0.000429		pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		661	2000	pg/L	33.1	(15%-150%)
13C-3-MoCB		660	2000	pg/L	33.0	(15%-150%)
13C-4-DiCB		635	2000	pg/L	31.7	(25%-150%)
13C-15-DiCB		1670	2000	pg/L	83.7	(25%-150%)
13C-19-TrCB		1180	2000	pg/L	59.1	(25%-150%)
13C-37-TrCB		1290	2000	pg/L	64.3	(25%-150%)
13C-54-TeCB		721	2000	pg/L	36.1	(25%-150%)
13C-77-TeCB		1730	2000	pg/L	86.3	(25%-150%)
13C-81-TeCB		1710	2000	pg/L	85.3	(25%-150%)
13C-104-PeCB		908	2000	pg/L	45.4	(25%-150%)
13C-105-PeCB		1510	2000	pg/L	75.7	(25%-150%)
13C-114-PeCB		1450	2000	pg/L	72.4	(25%-150%)
13C-118-PeCB		1480	2000	pg/L	74.1	(25%-150%)
13C-123-PeCB		1480	2000	pg/L	74.2	(25%-150%)
13C-126-PeCB		1620	2000	pg/L	81.2	(25%-150%)
13C-155-HxCB		1070	2000	pg/L	53.4	(25%-150%)
13C-156-HxCB	C	2710	4000	pg/L	67.7	(25%-150%)
13C-167-HxCB		1390	2000	pg/L	69.6	(25%-150%)
13C-169-HxCB		1450	2000	pg/L	72.5	(25%-150%)
13C-188-HpCB		1330	2000	pg/L	66.4	(25%-150%)
13C-189-HpCB		1420	2000	pg/L	71.0	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017259			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	MB for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 18:53	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1520	2000	pg/L	75.9	(25%-150%)
13C-205-OcCB		1720	2000	pg/L	86.1	(25%-150%)
13C-206-NoCB		1780	2000	pg/L	89.2	(25%-150%)
13C-208-NoCB		1620	2000	pg/L	80.8	(25%-150%)
13C-209-DeCB		1930	2000	pg/L	96.6	(25%-150%)
13C-28-TrCB		1220	2000	pg/L	60.9	(30%-135%)
13C-111-PeCB		1620	2000	pg/L	81.0	(30%-135%)
13C-178-HpCB		1690	2000	pg/L	84.7	(30%-135%)

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1609609_1609C98**	**Client:**	**NMED001**	**Project:**	**NMED00113**
Lab Sample ID:	**12017260**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 33207**				
Client ID:	**LCS for batch 33207**			**Prep Basis:**	**As Received**
Batch ID:	**33209**	**Method:**	**EPA Method 1668A HS**		
Run Date:	**11/09/2016 16:41**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09nov16a-2**			**Dilution:**	**1**
Prep Batch:	**33207**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-NOV-16**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1		522	518	pg/L	5.74	40.0
2051-62-9	PCB-3		606	604	pg/L	4.96	40.0
13029-08-8	PCB-4		508	499	pg/L	4.28	40.0
2050-68-2	PCB-15		528	523	pg/L	4.74	40.0
38444-73-4	PCB-19		497	494	pg/L	2.40	20.0
38444-90-5	PCB-37		487	484	pg/L	6.88	20.0
15968-05-5	PCB-54		1000	1000	pg/L	1.16	20.0
32598-13-3	PCB-77		945	942	pg/L	4.18	20.0
70362-50-4	PCB-81		1120	1120	pg/L	3.92	20.0
56558-16-8	PCB-104		1060	1060	pg/L	1.18	20.0
32598-14-4	PCB-105		1180	1180	pg/L	5.10	20.0
74472-37-0	PCB-114		1020	1020	pg/L	5.02	20.0
31508-00-6	PCB-118		981	977	pg/L	4.70	20.0
65510-44-3	PCB-123		920	916	pg/L	4.86	20.0
57465-28-8	PCB-126		1020	1010	pg/L	5.84	20.0
33979-03-2	PCB-155		983	980	pg/L	0.720	20.0
PCB-156/157	PCB-156/PCB-157	C	2230	2230	pg/L	6.24	40.0
52663-72-6	PCB-167		1150	1150	pg/L	4.52	20.0
32774-16-6	PCB-169		1020	1010	pg/L	5.24	20.0
74487-85-7	PCB-188		975	972	pg/L	0.920	20.0
39635-31-9	PCB-189		977	971	pg/L	2.34	20.0
2136-99-4	PCB-202		1430	1430	pg/L	1.02	20.0
74472-53-0	PCB-205		1290	1290	pg/L	1.32	20.0
40186-72-9	PCB-206		1410	1410	pg/L	1.42	20.0
52663-77-1	PCB-208		1500	1490	pg/L	1.12	20.0
2051-24-3	PCB-209		1380	1380	pg/L	0.880	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		1100	2000	pg/L	55.0	(15%-140%)
13C-3-MoCB		1040	2000	pg/L	51.8	(15%-140%)
13C-4-DiCB		1040	2000	pg/L	52.1	(30%-140%)
13C-15-DiCB		1790	2000	pg/L	89.3	(30%-140%)
13C-19-TrCB		1630	2000	pg/L	81.3	(30%-140%)
13C-37-TrCB		1460	2000	pg/L	72.9	(30%-140%)
13C-54-TeCB		1100	2000	pg/L	54.8	(30%-140%)
13C-77-TeCB		1890	2000	pg/L	94.6	(30%-140%)
13C-81-TeCB		1910	2000	pg/L	95.3	(30%-140%)
13C-104-PeCB		1170	2000	pg/L	58.4	(30%-140%)
13C-105-PeCB		1660	2000	pg/L	82.9	(30%-140%)
13C-114-PeCB		1610	2000	pg/L	80.7	(30%-140%)
13C-118-PeCB		1660	2000	pg/L	82.8	(30%-140%)
13C-123-PeCB		1680	2000	pg/L	84.1	(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017260			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	LCS for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 16:41	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-2			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-126-PeCB		1710	2000	pg/L	85.5	(30%-140%)
13C-155-HxCB		1330	2000	pg/L	66.4	(30%-140%)
13C-156-HxCB	C	2970	4000	pg/L	74.3	(30%-140%)
13C-167-HxCB		1540	2000	pg/L	76.9	(30%-140%)
13C-169-HxCB		1540	2000	pg/L	77.2	(30%-140%)
13C-188-HpCB		1550	2000	pg/L	77.6	(30%-140%)
13C-189-HpCB		1570	2000	pg/L	78.5	(30%-140%)
13C-202-OcCB		1700	2000	pg/L	84.9	(30%-140%)
13C-205-OcCB		1940	2000	pg/L	97.1	(30%-140%)
13C-206-NoCB		2010	2000	pg/L	101	(30%-140%)
13C-208-NoCB		1810	2000	pg/L	90.5	(30%-140%)
13C-209-DeCB		2160	2000	pg/L	108	(30%-140%)
13C-28-TrCB		1280	2000	pg/L	63.8	(40%-125%)
13C-111-PeCB		1630	2000	pg/L	81.4	(40%-125%)
13C-178-HpCB		1710	2000	pg/L	85.5	(40%-125%)

Comments:

B The target analyte was detected in the associated blank.

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

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017261			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	LCSD for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 17:47	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1		458	454	pg/L	5.08	40.0
2051-62-9	PCB-3		546	544	pg/L	4.68	40.0
13029-08-8	PCB-4		433	424	pg/L	5.84	40.0
2050-68-2	PCB-15		478	473	pg/L	3.62	40.0
38444-73-4	PCB-19		451	447	pg/L	2.06	20.0
38444-90-5	PCB-37		423	420	pg/L	2.02	20.0
15968-05-5	PCB-54		879	876	pg/L	1.08	20.0
32598-13-3	PCB-77		829	826	pg/L	2.42	20.0
70362-50-4	PCB-81		970	968	pg/L	2.34	20.0
56558-16-8	PCB-104		923	920	pg/L	0.680	20.0
32598-14-4	PCB-105		1040	1030	pg/L	3.62	20.0
74472-37-0	PCB-114		892	888	pg/L	3.56	20.0
31508-00-6	PCB-118		845	842	pg/L	3.34	20.0
65510-44-3	PCB-123		797	793	pg/L	3.50	20.0
57465-28-8	PCB-126		910	906	pg/L	3.98	20.0
33979-03-2	PCB-155		876	873	pg/L	0.540	20.0
PCB-156/157	PCB-156/PCB-157	C	1920	1920	pg/L	3.62	40.0
52663-72-6	PCB-167		999	996	pg/L	2.72	20.0
32774-16-6	PCB-169		869	864	pg/L	3.00	20.0
74487-85-7	PCB-188		837	834	pg/L	0.560	20.0
39635-31-9	PCB-189		837	831	pg/L	1.20	20.0
2136-99-4	PCB-202		1220	1220	pg/L	0.680	20.0
74472-53-0	PCB-205		1120	1110	pg/L	0.800	20.0
40186-72-9	PCB-206		1200	1200	pg/L	0.900	20.0
52663-77-1	PCB-208		1290	1290	pg/L	0.740	20.0
2051-24-3	PCB-209		1200	1190	pg/L	0.500	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-1-MoCB		1050	2000	pg/L	52.3		(15%-140%)
13C-3-MoCB		971	2000	pg/L	48.6		(15%-140%)
13C-4-DiCB		984	2000	pg/L	49.2		(30%-140%)
13C-15-DiCB		3070	2000	pg/L	153	*	(30%-140%)
13C-19-TrCB		1950	2000	pg/L	97.5		(30%-140%)
13C-37-TrCB		2200	2000	pg/L	110		(30%-140%)
13C-54-TeCB		1120	2000	pg/L	55.8		(30%-140%)
13C-77-TeCB		2920	2000	pg/L	146	*	(30%-140%)
13C-81-TeCB		2920	2000	pg/L	146	*	(30%-140%)
13C-104-PeCB		1520	2000	pg/L	75.8		(30%-140%)
13C-105-PeCB		2520	2000	pg/L	126		(30%-140%)
13C-114-PeCB		2440	2000	pg/L	122		(30%-140%)
13C-118-PeCB		2480	2000	pg/L	124		(30%-140%)
13C-123-PeCB		2510	2000	pg/L	126		(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017261			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	LCSD for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 17:47	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-126-PeCB		2680	2000	pg/L	134		(30%-140%)
13C-155-HxCB		1750	2000	pg/L	87.5		(30%-140%)
13C-156-HxCB	C	4400	4000	pg/L	110		(30%-140%)
13C-167-HxCB		2290	2000	pg/L	114		(30%-140%)
13C-169-HxCB		2340	2000	pg/L	117		(30%-140%)
13C-188-HpCB		2170	2000	pg/L	108		(30%-140%)
13C-189-HpCB		2320	2000	pg/L	116		(30%-140%)
13C-202-OcCB		2440	2000	pg/L	122		(30%-140%)
13C-205-OcCB		2800	2000	pg/L	140		(30%-140%)
13C-206-NoCB		2920	2000	pg/L	146	*	(30%-140%)
13C-208-NoCB		2620	2000	pg/L	131		(30%-140%)
13C-209-DeCB		3150	2000	pg/L	158	*	(30%-140%)
13C-28-TrCB		1460	2000	pg/L	72.9		(40%-125%)
13C-111-PeCB		2010	2000	pg/L	101		(40%-125%)
13C-178-HpCB		2080	2000	pg/L	104		(40%-125%)

Comments:

B The target analyte was detected in the associated blank.

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609609**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27492**	SampType:	**MBLK**	TestCode:	**EPA Method 1664A**					
Client ID:	**PBW**	Batch ID:	**27492**	RunNo:	**37211**					
Prep Date:	**9/14/2016**	Analysis Date:	**9/14/2016**	SeqNo:	**1154883**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	ND	10								

Sample ID	**LCS-27492**	SampType:	**LCS**	TestCode:	**EPA Method 1664A**					
Client ID:	**LCSW**	Batch ID:	**27492**	RunNo:	**37211**					
Prep Date:	**9/14/2016**	Analysis Date:	**9/14/2016**	SeqNo:	**1154884**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	39	10	40.00	0	98.0	78	114			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609609**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MBLK-D**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**D37643**	RunNo:	**37643**				
Prep Date:		Analysis Date:	**10/3/2016**	SeqNo:	**1171903**	Units:	**mg/L**		

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

Sample ID	**MB-B**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B37699**	RunNo:	**37699**				
Prep Date:		Analysis Date:	**10/5/2016**	SeqNo:	**1174283**	Units:	**mg/L**		

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

Sample ID	**LCS-B**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B37699**	RunNo:	**37699**				
Prep Date:		Analysis Date:	**10/5/2016**	SeqNo:	**1174284**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	52	1.0	50.00	0	104	85	115			

Sample ID	**LLLCS-B**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B37699**	RunNo:	**37699**				
Prep Date:		Analysis Date:	**10/5/2016**	SeqNo:	**1174285**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	ND	1.0	0.5000	0	113	50	150			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609609**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **C37623**			RunNo: **37623**					
Prep Date:		Analysis Date: **9/30/2016**			SeqNo: **1171239**		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	95.1	85	115			
Lead	0.012	0.00050	0.01250	0	94.9	85	115			

Sample ID	**LLLCS**	SampType: **LCSLL**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **C37623**			RunNo: **37623**					
Prep Date:		Analysis Date: **9/30/2016**			SeqNo: **1171246**		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	114	50	150			
Lead	0.00050	0.00050	0.0005000	0	100	50	150			

Sample ID	**MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **C37623**			RunNo: **37623**					
Prep Date:		Analysis Date: **9/30/2016**			SeqNo: **1171252**		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								

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609609**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R37171**	RunNo: **37171**
Prep Date:	Analysis Date: **9/13/2016**	SeqNo: **1153024** 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: **R37171**	RunNo: **37171**
Prep Date:	Analysis Date: **9/13/2016**	SeqNo: **1153025** 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	99.2	90	110			

Sample ID **1609609-001DMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **Rio Grande-North 0**	Batch ID: **R37171**	RunNo: **37171**
Prep Date:	Analysis Date: **9/13/2016**	SeqNo: **1153037** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.0	79.8	108			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0.08590	97.5	82.9	118			

Sample ID **1609609-001DMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **Rio Grande-North 0**	Batch ID: **R37171**	RunNo: **37171**
Prep Date:	Analysis Date: **9/13/2016**	SeqNo: **1153038** 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	79.8	108	0.636	20	
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0.08590	98.0	82.9	118	0.569	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609609**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27487**	SampType:	**MBLK**		TestCode:	**SM5210B: BOD**				
Client ID:	**PBW**	Batch ID:	**27487**		RunNo:	**37444**				
Prep Date:	**9/14/2016**	Analysis Date:	**9/19/2016**		SeqNo:	**1164081**	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	**MB--27487**	SampType:	**MBLK**		TestCode:	**SM5210B: BOD**				
Client ID:	**PBW**	Batch ID:	**27487**		RunNo:	**37444**				
Prep Date:	**9/14/2016**	Analysis Date:	**9/19/2016**		SeqNo:	**1164082**	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-27487**	SampType:	**LCS**		TestCode:	**SM5210B: BOD**				
Client ID:	**LCSW**	Batch ID:	**27487**		RunNo:	**37444**				
Prep Date:	**9/14/2016**	Analysis Date:	**9/19/2016**		SeqNo:	**1164083**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	180	2.0	198.0	0	88.7	56.9	131			

Sample ID	**LCSD-27487**	SampType:	**LCSD**		TestCode:	**SM5210B: BOD**				
Client ID:	**LCSS02**	Batch ID:	**27487**		RunNo:	**37444**				
Prep Date:	**9/14/2016**	Analysis Date:	**9/19/2016**		SeqNo:	**1164084**	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	84.7	56.9	131	4.66	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609609**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27474**	SampType:	**MBLK**	TestCode:	**SM 9223B Fecal Indicator: E. coli MPN**					
Client ID:	**PBW**	Batch ID:	**27474**	RunNo:	**37218**					
Prep Date:	**9/13/2016**	Analysis Date:	**9/14/2016**	SeqNo:	**1154952**	Units:	**CFU/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.	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609609**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID **MB**	SampType: **MBLK**	TestCode: **SM 4500 NH3: Ammonia**
Client ID: **PBW**	Batch ID: **R37673**	RunNo: **37673**
Prep Date:	Analysis Date: **10/4/2016**	SeqNo: **1173090** 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: **R37673**	RunNo: **37673**
Prep Date:	Analysis Date: **10/4/2016**	SeqNo: **1173091** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	9.7	1.0	10.00	0	96.6	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609609**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27693**	SampType:	**MBLK**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**PBW**	Batch ID:	**27693**	RunNo:	**37505**					
Prep Date:	**9/26/2016**	Analysis Date:	**9/27/2016**	SeqNo:	**1166156**	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-27693**	SampType:	**LCS**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**LCSW**	Batch ID:	**27693**	RunNo:	**37505**					
Prep Date:	**9/26/2016**	Analysis Date:	**9/27/2016**	SeqNo:	**1166157**	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	98.0	90	110			

Sample ID	**1609609-001DMS**	SampType:	**MS**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**Rio Grande-North 0**	Batch ID:	**27693**	RunNo:	**37505**					
Prep Date:	**9/26/2016**	Analysis Date:	**9/27/2016**	SeqNo:	**1166159**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.30	0.010	0.2500	0.05240	99.5	90	110			

Sample ID	**1609609-001DMSD**	SampType:	**MSD**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**Rio Grande-North 0**	Batch ID:	**27693**	RunNo:	**37505**					
Prep Date:	**9/26/2016**	Analysis Date:	**9/27/2016**	SeqNo:	**1166160**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.30	0.010	0.2500	0.05240	100	90	110	0.530	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609609**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27539**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**27539**	RunNo:	**37290**					
Prep Date:	**9/16/2016**	Analysis Date:	**9/19/2016**	SeqNo:	**1157797**	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-27539**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**27539**	RunNo:	**37290**					
Prep Date:	**9/16/2016**	Analysis Date:	**9/19/2016**	SeqNo:	**1157798**	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.	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609609**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID **MB-27768**	SampType: **MBLK**	TestCode: **SM 4500 Norg C: TKN**							
Client ID: **PBW**	Batch ID: **27768**	RunNo: **37637**							
Prep Date: **9/28/2016**	Analysis Date: **10/3/2016**	SeqNo: **1171460**	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-27768**	SampType: **LCS**	TestCode: **SM 4500 Norg C: TKN**							
Client ID: **LCSW**	Batch ID: **27768**	RunNo: **37637**							
Prep Date: **9/28/2016**	Analysis Date: **10/3/2016**	SeqNo: **1171461**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	9.8	1.0	10.00	0	98.0	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609609**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27523**	SampType:	**MBLK**	TestCode:	**SM 2540D: TSS**					
Client ID:	**PBW**	Batch ID:	**27523**	RunNo:	**37265**					
Prep Date:	**9/15/2016**	Analysis Date:	**9/16/2016**	SeqNo:	**1157022**	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-27523**	SampType:	**LCS**	TestCode:	**SM 2540D: TSS**					
Client ID:	**LCSW**	Batch ID:	**27523**	RunNo:	**37265**					
Prep Date:	**9/15/2016**	Analysis Date:	**9/16/2016**	SeqNo:	**1157023**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	110	4.0	92.50	0	114	83.35	118.92			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: AMAFCA Work Order Number: 1609609 RcptNo: 1

Received by/date: AF 09/13/16

Logged By: Ashley Gallegos 9/13/2016 10:35:00 AM

Completed By: Ashley Gallegos 9/13/2016 12:09:06 PM

Reviewed By: AF 09/13/16 @ 1230

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. 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: _____

Special Handling (if applicable)

16. 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: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

email or Fax#: pchavez@amafca.org

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: C. Johannesen

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.1 + 0.5 = 2.6

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. 1609109	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)	See attached table	E. coli, -num	Diss Phos		Air Bubbles (Y or N)
9-12-16	1100	AQ	Rio Grande-North-091216		NAMINOS	-001												X				
9-13-16	0715	AQ	Rio Grande-South-091316			-002												X	X			
—	—	AQ	Tr. blank	3	HCL	-003												X				
09/12	1100	AQ	Rio Grande North 091216 Filtered			-004	JU													X		
09/13	0715	AQ	Rio Grande South 091316 Filtered			-005	9/13/16													X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
9-13-16	1030			9/13/16	10:35
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.

AMAFCA and CMC samples

Hardness
TSS
TDS
COD
BOD
DO
Oil & grease
E. coli
pH
Total kjeldahl nitrogen
Nitrate plus nitrite
Dissolved phosphorus
Ammonia plus organic nitrogen
Total Phosphorus
Chromium IV
Copper-dissolved
Lead-dissolved
PCBs
Gross Alpha
Tetrahydrofuran
Benzo(a)pyrene
Benzo(b)fluoranthene, alternate name 3, 4 Benzofluoranthene
Benzo(k)fluoranthene
Chrysene
Indeno(1,2,3-cd)pyrene
Dieldrin
Pentachlorophenol
Benzidine
Benzo(a)anthracene
Pentachlorophenol
Dibenzofuran
Dibenzo(a,h)anthracene
Bis(2-ethylhexyl)phthalate

AMAFCA E.Coli only sites:

- Bear Arroyo
- Main Hanh Arroyo
- Embudo

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 03, 2016

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

RE: CMC OrderNo.: 1609B94

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/21/2016 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 qualifers 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 #NM0190

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Data - Provided by DBS&A (field notebook & e-mails):
9/21/16 - Rio Grande North
DO = 7.14 mg/L, pH = 8.96, Conductivity = 298 umhos/cm, and Temperature = 20.99°C

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1609B94**
Date Reported: **10/3/2016**

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North-092116
Project: CMC
Collection Date: 9/21/2016 12:15:00 PM
Lab ID: 1609B94-001 **Matrix:** AQUEOUS **Received Date:** 9/21/2016 2:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	31.1	1.000		CFU/100ml	1	9/22/2016 3:52:00 PM	27644

Equivalent to MPN/100 mL

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: AMAFCA | Work Order Number: 1609B94 | RcptNo: 1

Received by/date: AF 09/21/16

Logged By: **Michelle Garcia** 9/21/2016 2:00:00 PM Michelle Garcia

Completed By: **Michelle Garcia** 9/21/2016 2:30:00 PM Michelle Garcia

Reviewed By: AJ 09/21/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. 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.			
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. 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: _____

Special Handling (if applicable)

16. 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: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	18	Good	Not Present			

Chain-of-Custody Record

ient: AMAFCA

ailing Address:

one #:

nail or Fax#: pchavez@amafca.org

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

ccreditation
NELAP ☐ Other

EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
CMC

Project #:

Project Manager:
Patrick Chavez

Sampler: C. Johannesen

On Ice: ☒ Yes ☐ No

Sample Temperature: 18°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 Request ID	Container Type and #	Preservative Type	HEAL No.
9-16	12:15	AQ	Rio Grande-North-092116	1		1609B94-001

Analysis Request

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)	E coli; Nam				Air Bubbles (Y or N)
											X				

Date	Time	Relinquished by:	Received by:	Date	Time
9-21-16	1400			9/21/16	1400

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
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 02, 2016

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

RE: CMC OrderNo.: 1609C98

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 3 sample(s) on 9/22/2016 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 27, 2016.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,<<>>



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Data - Provided by DBS&A (field notebook & e-mails):
9/21/16 - Rio Grande North
DO = 7.14 mg/L, pH = 8.96, Conductivity = 298 umhos/cm, and Temperature = 20.99°C
9/22/16 - Rio Grande South
DO = 8.29 mg/L, pH = 9.03, Conductivity = 436 umhos/cm, and Temperature = 22.03 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Case Narrative

WO#: **1609C98**
Date: **12/2/2016**

CLIENT: AMAFCA
Project: CMC

Analytical Notes Regarding EPA method 1668
The sample ID equivalents are listed below.
1609C98-001G =Rio Grande-North-092116
1609C98-002G = Rio Grande-South-092216

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North-092116
Project: CMC
Collection Date: 9/21/2016 12:15:00 PM
Lab ID: 1609C98-001B
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD						Analyst: **SMS**	
Biochemical Oxygen Demand	DO Depletion<2.0	2.0		mg/L	1	9/27/2016 2:30:00 PM	27653

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North-092116
Project: CMC
Collection Date: 9/21/2016 12:15:00 PM
Lab ID: 1609C98-001D
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/23/2016 11:28:54 AM	A37430
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	9/23/2016 11:28:54 AM	A37430
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SRM**	
Total Dissolved Solids	215	20.0		mg/L	1	9/30/2016 12:29:00 PM	27761
SM 4500 NH3: AMMONIA						Analyst: **CJS**	
Nitrogen, Ammonia	ND	1.0		mg/L	1	10/12/2016 2:42:00 PM	R37892
TOTAL NITROGEN						Analyst: **SRM**	
Nitrogen, Total	ND	1.0		mg/L	1	10/25/2016 10:29:00 AM	R38181
SM4500-H+B: PH						Analyst: **JRR**	
pH	8.46	1.68	H	pH units	1	9/23/2016 1:22:25 PM	R37460
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.042	0.010		mg/L	1	10/12/2016 3:53:36 PM	28009
SM 4500 NORG C: TKN						Analyst: **CJS**	
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	10/13/2016 10:18:00 AM	28008
SM 2540D: TSS						Analyst: **KS**	
Suspended Solids	26	4.0		mg/L	1	9/29/2016 4:56:00 PM	27741

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609C98-001E

Client Sample ID: Rio Grande-North-092116
Collection Date: 9/21/2016 12:15:00 PM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 1664A						Analyst: **tnc**	
N-Hexane Extractable Material	ND	9.5		mg/L	1	9/26/2016 10:34:00 AM	27691

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North-092116
Project: CMC
Collection Date: 9/21/2016 12:15:00 PM
Lab ID: 1609C98-001F
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS						Analyst: **JLF**	
Copper	0.0013	0.0010		mg/L	1	10/13/2016 8:24:11 PM	B37945
Lead	ND	0.00050		mg/L	1	10/13/2016 8:24:11 PM	B37945
SM2340B: HARDNESS						Analyst: **ELS**	
Hardness (As CaCO3)	130	6.6		mg/L	1	10/3/2016 12:20:00 PM	R37643
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Calcium	42	1.0		mg/L	1	10/4/2016 1:25:20 AM	D37643
Magnesium	7.1	1.0		mg/L	1	10/4/2016 1:25:20 AM	D37643

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609C98-001K

Client Sample ID: Rio Grande-North-092116
Collection Date: 9/21/2016 12:15:00 PM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.016	0.010		mg/L	1	10/12/2016 3:58:06 PM	28009

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609C98-002A

Client Sample ID: Rio Grande-South-092216
Collection Date: 9/22/2016 11:00:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **tnc**	
E. Coli	517.2	1.000		CFU/100ml	1	9/23/2016 5:15:00 PM	27666

Equivalent to MPN/100 mL

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609C98-002B

Client Sample ID: Rio Grande-South-092216
Collection Date: 9/22/2016 11:00:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD						Analyst: **SMS**	
Biochemical Oxygen Demand	DO Depletion<2.0	2.0		mg/L	1	9/28/2016 3:30:00 PM	27670

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-South-092216
Project: CMC
Collection Date: 9/22/2016 11:00:00 AM
Lab ID: 1609C98-002D
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/23/2016 9:02:48 AM	B37435
Nitrogen, Nitrate (As N)	0.95	0.10		mg/L	1	9/23/2016 9:02:48 AM	B37435
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SRM**	
Total Dissolved Solids	301	20.0		mg/L	1	9/30/2016 12:29:00 PM	27761
SM 4500 NH3: AMMONIA						Analyst: **CJS**	
Nitrogen, Ammonia	ND	1.0		mg/L	1	10/12/2016 2:42:00 PM	R37892
TOTAL NITROGEN						Analyst: **SRM**	
Nitrogen, Total	ND	1.0		mg/L	1	10/25/2016 10:29:00 AM	R38181
SM4500-H+B: PH						Analyst: **JRR**	
pH	8.41	1.68	H	pH units	1	9/23/2016 1:26:43 PM	R37460
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.42	0.010		mg/L	1	10/12/2016 3:59:36 PM	28009
SM 4500 NORG C: TKN						Analyst: **CJS**	
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	10/13/2016 10:18:00 AM	28008
SM 2540D: TSS						Analyst: **KS**	
Suspended Solids	60	4.0		mg/L	1	9/29/2016 4:56:00 PM	27741

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609C98-002E

Client Sample ID: Rio Grande-South-092216
Collection Date: 9/22/2016 11:00:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 1664A						Analyst: **tnc**	
N-Hexane Extractable Material	ND	9.6		mg/L	1	9/26/2016 10:34:00 AM	27691

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-South-092216
Project: CMC
Collection Date: 9/22/2016 11:00:00 AM
Lab ID: 1609C98-002F
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS						Analyst: **JLF**	
Copper	0.0012	0.0010		mg/L	1	10/13/2016 8:29:19 PM	B37945
Lead	ND	0.00050		mg/L	1	10/13/2016 8:29:19 PM	B37945
SM2340B: HARDNESS						Analyst: **ELS**	
Hardness (As CaCO3)	150	6.6		mg/L	1	10/3/2016 12:20:00 PM	R37643
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Calcium	48	1.0		mg/L	1	10/4/2016 1:29:32 AM	D37643
Magnesium	8.1	1.0		mg/L	1	10/4/2016 1:29:32 AM	D37643

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC
Lab ID: 1609C98-002L

Client Sample ID: Rio Grande-South-092216
Collection Date: 9/22/2016 11:00:00 AM
Matrix: Aqueous

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS						Analyst: **JRR**	
Phosphorus, Total (As P)	0.32	0.010		mg/L	1	10/12/2016 4:01:06 PM	28009

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160929003
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609C98
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160929003-001	**Sampling Date**	9/21/2016	**Date/Time Received**	9/27/2016 11:10 AM
Client Sample ID	1609C98-001C / RIO GRANDE-NORTH-092116			**Sampling Time**	12:15 PM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	10/4/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 160929003-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	97.6	70-130
4-Bromofluorobenzene	EPA 8260C	94.8	70-130
Toluene-d8	EPA 8260C	99.2	70-130

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160929003
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609C98
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160929003-004	**Sampling Date**	9/22/2016	**Date/Time Received**	9/27/2016 11:10 AM
Client Sample ID	1609C98-002C / RIO GRANDE-SOUTH-092216			**Sampling Time**	11:00 AM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	10/4/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 160929003-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	96.0	70-130
4-Bromofluorobenzene	EPA 8260C	90.0	70-130
Toluene-d8	EPA 8260C	99.2	70-130

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160929003
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609C98
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160929003-007	**Sampling Date**	9/22/2016	**Date/Time Received**	9/27/2016	11:10 AM
Client Sample ID	1609C98-003A / TRIP BLANK			**Sampling Time**		
Matrix	Water					
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	0.90	ug/L	0.5	10/4/2016	SAT	EPA 8260C	

Surrogate Data

Sample Number 160929003-007

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	98.8	70-130
4-Bromofluorobenzene	EPA 8260C	94.0	70-130
Toluene-d8	EPA 8260C	98.8	70-130

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160929003
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609C98
Attn:	ANDY FREEMAN		

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Tetrahydrofuran	9.12	ug/L	10	91.2	70-130	10/5/2016	10/5/2016

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Tetrahydrofuran	9.53	ug/L	10	95.3	4.4	0-25	10/5/2016	10/5/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Tetrahydrofuran	ND	ug/L	0.5	10/5/2016	10/5/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160929003
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609C98
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160929003-002	**Sampling Date**	9/21/2016	**Date/Time Received**	9/27/2016 11:10 AM
Client Sample ID	1609C98-001G / RIO GRANDE-NORTH-092116				
Matrix	Water	**Sampling Time**	12:15 PM	**Extraction Date**	9/29/2016
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	H6
Aroclor 1221 (PCB-1221)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	H6
Aroclor 1232 (PCB-1232)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	H6
Aroclor 1242 (PCB-1242)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	H6
Aroclor 1248 (PCB-1248)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	H6
Aroclor 1254 (PCB-1254)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	H6
Aroclor 1260 (PCB-1260)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	H6
Dieldrin	ND	ug/L	0.003	0.01	10/10/2016	MAH	EPA 608	H6

Surrogate Data

Sample Number 160929003-002

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 608	102.6	30-130

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160929003
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609C98
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160929003-005	**Sampling Date**	9/22/2016	**Date/Time Received**	9/27/2016 11:10 AM
Client Sample ID	1609C98-002G / RIO GRANDE-SOUTH-092216				
Matrix	Water	**Sampling Time**	11:00 AM	**Extraction Date**	9/29/2016
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.1	0.2	10/10/2016	MAH	EPA 608	
Dieldrin	ND	ug/L	0.003	0.01	10/10/2016	MAH	EPA 608	

Surrogate Data

Sample Number 160929003-005

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 608	108.4	30-130

Authorized Signature

Todd Taruscio, Lab Manager

H6	Sample was received and extracted past extraction holding time, but analyzed within analysis hold time.
MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160929003
Project Name: 1609C98

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dieldrin	0.510	ug/L	0.5	102.0	30-130	9/29/2016	10/10/2016
Aroclor 1260 (PCB-1260)	4.55	ug/L	5	91.0	50-130	9/29/2016	10/10/2016
Aroclor 1016 (PCB-1016)	5.00	ug/L	5	100.0	50-130	9/29/2016	10/10/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
160929003-002	Dieldrin	ND	0.498	ug/L	0.5	99.6	30-150	9/29/2016	10/10/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dieldrin	0.508	ug/L	0.5	101.6	2.0	0-30	9/29/2016	10/10/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aroclor 1016 (PCB-1016)	ND	ug/L	0.2	9/29/2016	10/10/2016
Aroclor 1221 (PCB-1221)	ND	ug/L	0.2	9/29/2016	10/10/2016
Aroclor 1232 (PCB-1232)	ND	ug/L	0.2	9/29/2016	10/10/2016
Aroclor 1242 (PCB-1242)	ND	ug/L	0.2	9/29/2016	10/10/2016
Aroclor 1248 (PCB-1248)	ND	ug/L	0.2	9/29/2016	10/10/2016
Aroclor 1254 (PCB-1254)	ND	ug/L	0.2	9/29/2016	10/10/2016
Aroclor 1260 (PCB-1260)	ND	ug/L	0.2	9/29/2016	10/10/2016
Dieldrin	ND	ug/L	0.01	9/29/2016	10/10/2016

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013,NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160929003
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609C98
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160929003-002	**Sampling Date**	9/21/2016	**Date/Time Received**	9/27/2016	11:10 AM
Client Sample ID	1609C98-001G / RIO GRANDE-NORTH-092116			**Extraction Date**	9/27/2016	
Matrix	Water	**Sampling Time**	12:15 PM			
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0.5	10/1/2016	HSW	EPA 625	
Benzo[a]anthracene	ND	ug/L	0.5	10/1/2016	HSW	EPA 625	
Benzo[a]pyrene	ND	ug/L	0.5	10/1/2016	HSW	EPA 625	
Benzo[b]fluoranthene	ND	ug/L	0.5	10/1/2016	HSW	EPA 625	
Benzo[k]fluoranthene	ND	ug/L	0.5	10/1/2016	HSW	EPA 625	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	10/1/2016	HSW	EPA 625	
Chrysene	ND	ug/L	0.5	10/1/2016	HSW	EPA 625	
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/1/2016	HSW	EPA 625	
Dibenzofuran	ND	ug/L	0.5	10/1/2016	HSW	EPA 625	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/1/2016	HSW	EPA 625	
Pentachlorophenol	ND	ug/L	0.5	10/1/2016	HSW	EPA 625	

Surrogate Data

Sample Number 160929003-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 625	77.2	53-122
2-Fluorobiphenyl	EPA 625	94.0	12-116
2-Fluorophenol	EPA 625	33.8	10-139
Nitrobenzene-d5	EPA 625	92.4	54-118
Phenol-d5	EPA 625	50.0	28-154
Terphenyl-d14	EPA 625	84.0	20-137

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160929003
Project Name: 1609C98

Analytical Results Report

Sample Number	160929003-005	**Sampling Date**	9/22/2016	**Date/Time Received**	9/27/2016 11:10 AM
Client Sample ID	1609C98-002G / RIO GRANDE-SOUTH-092216			**Extraction Date**	09/29/2016
Matrix	Water	**Sampling Time**	11:00 AM		
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0.5	10/14/2016	HSW	EPA 625	
Benzo[a]anthracene	ND	ug/L	0.5	10/14/2016	HSW	EPA 625	
Benzo[a]pyrene	ND	ug/L	0.5	10/14/2016	HSW	EPA 625	
Benzo[b]fluoranthene	ND	ug/L	0.5	10/14/2016	HSW	EPA 625	
Benzo[k]fluoranthene	ND	ug/L	0.5	10/14/2016	HSW	EPA 625	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	10/14/2016	HSW	EPA 625	
Chrysene	ND	ug/L	0.5	10/14/2016	HSW	EPA 625	
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/14/2016	HSW	EPA 625	
Dibenzofuran	ND	ug/L	0.5	10/14/2016	HSW	EPA 625	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/14/2016	HSW	EPA 625	
Pentachlorophenol	ND	ug/L	0.5	10/14/2016	HSW	EPA 625	

Surrogate Data

Sample Number 160929003-005

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 625	77.2	53-122
2-Fluorobiphenyl	EPA 625	74.8	12-116
2-Fluorophenol	EPA 625	33.8	10-139
Nitrobenzene-d5	EPA 625	62.4	54-118
Phenol-d5	EPA 625	50.2	28-154
Terphenyl-d14	EPA 625	96.4	20-137

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160929003
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609C98
Attn:	ANDY FREEMAN		

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pentachlorophenol	3.49	ug/L	5	69.8	22-138	9/27/2016	10/1/2016
bis(2-Ethylhexyl)phthalate	5.15	ug/L	5	103.0	43-148	9/27/2016	10/1/2016

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pentachlorophenol	3.36	ug/L	5	67.2	3.8	0-47	9/27/2016	10/1/2016
bis(2-Ethylhexyl)phthalate	4.97	ug/L	5	99.4	3.6	0-50	9/27/2016	10/1/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzidine	ND	ug/L	0.5	9/27/2016	10/1/2016
Benzo[a]anthracene	ND	ug/L	0.5	9/27/2016	10/1/2016
Benzo[a]pyrene	ND	ug/L	0.5	9/27/2016	10/1/2016
Benzo[b]fluoranthene	ND	ug/L	0.5	9/27/2016	10/1/2016
Benzo[k]fluoranthene	ND	ug/L	0.5	9/27/2016	10/1/2016
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	9/27/2016	10/1/2016
Chrysene	ND	ug/L	0.5	9/27/2016	10/1/2016
Dibenz[a,h]anthracene	ND	ug/L	0.5	9/27/2016	10/1/2016
Dibenzofuran	ND	ug/L	0.5	9/27/2016	10/1/2016
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	9/27/2016	10/1/2016
Pentachlorophenol	ND	ug/L	0.5	9/27/2016	10/1/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160929003
Project Name: 1609C98

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pentachlorophenol	4.53	ug/L	5	90.6	22-138	9/29/2016	10/14/2016
bis(2-Ethylhexyl)phthalate	4.59	ug/L	5	91.8	43-148	9/29/2016	10/14/2016

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pentachlorophenol	4.34	ug/L	5	86.8	4.3	0-47	9/29/2016	10/14/2016
bis(2-Ethylhexyl)phthalate	4.50	ug/L	5	90.0	2.0	0-50	9/29/2016	10/14/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzidine	ND	ug/L	0.5	9/29/2016	10/14/2016
Benzo[a]anthracene	ND	ug/L	0.5	9/29/2016	10/14/2016
Benzo[a]pyrene	ND	ug/L	0.5	9/29/2016	10/14/2016
Benzo[b]fluoranthene	ND	ug/L	0.5	9/29/2016	10/14/2016
Benzo[k]fluoranthene	ND	ug/L	0.5	9/29/2016	10/14/2016
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	9/29/2016	10/14/2016
Chrysene	ND	ug/L	0.5	9/29/2016	10/14/2016
Dibenz[a,h]anthracene	ND	ug/L	0.5	9/29/2016	10/14/2016
Dibenzofuran	ND	ug/L	0.5	9/29/2016	10/14/2016
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	9/29/2016	10/14/2016
Pentachlorophenol	ND	ug/L	0.5	9/29/2016	10/14/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160929003
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609C98
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160929003-003	**Sampling Date**	9/21/2016	**Date/Time Received**	9/27/2016 11:10 AM
Client Sample ID	1609C98-001I / RIO GRANDE-NORTH-092116			**Sampling Time**	12:15 PM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	8.49	mg/L	5	10/6/2016 3:00:00 PM	JDB	EPA 410.4	

Sample Number	160929003-006	**Sampling Date**	9/22/2016	**Date/Time Received**	9/27/2016 11:10 AM
Client Sample ID	1609C98-002I / RIO GRANDE-SOUTH-092216			**Sampling Time**	11:00 AM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	10.6	mg/L	5	10/6/2016 3:00:00 PM	JDB	EPA 410.4	

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160929003
Project Name: 1609C98

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
COD	99.8	mg/L	100	99.8	90-110	10/6/2016	10/6/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
161004080-002	COD	<1.84	99.7	mg/L	100	99.7	80-120	10/6/2016	10/6/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	96.6	mg/L	100	96.6	3.2	0-15	10/6/2016	10/6/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
COD	<5	mg/L	5	10/6/2016	10/6/2016

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
161005042-002	COD	<1.84	<5	mg/L	0.0	0-20	10/6/2016	10/6/2016

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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	09/28/2016 14:03	WG911779

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	09/28/2016 14:11	WG911779

Method Blank (MB)

(MB) R3166742-1 09/28/16 10:25

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

L861521-01 Original Sample (OS) • Duplicate (DUP)

(OS) L861521-01 09/28/16 11:26 • (DUP) R3166742-4 09/28/16 11:35

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

L862074-02 Original Sample (OS) • Duplicate (DUP)

(OS) L862074-02 09/28/16 14:11 • (DUP) R3166742-7 09/28/16 14:19

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

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3166742-2 09/28/16 10:33 • (LCSD) R3166742-3 09/28/16 10:41

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Hexavalent Chromium	0.00200	0.00199	0.00198	100	99.0	90.0-110			0.000	20

L861789-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L861789-01 09/28/16 12:21 • (MS) R3166742-5 09/28/16 12:29 • (MSD) R3166742-6 09/28/16 12:38

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Hexavalent Chromium	0.0500	ND	0.0502	0.0512	100	102	1	90.0-110			2.00	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
Rec.	Recovery.

Qualifier	Description

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

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1609C98
Pace Project No.: 30197182

Sample: 1609C98-001J Rio Grande-North **Lab ID: 30197182001** Collected: 09/21/16 12:15 Received: 09/27/16 09:50 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample Acceptance Policy Waiver on file from the client.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**5.68 ± 2.38 (2.78) C:NA T:NA**	pCi/L	10/19/16 09:58	12587-46-1	

Based on ID - Assumed this is South and Lad Report is mislabeled

Sample: 1609C98-002J Rio Grande-North **Lab ID: 30197182002** Collected: 09/22/16 11:00 Received: 09/27/16 09:50 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample Acceptance Policy Waiver on file from the client.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**2.25 ± 1.60 (2.84) C:NA T:NA**	pCi/L	10/19/16 09:58	12587-46-1	

REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1609C98
Pace Project No.: 30197182

QC Batch: 236518 Analysis Method: EPA 900.0
QC Batch Method: EPA 900.0 Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 30197182001, 30197182002

METHOD BLANK: 1161996 Matrix: Water
Associated Lab Samples: 30197182001, 30197182002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	-0.045 ± 0.657 (1.80) C:NA T:NA	pCi/L	10/19/16 09:57	

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.

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QUALIFIERS

Project: 1609C98
Pace Project No.: 30197182

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.

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.

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: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(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.

REPORT OF LABORATORY ANALYSIS

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CFA | Cape Fear Analytical LLC
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3306 Kitty Hawk Road, Suite 120 Wilmington, NC 28405
P 910.795.0421

www.capefearanalytical.com

November 18, 2016

Ms. Jodey Kougioulis
New Mexico Environment Department
121 Tijeras Avenue NE
Suite 1000
Albuquerque, New Mexico 87102

Re: HiSol PCB's and Dioxins
Work Order: 9998
SDG: 1609609_1609C98

Dear Ms. Kougioulis:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 28, 2016. 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

Enclosures

problem solved

WO# 9998

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Company Name:	HALL ENVIRONMENTAL	Project Manager:	ANDY FREEMAN
Address:	4901 HAWKINS NE SUITE D	Project Name & # :	
City: ALBUQUERQUE State: NM Zip: 87109		Email Address :	andy@hallenvironmental.com
Phone:	(505) 345-3975	Purchase Order #:	
Fax:	(505) 345-4107	Sampler Name & phone:	

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

✓ Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
x Mail
x Fax
x Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

CALL ANDY FREEMAN @ HALL ENVIRONMENTAL WITH QUESTIONS

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	PCB EPA1668									
	1609S09-001G	9/12/16 11:00am	WATER	1	1L		x									
	1609S09-002G	9/13/16 7:15am	WATER	1	1L		x									
	1609C98-001G	9/21/16 12:15pm	WATER	1	1L		x									
	1609C98-002G	9/22/16 11:00am	WATER	1	1L		x									

REPORT AND BILL TO HALL ENVIRONMENTAL

Inspection Checklist

	Y	N
Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature (°C): 10.2°C
Preservative:
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	Travis Kreage		Anatek	10/27/16	11:45
Received by	Melissa ODonnell		CFA	28Oct16	14:15
Relinquished by					
Received by					
Relinquished by					
Received by					

10.2°C

MJD 28Oct16

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: ~~HALL~~ NMED	Work Order: 9998
Shipping Company: Fed Ex	Date/Time Received: 28 Oct 2016 14:15

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?	MJD		
Samples < 2x background?	MJD		

* Notify RSO of any responses in this column immediately.

MJD 28Oct16

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	Chain of Custody documents included with shipment?	✓			
3	Samples requiring cold preservation within 0-6°C?			✓	Preservation Method: ~~Ice bags~~ blue ice dry ice none other (describe) 10.2° C
4	Aqueous samples found to have visible solids?	✓			Sample IDs, containers affected: <1% all samples
5	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: pH=7 for all samples If preservative added, Lot#:
6	Samples requiring preservation have no residual chlorine?	✓			Sample IDs, containers affected: If preservative added, Lot#:
7	Samples received within holding time?	✓			Sample IDs, tests affected:
8	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
9	Date & time of COC match date & time on containers?	✓			Sample IDs, containers affected:
10	Number of containers received match number indicated on COC?	✓			List type and number of containers / Sample IDs, containers affected: 1-1L WMA each
11	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: MJD Date: 28Oct2016

CF-UD-F-7

Subject: RE: 1609609_1609C98
From: Anne Thorne <anne@hallenvironmental.com>
Date: 11/7/2016 9:36 AM
To: Cynde Larkins <cynde.larkins@cfanalytical.com>

Good morning Cynde

Please proceed with analysis.

at

From: Cynde Larkins [mailto:cynde.larkins@cfanalytical.com]
Sent: Friday, November 04, 2016 8:41 PM
To: Anne Thorne <anne@hallenvironmental.com>
Cc: Melissa O'Dorisio <mel00770@cfanalytical.com>
Subject: 1609609_1609C98

Anne,

The samples for 1609609_1609C98 were received at a temperature of 10.2°C. Do we have your permission to proceed with extraction and analysis?

Thanks,

--

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

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PCB Congeners Analysis

Case Narrative

PCBC Case Narrative
New Mexico Environment Department (NMED)
SDG 1609609_1609C98
Work Order 9998

Method/Analysis Information

Product:	**PCB Congeners Method 1668A High Solids Prep for Liquids**
Analytical Method:	EPA Method 1668A HS
Extraction Method:	SW846 3520C, 3540C
Analytical Batch Number:	33209
Clean Up Batch Number:	33208
Extraction Batch Number:	33207

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA Method 1668A HS:

Sample ID	Client ID
9998001	1609609-001G
9998002	1609609-002G
9998003	1609C98-001G
9998004	1609C98-002G
12017259	Method Blank (MB)
12017260	Laboratory Control Sample (LCS)
12017261	Laboratory Control Sample Duplicate (LCSD)

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# 6.

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
Several surrogates recovered above the acceptance limits, however all native analytes still met acceptance criteria. 12017261 (LCSD).

Several surrogates recovered below the acceptance limits. Recovery issues may be matrix-related, as all other samples in the batch had acceptable recoveries. No further sample was available for re-extraction, therefore the data is reported. 9998001 (1609609-001G), 9998002 (1609609-002G), 9998003 (1609C98-001G) and 9998004 (1609C98-002G).

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

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
HRP791_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

Qualifier Definition Report
for

NMED001 New Mexico Environment Department

Client SDG: 1609609_1609C98 CFA Work Order: 9998

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
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.
h Preparation or preservation holding time was exceeded

DL Indicates that sample is diluted.
RA Indicates that sample is re-analyzed without re-extraction.
RE Indicates that sample is re-extracted.

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: Heather Patterson **Name: Heather Patterson**

Date: 18 NOV 2016 **Title: Group Leader**

For prior lab sample - 9/12/16

Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1	BJ	21.1	17.3	pg/L	8.14	49.3
2051-61-8	PCB-2	J	15.7	12.8	pg/L	7.50	49.3
2051-62-9	PCB-3	J	22.5	19.9	pg/L	7.37	49.3
13029-08-8	PCB-4	J	46.5	37.3	pg/L	13.4	49.3
16605-91-7	PCB-5	U	8.19	8.19	pg/L	8.19	49.3
25569-80-6	PCB-6	J	12.2	8.12	pg/L	5.97	49.3
33284-50-3	PCB-7	U	6.76	6.76	pg/L	6.76	49.3
34883-43-7	PCB-8	BJ	38.5	34.7	pg/L	5.43	49.3
34883-39-1	PCB-9	U	6.71	6.71	pg/L	6.71	24.7
33146-45-1	PCB-10	U	4.56	4.56	pg/L	4.56	24.7
2050-67-1	PCB-11	B	808	803	pg/L	7.08	49.3
PCB-12/13	PCB-12/PCB-13	CU	7.35	7.35	pg/L	7.35	49.3
34883-41-5	PCB-14	U	6.61	6.61	pg/L	6.61	49.3
2050-68-2	PCB-15	J	40.1	34.9	pg/L	6.88	49.3
38444-78-9	PCB-16	J	10.1	6.84	pg/L	3.87	24.7
37680-66-3	PCB-17	BJ	11.8	8.62	pg/L	3.28	24.7
PCB-18/30	PCB-18/PCB-30	BCJ	25.2	22.8	pg/L	2.74	49.3
38444-73-4	PCB-19	J	23.3	19.8	pg/L	8.93	24.7
PCB-20/28	PCB-20/PCB-28	BCJ	46.9	44.5	pg/L	2.42	49.3
PCB-21/33	PCB-21/PCB-33	BCJ	22.6	20.4	pg/L	2.37	49.3
38444-85-8	PCB-22	J	17.1	14.6	pg/L	2.66	24.7
55720-44-0	PCB-23	U	2.44	2.44	pg/L	2.44	24.7
55702-45-9	PCB-24	U	2.52	2.52	pg/L	2.52	24.7
55712-37-3	PCB-25	U	2.32	2.32	pg/L	2.32	24.7
PCB-26/29	PCB-26/PCB-29	CJ	8.39	6.21	pg/L	2.24	49.3
38444-76-7	PCB-27	U	4.12	2.32	pg/L	2.32	24.7
16606-02-3	PCB-31		34.2	32.2	pg/L	2.20	24.7
38444-77-8	PCB-32	J	6.36	4.48	pg/L	2.12	24.7
37680-68-5	PCB-34	U	2.34	2.34	pg/L	2.34	24.7
37680-69-6	PCB-35	BJ	9.13	6.03	pg/L	4.61	49.3
38444-87-0	PCB-36	U	4.09	4.09	pg/L	4.09	24.7
38444-90-5	PCB-37	BJ	12.4	9.3	pg/L	4.22	24.7

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
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
53555-66-1	PCB-38	U	4.17	4.17	pg/L	4.17	24.7
38444-88-1	PCB-39	U	4.29	4.29	pg/L	4.29	24.7
PCB-40/71	PCB-40/PCB-71	CU	5.23	2.44	pg/L	2.44	49.3
52663-59-9	PCB-41	U	3.6	3.6	pg/L	3.60	49.3
36559-22-5	PCB-42	U	3.01	3.01	pg/L	3.01	49.3
70362-46-8	PCB-43	U	3.38	3.38	pg/L	3.38	49.3
PCB-44/47/65	PCB-44/PCB-65/PCB-47	CJ	21.0	17.8	pg/L	2.61	74.0
PCB-45/51	PCB-45/PCB-51	BCJ	4.76	1.58	pg/L	1.41	49.3
41464-47-5	PCB-46	U	1.65	1.48	pg/L	1.48	24.7
70362-47-9	PCB-48	U	3.77	2.91	pg/L	2.91	24.7
PCB-49/69	PCB-49/PCB-69	BCJ	9.64	6.81	pg/L	2.44	49.3
PCB-50/53	PCB-50/PCB-53	BCU	2.66	1.31	pg/L	1.31	49.3
35693-99-3	PCB-52	J	23.1	19.9	pg/L	2.64	24.7
15968-05-5	PCB-54	U	5.72	5.72	pg/L	5.72	24.7
74338-24-2	PCB-55	U	2.15	2.15	pg/L	2.15	24.7
41464-43-1	PCB-56	BJK	6.34	3.13	pg/L	2.29	24.7
70424-67-8	PCB-57	U	1.9	1.9	pg/L	1.90	24.7
41464-49-7	PCB-58	U	2.1	2.1	pg/L	2.10	24.7
PCB-59/62/75	PCB-59/PCB-62/PCB-75	CU	2.07	2.07	pg/L	2.07	74.0
33025-41-1	PCB-60	U	4.27	2.15	pg/L	2.15	24.7
PCB-61-76	PCB-61/PCB-70/PCB-74/PCB-76	BCJ	25.0	22.2	pg/L	2.02	98.7
74472-34-7	PCB-63	U	1.8	1.8	pg/L	1.80	24.7
52663-58-8	PCB-64	J	6.29	3.61	pg/L	2.22	24.7
32598-10-0	PCB-66	BJ	11.7	8.89	pg/L	1.92	24.7
73575-53-8	PCB-67	U	1.7	1.7	pg/L	1.70	24.7
73575-52-7	PCB-68	KU	2.07	1.87	pg/L	1.87	24.7
41464-42-0	PCB-72	U	1.8	1.8	pg/L	1.80	24.7
74338-23-1	PCB-73	U	2.2	2.2	pg/L	2.20	24.7
32598-13-3	PCB-77	U	1.78	1.78	pg/L	1.78	24.7
70362-49-1	PCB-78	U	2.05	2.05	pg/L	2.05	24.7
41464-48-6	PCB-79	U	1.73	1.73	pg/L	1.73	24.7
33284-52-5	PCB-80	U	1.75	1.75	pg/L	1.75	24.7

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
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

For prior lab sample - 9/12/16

Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
70362-50-4	PCB-81	U	1.8	1.8	pg/L	1.80	24.7
52663-62-4	PCB-82	U	2.12	2.12	pg/L	2.12	24.7
60145-20-2	PCB-83	U	2.2	2.2	pg/L	2.20	24.7
52663-60-2	PCB-84	U	2.76	2.07	pg/L	2.07	24.7
PCB-85-117	PCB-85/PCB-116/PCB-117	CU	1.95	1.6	pg/L	1.60	74.0
PCB-86-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-	BCJ	8.21	5.1	pg/L	1.70	148
PCB-88/91	PCB-88/PCB-91	CU	2	2	pg/L	2.00	49.3
73575-57-2	PCB-89	U	1.97	1.97	pg/L	1.97	24.7
PCB-90-113	PCB-90/PCB-101/PCB-113	BCJ	8.26	5.21	pg/L	1.68	74.0
52663-61-3	PCB-92	U	1.9	1.9	pg/L	1.90	24.7
PCB-93/100	PCB-93/PCB-100	CU	2	2	pg/L	2.00	49.3
73575-55-0	PCB-94	U	2.2	2.2	pg/L	2.20	24.7
38379-99-6	PCB-95	BJ	5.85	2.77	pg/L	1.78	24.7
73575-54-9	PCB-96	U	.863	.863	pg/L	0.863	24.7
PCB-98/102	PCB-98/PCB-102	CU	2.05	2.05	pg/L	2.05	49.3
38380-01-7	PCB-99	BU	3.77	1.97	pg/L	1.97	24.7
60145-21-3	PCB-103	U	1.7	1.7	pg/L	1.70	24.7
56558-16-8	PCB-104	U	4.04	4.04	pg/L	4.04	24.7
32598-14-4	PCB-105	U	2.49	1.58	pg/L	1.58	24.7
70424-69-0	PCB-106	U	1.53	1.53	pg/L	1.53	24.7
70424-68-9	PCB-107	U	1.5	1.5	pg/L	1.50	24.7
PCB-108/124	PCB-108/PCB-124	CU	1.68	1.68	pg/L	1.68	49.3
PCB-110/115	PCB-110/PCB-115	BCJ	7.55	4.57	pg/L	1.60	49.3
39635-32-0	PCB-111	U	1.5	1.5	pg/L	1.50	24.7
74472-36-9	PCB-112	U	1.31	1.31	pg/L	1.31	24.7
74472-37-0	PCB-114	U	1.65	1.65	pg/L	1.65	24.7
31508-00-6	PCB-118	BU	4.41	1.53	pg/L	1.53	24.7
68194-12-7	PCB-120	U	1.26	1.26	pg/L	1.26	24.7
56558-18-0	PCB-121	U	1.53	1.53	pg/L	1.53	24.7
76842-07-4	PCB-122	U	1.7	1.7	pg/L	1.70	24.7
65510-44-3	PCB-123	U	1.6	1.6	pg/L	1.60	24.7
57465-28-8	PCB-126	U	1.7	1.7	pg/L	1.70	24.7

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
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
39635-33-1	PCB-127	U	1.63	1.63	pg/L	1.63	24.7
PCB-128/166	PCB-128/PCB-166	CU	1.48	1.48	pg/L	1.48	49.3
PCB-129-163	PCB-129/PCB-138/PCB-163	BCJ	6.56	2.34	pg/L	1.68	74.0
52663-66-8	PCB-130	U	1.8	1.8	pg/L	1.80	24.7
61798-70-7	PCB-131	U	2.12	2.12	pg/L	2.12	24.7
38380-05-1	PCB-132	BKU	2.17	1.95	pg/L	1.95	24.7
35694-04-3	PCB-133	U	1.73	1.73	pg/L	1.73	24.7
52704-70-8	PCB-134	U	2.2	2.2	pg/L	2.20	24.7
PCB-135/151	PCB-135/PCB-151	BCU	2.66	1.06	pg/L	1.06	49.3
38411-22-2	PCB-136	BU	1.23	.765	pg/L	0.765	24.7
35694-06-5	PCB-137	U	1.9	1.9	pg/L	1.90	24.7
PCB-139/140	PCB-139/PCB-140	CU	1.63	1.63	pg/L	1.63	49.3
52712-04-6	PCB-141	U	1.55	1.55	pg/L	1.55	24.7
41411-61-4	PCB-142	U	1.8	1.8	pg/L	1.80	24.7
68194-15-0	PCB-143	U	1.65	1.65	pg/L	1.65	24.7
68194-14-9	PCB-144	U	.937	.937	pg/L	0.937	24.7
74472-40-5	PCB-145	U	.863	.863	pg/L	0.863	24.7
51908-16-8	PCB-146	U	1.31	1.31	pg/L	1.31	24.7
PCB-147/149	PCB-147/PCB-149	BCU	4.88	1.6	pg/L	1.60	49.3
74472-41-6	PCB-148	U	1.01	1.01	pg/L	1.01	24.7
68194-08-1	PCB-150	U	.839	.839	pg/L	0.839	24.7
68194-09-2	PCB-152	U	.765	.765	pg/L	0.765	24.7
PCB-153/168	PCB-153/PCB-168	BCU	4.88	1.38	pg/L	1.38	49.3
60145-22-4	PCB-154	U	.839	.839	pg/L	0.839	24.7
33979-03-2	PCB-155	U	1.26	1.26	pg/L	1.26	24.7
PCB-156/157	PCB-156/PCB-157	BCKU	1.28	1.09	pg/L	1.09	49.3
74472-42-7	PCB-158	U	1.13	1.13	pg/L	1.13	24.7
39635-35-3	PCB-159	U	.863	.863	pg/L	0.863	24.7
41411-62-5	PCB-160	U	1.41	1.41	pg/L	1.41	24.7
74472-43-8	PCB-161	U	1.21	1.21	pg/L	1.21	24.7
39635-34-2	PCB-162	U	.937	.937	pg/L	0.937	24.7
74472-45-0	PCB-164	U	1.18	1.18	pg/L	1.18	24.7

Comments:

B The target analyte was detected in the associated blank.
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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-46-1	PCB-165	U	1.5	1.5	pg/L	1.50	24.7
52663-72-6	PCB-167	U	.814	.814	pg/L	0.814	24.7
32774-16-6	PCB-169	U	.913	.913	pg/L	0.913	24.7
35065-30-6	PCB-170	BU	1.31	1.09	pg/L	1.09	24.7
PCB-171/173	PCB-171/PCB-173	CU	1.09	1.09	pg/L	1.09	49.3
52663-74-8	PCB-172	U	1.11	1.11	pg/L	1.11	24.7
38411-25-5	PCB-174	BU	1.95	1.04	pg/L	1.04	24.7
40186-70-7	PCB-175	U	.913	.913	pg/L	0.913	24.7
52663-65-7	PCB-176	U	.715	.715	pg/L	0.715	24.7
52663-70-4	PCB-177	BU	1.28	1.11	pg/L	1.11	24.7
52663-67-9	PCB-178	U	.962	.962	pg/L	0.962	24.7
52663-64-6	PCB-179	BKU	1.06	.715	pg/L	0.715	24.7
PCB-180/193	PCB-180/PCB-193	CU	.962	.962	pg/L	0.962	49.3
74472-47-2	PCB-181	U	1.13	1.13	pg/L	1.13	24.7
60145-23-5	PCB-182	U	.888	.888	pg/L	0.888	24.7
PCB-183/185	PCB-183/PCB-185	BCU	1.87	1.04	pg/L	1.04	49.3
74472-48-3	PCB-184	U	.715	.715	pg/L	0.715	24.7
74472-49-4	PCB-186	U	.789	.789	pg/L	0.789	24.7
52663-68-0	PCB-187	BU	2.42	.937	pg/L	0.937	24.7
74487-85-7	PCB-188	U	.814	.814	pg/L	0.814	24.7
39635-31-9	PCB-189	U	.962	.962	pg/L	0.962	24.7
41411-64-7	PCB-190	U	.814	.814	pg/L	0.814	24.7
74472-50-7	PCB-191	U	.814	.814	pg/L	0.814	24.7
74472-51-8	PCB-192	U	.962	.962	pg/L	0.962	24.7
35694-08-7	PCB-194	BU	1.78	.814	pg/L	0.814	24.7
52663-78-2	PCB-195	U	.863	.863	pg/L	0.863	24.7
42740-50-1	PCB-196	U	1.04	.863	pg/L	0.863	24.7
PCB-197/200	PCB-197/PCB-200	CU	.715	.715	pg/L	0.715	49.3
PCB-198/199	PCB-198/PCB-199	BCU	2.07	.913	pg/L	0.913	49.3
40186-71-8	PCB-201	U	.666	.666	pg/L	0.666	24.7
2136-99-4	PCB-202	U	.715	.715	pg/L	0.715	24.7
52663-76-0	PCB-203	BU	0.913	.888	pg/L	0.888	24.7

Comments:

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K Estimated Maximum Possible Concentration
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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-52-9	PCB-204	U	.691	.691	pg/L	0.691	24.7
74472-53-0	PCB-205	U	.691	.691	pg/L	0.691	24.7
40186-72-9	PCB-206	U	.913	.913	pg/L	0.913	24.7
52663-79-3	PCB-207	U	.666	.666	pg/L	0.666	24.7
52663-77-1	PCB-208	U	.691	.691	pg/L	0.691	24.7
2051-24-3	PCB-209	BU	2.32	.839	pg/L	0.839	24.7
27323-18-8	Total monoCB		59.4	50	pg/L		
25512-42-9	Total diCB		945	918	pg/L		
25323-68-6	Total triCB		232	196	pg/L		
26914-33-0	Total tetraCB		119	80.8	pg/L		
25429-29-2	Total pentaCB		45.3	17.6	pg/L		
26601-64-9	Total hexaCB		20.2	2.34	pg/L		
28655-71-2	Total heptaCB	U	8.83	0	pg/L		
55722-26-4	Total octaCB	U	5.80	0	pg/L		
53742-07-7	Total nonaCB	U	0	0	pg/L		
DECACB(Tot)	Total decaCB	U	2.32	0	pg/L		
1336-36-3	Total PCB		1440	1260	pg/L		
TEQ 7	TOTAL (TEQ ND=1/2 DL)_2005		0.0994		pg/L		
TEQ 8	TOTAL (TEQ ND=0)_2005		0.000207		pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-1-MoCB		278	2470	pg/L	11.3	*	(15%-150%)
13C-3-MoCB		302	2470	pg/L	12.3	*	(15%-150%)
13C-4-DiCB		282	2470	pg/L	11.4	*	(25%-150%)
13C-15-DiCB		787	2470	pg/L	31.9		(25%-150%)
13C-19-TrCB		379	2470	pg/L	15.4	*	(25%-150%)
13C-37-TrCB		1030	2470	pg/L	41.7		(25%-150%)
13C-54-TeCB		182	2470	pg/L	7.40	*	(25%-150%)
13C-77-TeCB		2010	2470	pg/L	81.6		(25%-150%)
13C-81-TeCB		1870	2470	pg/L	75.6		(25%-150%)
13C-104-PeCB		243	2470	pg/L	9.85	*	(25%-150%)
13C-105-PeCB		1770	2470	pg/L	71.9		(25%-150%)
13C-114-PeCB		1620	2470	pg/L	65.7		(25%-150%)
13C-118-PeCB		1690	2470	pg/L	68.4		(25%-150%)
13C-123-PeCB		1670	2470	pg/L	67.9		(25%-150%)
13C-126-PeCB		1920	2470	pg/L	78.0		(25%-150%)
13C-155-HxCB		705	2470	pg/L	28.6		(25%-150%)
13C-156-HxCB	C	3470	4930	pg/L	70.4		(25%-150%)
13C-167-HxCB		1780	2470	pg/L	72.0		(25%-150%)
13C-169-HxCB		1820	2470	pg/L	73.8		(25%-150%)
13C-188-HpCB		1570	2470	pg/L	63.5		(25%-150%)
13C-189-HpCB		1950	2470	pg/L	79.1		(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998001	**Date Collected:**	09/12/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 06:06	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	810.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1930	2470	pg/L	78.4	(25%-150%)
13C-205-OcCB		2210	2470	pg/L	89.7	(25%-150%)
13C-206-NoCB		2170	2470	pg/L	88.1	(25%-150%)
13C-208-NoCB		2050	2470	pg/L	83.0	(25%-150%)
13C-209-DeCB		2220	2470	pg/L	89.8	(25%-150%)
13C-28-TrCB		1520	2470	pg/L	61.7	(30%-135%)
13C-111-PeCB		2020	2470	pg/L	81.8	(30%-135%)
13C-178-HpCB		2070	2470	pg/L	84.0	(30%-135%)

Comments:

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1	BJ	21.3	17.5	pg/L	8.95	51.4
2051-61-8	PCB-2	J	15.1	12.2	pg/L	8.56	51.4
2051-62-9	PCB-3	J	15.3	12.6	pg/L	8.72	51.4
13029-08-8	PCB-4	J	48.3	39.2	pg/L	12.5	51.4
16605-91-7	PCB-5	U	9.08	9.08	pg/L	9.08	51.4
25569-80-6	PCB-6	J	12.7	8.62	pg/L	6.61	51.4
33284-50-3	PCB-7	U	7.51	7.51	pg/L	7.51	51.4
34883-43-7	PCB-8	BJ	36.7	33	pg/L	6.02	51.4
34883-39-1	PCB-9	U	7.43	7.43	pg/L	7.43	25.7
33146-45-1	PCB-10	U	4.27	4.27	pg/L	4.27	25.7
2050-67-1	PCB-11	B	863	859	pg/L	7.84	51.4
PCB-12/13	PCB-12/PCB-13	CU	8.15	8.15	pg/L	8.15	51.4
34883-41-5	PCB-14	U	7.33	7.33	pg/L	7.33	51.4
2050-68-2	PCB-15	BJ	34.1	28.8	pg/L	7.79	51.4
38444-78-9	PCB-16	J	10.6	7.35	pg/L	3.39	25.7
37680-66-3	PCB-17	BJ	14.0	10.8	pg/L	2.88	25.7
PCB-18/30	PCB-18/PCB-30	BCJ	26.8	24.5	pg/L	2.39	51.4
38444-73-4	PCB-19	J	11.6	8.1	pg/L	7.74	25.7
PCB-20/28	PCB-20/PCB-28	BCJ	51.9	49.6	pg/L	2.11	51.4
PCB-21/33	PCB-21/PCB-33	BCJ	21.3	19.2	pg/L	2.08	51.4
38444-85-8	PCB-22	J	18.0	15.5	pg/L	2.31	25.7
55720-44-0	PCB-23	U	2.13	2.13	pg/L	2.13	25.7
55702-45-9	PCB-24	U	2.21	2.21	pg/L	2.21	25.7
55712-37-3	PCB-25	U	2.03	2.03	pg/L	2.03	25.7
PCB-26/29	PCB-26/PCB-29	CJ	8.00	5.82	pg/L	1.98	51.4
38444-76-7	PCB-27	U	2.03	2.03	pg/L	2.03	25.7
16606-02-3	PCB-31		36.1	34.1	pg/L	1.93	25.7
38444-77-8	PCB-32	J	7.17	5.29	pg/L	1.88	25.7
37680-68-5	PCB-34	U	2.06	2.06	pg/L	2.06	25.7
37680-69-6	PCB-35	BJ	9.85	6.75	pg/L	5.50	51.4
38444-87-0	PCB-36	U	4.91	4.91	pg/L	4.91	25.7
38444-90-5	PCB-37	BJ	17.8	14.8	pg/L	5.12	25.7

Comments:

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
53555-66-1	PCB-38	U	4.99	4.99	pg/L	4.99	25.7
38444-88-1	PCB-39	U	5.12	5.12	pg/L	5.12	25.7
PCB-40/71	PCB-40/PCB-71	CJ	7.82	4.58	pg/L	2.06	51.4
52663-59-9	PCB-41	U	3.01	3.01	pg/L	3.01	51.4
36559-22-5	PCB-42	J	7.64	3.95	pg/L	2.52	51.4
70362-46-8	PCB-43	U	2.83	2.83	pg/L	2.83	51.4
PCB-44/47/65	PCB-44/PCB-65/PCB-47	CU	2.19	2.19	pg/L	2.19	77.1
PCB-45/51	PCB-45/PCB-51	BCJ	5.50	2.32	pg/L	1.34	51.4
41464-47-5	PCB-46	U	1.41	1.41	pg/L	1.41	25.7
70362-47-9	PCB-48	U	5.35	2.42	pg/L	2.42	25.7
PCB-49/69	PCB-49/PCB-69	BCJ	15.3	12.5	pg/L	2.06	51.4
PCB-50/53	PCB-50/PCB-53	BCU	3.11	1.26	pg/L	1.26	51.4
35693-99-3	PCB-52		42.1	38.9	pg/L	2.21	25.7
15968-05-5	PCB-54	U	5.14	5.14	pg/L	5.14	25.7
74338-24-2	PCB-55	U	1.83	1.83	pg/L	1.83	25.7
41464-43-1	PCB-56	BJ	12.2	8.96	pg/L	1.98	25.7
70424-67-8	PCB-57	U	1.62	1.62	pg/L	1.62	25.7
41464-49-7	PCB-58	U	1.88	1.8	pg/L	1.80	25.7
PCB-59/62/75	PCB-59/PCB-62/PCB-75	CU	2.78	1.72	pg/L	1.72	77.1
33025-41-1	PCB-60	J	7.64	4.5	pg/L	1.85	25.7
PCB-61-76	PCB-61/PCB-70/PCB-74/PCB-76	BCJ	50.3	47.5	pg/L	1.75	103
74472-34-7	PCB-63	U	1.54	1.54	pg/L	1.54	25.7
52663-58-8	PCB-64	J	11.3	8.61	pg/L	1.85	25.7
32598-10-0	PCB-66	BJ	22.8	20	pg/L	1.65	25.7
73575-53-8	PCB-67	U	1.47	1.47	pg/L	1.47	25.7
73575-52-7	PCB-68	U	1.62	1.62	pg/L	1.62	25.7
41464-42-0	PCB-72	U	1.54	1.54	pg/L	1.54	25.7
74338-23-1	PCB-73	U	1.83	1.83	pg/L	1.83	25.7
32598-13-3	PCB-77	BU	3.88	1.54	pg/L	1.54	25.7
70362-49-1	PCB-78	U	1.75	1.75	pg/L	1.75	25.7
41464-48-6	PCB-79	U	1.49	1.49	pg/L	1.49	25.7
33284-52-5	PCB-80	U	1.52	1.52	pg/L	1.52	25.7

Comments:

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
70362-50-4	PCB-81	U	1.57	1.57	pg/L	1.57	25.7
52663-62-4	PCB-82	U	4.83	2.7	pg/L	2.70	25.7
60145-20-2	PCB-83	U	2.8	2.8	pg/L	2.80	25.7
52663-60-2	PCB-84	J	9.51	5.51	pg/L	2.62	25.7
PCB-85-117	PCB-85/PCB-116/PCB-117	CJ	8.18	5	pg/L	2.03	77.1
PCB-86-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-	CJ	32.3	29.2	pg/L	2.19	154
PCB-88/91	PCB-88/PCB-91	CU	5.25	2.52	pg/L	2.52	51.4
73575-57-2	PCB-89	U	2.49	2.49	pg/L	2.49	25.7
PCB-90-113	PCB-90/PCB-101/PCB-113	CJ	52.5	49.5	pg/L	2.13	77.1
52663-61-3	PCB-92	J	8.90	5.4	pg/L	2.39	25.7
PCB-93/100	PCB-93/PCB-100	CU	2.52	2.52	pg/L	2.52	51.4
73575-55-0	PCB-94	U	2.78	2.78	pg/L	2.78	25.7
38379-99-6	PCB-95		31.8	28.8	pg/L	2.26	25.7
73575-54-9	PCB-96	U	.746	.746	pg/L	0.746	25.7
PCB-98/102	PCB-98/PCB-102	CU	2.6	2.6	pg/L	2.60	51.4
38380-01-7	PCB-99	J	18.9	15.4	pg/L	2.52	25.7
60145-21-3	PCB-103	U	2.16	2.16	pg/L	2.16	25.7
56558-16-8	PCB-104	U	3.34	3.34	pg/L	3.34	25.7
32598-14-4	PCB-105	J	15.0	11.4	pg/L	1.77	25.7
70424-69-0	PCB-106	U	1.72	1.72	pg/L	1.72	25.7
70424-68-9	PCB-107	U	3.39	1.67	pg/L	1.67	25.7
PCB-108/124	PCB-108/PCB-124	CU	2.60	1.88	pg/L	1.88	51.4
PCB-110/115	PCB-110/PCB-115	C	65.4	62.4	pg/L	2.03	51.4
39635-32-0	PCB-111	U	1.9	1.9	pg/L	1.90	25.7
74472-36-9	PCB-112	U	1.67	1.67	pg/L	1.67	25.7
74472-37-0	PCB-114	U	1.88	1.88	pg/L	1.88	25.7
31508-00-6	PCB-118		34.4	31.1	pg/L	1.67	25.7
68194-12-7	PCB-120	U	1.62	1.62	pg/L	1.62	25.7
56558-18-0	PCB-121	U	1.93	1.93	pg/L	1.93	25.7
76842-07-4	PCB-122	U	1.9	1.9	pg/L	1.90	25.7
65510-44-3	PCB-123	U	1.77	1.77	pg/L	1.77	25.7
57465-28-8	PCB-126	U	1.93	1.93	pg/L	1.93	25.7

Comments:

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
39635-33-1	PCB-127	U	1.83	1.83	pg/L	1.83	25.7
PCB-128/166	PCB-128/PCB-166	CJ	11.8	7.84	pg/L	1.29	51.4
PCB-129-163	PCB-129/PCB-138/PCB-163	C	138	134	pg/L	1.47	77.1
52663-66-8	PCB-130	U	5.45	1.59	pg/L	1.59	25.7
61798-70-7	PCB-131	U	1.85	1.85	pg/L	1.85	25.7
38380-05-1	PCB-132		35.5	30	pg/L	1.70	25.7
35694-04-3	PCB-133	U	1.52	1.52	pg/L	1.52	25.7
52704-70-8	PCB-134	U	4.91	1.93	pg/L	1.93	25.7
PCB-135/151	PCB-135/PCB-151	CJ	41.5	36	pg/L	1.08	51.4
38411-22-2	PCB-136	J	12.7	9.08	pg/L	0.797	25.7
35694-06-5	PCB-137	U	3.11	1.67	pg/L	1.67	25.7
PCB-139/140	PCB-139/PCB-140	CU	1.41	1.41	pg/L	1.41	51.4
52712-04-6	PCB-141	J	24.8	19.7	pg/L	1.36	25.7
41411-61-4	PCB-142	U	1.57	1.57	pg/L	1.57	25.7
68194-15-0	PCB-143	U	1.44	1.44	pg/L	1.44	25.7
68194-14-9	PCB-144	U	5.37	.977	pg/L	0.977	25.7
74472-40-5	PCB-145	U	.9	.9	pg/L	0.900	25.7
51908-16-8	PCB-146	J	14.4	10.1	pg/L	1.13	25.7
PCB-147/149	PCB-147/PCB-149	C	95.5	90.8	pg/L	1.41	51.4
74472-41-6	PCB-148	U	1.03	1.03	pg/L	1.03	25.7
68194-08-1	PCB-150	U	.849	.849	pg/L	0.849	25.7
68194-09-2	PCB-152	U	.771	.771	pg/L	0.771	25.7
PCB-153/168	PCB-153/PCB-168	C	116	112	pg/L	1.21	51.4
60145-22-4	PCB-154	KU	1.31	.849	pg/L	0.849	25.7
33979-03-2	PCB-155	U	1.21	1.21	pg/L	1.21	25.7
PCB-156/157	PCB-156/PCB-157	BCJ	9.36	4.44	pg/L	1.44	51.4
74472-42-7	PCB-158	J	11.3	7.75	pg/L	1.00	25.7
39635-35-3	PCB-159	U	1.13	1.13	pg/L	1.13	25.7
41411-62-5	PCB-160	U	1.23	1.23	pg/L	1.23	25.7
74472-43-8	PCB-161	U	1.05	1.05	pg/L	1.05	25.7
39635-34-2	PCB-162	U	1.23	1.23	pg/L	1.23	25.7
74472-45-0	PCB-164	J	8.49	4.74	pg/L	1.03	25.7

Comments:

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-46-1	PCB-165	U	1.31	1.31	pg/L	1.31	25.7
52663-72-6	PCB-167	BU	4.50	1.11	pg/L	1.11	25.7
32774-16-6	PCB-169	U	1.18	1.18	pg/L	1.18	25.7
35065-30-6	PCB-170		46.6	42.4	pg/L	1.34	25.7
PCB-171/173	PCB-171/PCB-173	CJ	14.9	10.4	pg/L	1.34	51.4
52663-74-8	PCB-172	J	9.36	5.01	pg/L	1.36	25.7
38411-25-5	PCB-174		49.8	45.2	pg/L	1.26	25.7
40186-70-7	PCB-175	U	2.39	.9	pg/L	0.900	25.7
52663-65-7	PCB-176	J	5.37	1.56	pg/L	0.694	25.7
52663-70-4	PCB-177	J	29.8	25.4	pg/L	1.36	25.7
52663-67-9	PCB-178	J	10.2	5.01	pg/L	0.951	25.7
52663-64-6	PCB-179	J	18.0	14.1	pg/L	0.694	25.7
PCB-180/193	PCB-180/PCB-193	CU	1.16	1.16	pg/L	1.16	51.4
74472-47-2	PCB-181	U	1.39	1.39	pg/L	1.39	25.7
60145-23-5	PCB-182	U	.9	.9	pg/L	0.900	25.7
PCB-183/185	PCB-183/PCB-185	CJ	34.7	30.7	pg/L	1.29	51.4
74472-48-3	PCB-184	U	.72	.72	pg/L	0.720	25.7
74472-49-4	PCB-186	U	.797	.797	pg/L	0.797	25.7
52663-68-0	PCB-187		63.4	58.4	pg/L	0.951	25.7
74487-85-7	PCB-188	U	.797	.797	pg/L	0.797	25.7
39635-31-9	PCB-189	BU	2.34	.977	pg/L	0.977	25.7
41411-64-7	PCB-190	J	10.2	7.03	pg/L	1.00	25.7
74472-50-7	PCB-191	U	1.90	.977	pg/L	0.977	25.7
74472-51-8	PCB-192	U	1.18	1.18	pg/L	1.18	25.7
35694-08-7	PCB-194	J	20.8	16.5	pg/L	0.771	25.7
52663-78-2	PCB-195	J	9.44	4.8	pg/L	0.849	25.7
42740-50-1	PCB-196	J	11.5	6.04	pg/L	1.08	25.7
PCB-197/200	PCB-197/PCB-200	CU	4.11	.9	pg/L	0.900	51.4
PCB-198/199	PCB-198/PCB-199	CJ	24.3	18.4	pg/L	1.16	51.4
40186-71-8	PCB-201	U	2.93	.849	pg/L	0.849	25.7
2136-99-4	PCB-202	U	4.63	.926	pg/L	0.926	25.7
52663-76-0	PCB-203	J	15.0	9.46	pg/L	1.11	25.7

Comments:

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-52-9	PCB-204	U	.874	.874	pg/L	0.874	25.7
74472-53-0	PCB-205	BU	1.57	.669	pg/L	0.669	25.7
40186-72-9	PCB-206	U	6.53	1.21	pg/L	1.21	25.7
52663-79-3	PCB-207	U	1.34	.9	pg/L	0.900	25.7
52663-77-1	PCB-208	U	1.83	.951	pg/L	0.951	25.7
2051-24-3	PCB-209	BU	2.96	.926	pg/L	0.926	25.7
27323-18-8	Total monoCB		51.7	42.3	pg/L		
25512-42-9	Total diCB		995	968	pg/L		
25323-68-6	Total triCB		233	202	pg/L		
26914-33-0	Total tetraCB		200	152	pg/L		
25429-29-2	Total pentaCB		293	244	pg/L		
26601-64-9	Total hexaCB		543	466	pg/L		
28655-71-2	Total heptaCB		299	245	pg/L		
55722-26-4	Total octaCB		94.3	55.2	pg/L		
53742-07-7	Total nonaCB	U	9.69	0	pg/L		
DECACB(Tot)	Total decaCB	U	2.96	0	pg/L		
1336-36-3	Total PCB		2720	2370	pg/L		
TEQ 7	TOTAL (TEQ ND=1/2 DL)_2005		0.117		pg/L		
TEQ 8	TOTAL (TEQ ND=0)_2005		0.00235		pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-1-MoCB		296	2570	pg/L	11.5	*	(15%-150%)
13C-3-MoCB		325	2570	pg/L	12.7	*	(15%-150%)
13C-4-DiCB		307	2570	pg/L	11.9	*	(25%-150%)
13C-15-DiCB		927	2570	pg/L	36.0		(25%-150%)
13C-19-TrCB		452	2570	pg/L	17.6	*	(25%-150%)
13C-37-TrCB		1180	2570	pg/L	46.1		(25%-150%)
13C-54-TeCB		216	2570	pg/L	8.41	*	(25%-150%)
13C-77-TeCB		2310	2570	pg/L	89.8		(25%-150%)
13C-81-TeCB		2150	2570	pg/L	83.6		(25%-150%)
13C-104-PeCB		310	2570	pg/L	12.1	*	(25%-150%)
13C-105-PeCB		2040	2570	pg/L	79.2		(25%-150%)
13C-114-PeCB		1870	2570	pg/L	72.5		(25%-150%)
13C-118-PeCB		1930	2570	pg/L	75.2		(25%-150%)
13C-123-PeCB		1930	2570	pg/L	75.2		(25%-150%)
13C-126-PeCB		2170	2570	pg/L	84.4		(25%-150%)
13C-155-HxCB		849	2570	pg/L	33.0		(25%-150%)
13C-156-HxCB	C	3800	5140	pg/L	73.9		(25%-150%)
13C-167-HxCB		1950	2570	pg/L	75.9		(25%-150%)
13C-169-HxCB		1990	2570	pg/L	77.4		(25%-150%)
13C-188-HpCB		1760	2570	pg/L	68.4		(25%-150%)
13C-189-HpCB		2130	2570	pg/L	82.9		(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998002	**Date Collected:**	09/13/2016 07:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609609-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 07:13	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	777.8 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		2100	2570	pg/L	81.7	(25%-150%)
13C-205-OcCB		2400	2570	pg/L	93.4	(25%-150%)
13C-206-NoCB		2320	2570	pg/L	90.4	(25%-150%)
13C-208-NoCB		2210	2570	pg/L	86.0	(25%-150%)
13C-209-DeCB		2370	2570	pg/L	92.1	(25%-150%)
13C-28-TrCB		1640	2570	pg/L	63.8	(30%-135%)
13C-111-PeCB		2210	2570	pg/L	86.0	(30%-135%)
13C-178-HpCB		2240	2570	pg/L	87.1	(30%-135%)

Comments:

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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998003	**Date Collected:**	09/21/2016 12:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 08:19	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-5			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	852.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1	BJ	26.9	23.1	pg/L	8.65	46.9
2051-61-8	PCB-2	U	8.14	8.14	pg/L	8.14	46.9
2051-62-9	PCB-3	J	18.4	15.7	pg/L	8.16	46.9
13029-08-8	PCB-4	J	44.9	35.7	pg/L	12.8	46.9
16605-91-7	PCB-5	U	9.15	9.15	pg/L	9.15	46.9
25569-80-6	PCB-6	JK	13.5	9.35	pg/L	6.66	46.9
33284-50-3	PCB-7	U	7.55	7.55	pg/L	7.55	46.9
34883-43-7	PCB-8	BJ	36.0	32.2	pg/L	6.05	46.9
34883-39-1	PCB-9	U	7.48	7.48	pg/L	7.48	23.4
33146-45-1	PCB-10	U	4.34	4.34	pg/L	4.34	23.4
2050-67-1	PCB-11	B	852	847	pg/L	7.90	46.9
PCB-12/13	PCB-12/PCB-13	CU	8.21	8.21	pg/L	8.21	46.9
34883-41-5	PCB-14	U	7.36	7.36	pg/L	7.36	46.9
2050-68-2	PCB-15	J	44.9	39.7	pg/L	7.81	46.9
38444-78-9	PCB-16	J	10.2	6.96	pg/L	3.85	23.4
37680-66-3	PCB-17	BJ	13.8	10.6	pg/L	3.26	23.4
PCB-18/30	PCB-18/PCB-30	BCJ	27.6	25.3	pg/L	2.72	46.9
38444-73-4	PCB-19	JK	26.5	23	pg/L	8.86	23.4
PCB-20/28	PCB-20/PCB-28	BC	49.6	47.2	pg/L	2.39	46.9
PCB-21/33	PCB-21/PCB-33	BCJ	23.0	20.8	pg/L	2.34	46.9
38444-85-8	PCB-22	J	18.6	16.1	pg/L	2.65	23.4
55720-44-0	PCB-23	U	2.42	2.42	pg/L	2.42	23.4
55702-45-9	PCB-24	U	2.51	2.51	pg/L	2.51	23.4
55712-37-3	PCB-25	U	2.3	2.3	pg/L	2.30	23.4
PCB-26/29	PCB-26/PCB-29	CJ	8.11	5.94	pg/L	2.25	46.9
38444-76-7	PCB-27	U	3.87	2.32	pg/L	2.32	23.4
16606-02-3	PCB-31	U	2.2	2.2	pg/L	2.20	23.4
38444-77-8	PCB-32	J	6.54	4.66	pg/L	2.11	23.4
37680-68-5	PCB-34	U	2.32	2.32	pg/L	2.32	23.4
37680-69-6	PCB-35	BU	7.81	4.99	pg/L	4.99	46.9
38444-87-0	PCB-36	U	4.43	4.43	pg/L	4.43	23.4
38444-90-5	PCB-37	BJ	14.5	11.5	pg/L	4.57	23.4

Comments:

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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998003	**Date Collected:**	09/21/2016 12:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 08:19	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-5			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	852.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
53555-66-1	PCB-38	U	4.53	4.53	pg/L	4.53	23.4
38444-88-1	PCB-39	U	4.64	4.64	pg/L	4.64	23.4
PCB-40/71	PCB-40/PCB-71	CJ	5.49	2.25	pg/L	1.69	46.9
52663-59-9	PCB-41	U	2.49	2.49	pg/L	2.49	46.9
36559-22-5	PCB-42	U	4.41	2.06	pg/L	2.06	46.9
70362-46-8	PCB-43	U	2.34	2.34	pg/L	2.34	46.9
PCB-44/47/65	PCB-44/PCB-65/PCB-47	CJ	24.3	21.1	pg/L	1.81	70.3
PCB-45/51	PCB-45/PCB-51	BCJ	4.99	1.82	pg/L	1.24	46.9
41464-47-5	PCB-46	U	1.31	1.31	pg/L	1.31	23.4
70362-47-9	PCB-48	U	3.66	1.99	pg/L	1.99	23.4
PCB-49/69	PCB-49/PCB-69	BCJ	9.36	6.52	pg/L	1.69	46.9
PCB-50/53	PCB-50/PCB-53	BCU	1.83	1.17	pg/L	1.17	46.9
35693-99-3	PCB-52	J	23.4	20.2	pg/L	1.83	23.4
15968-05-5	PCB-54	U	5.49	5.49	pg/L	5.49	23.4
74338-24-2	PCB-55	U	1.59	1.59	pg/L	1.59	23.4
41464-43-1	PCB-56	BJ	7.08	3.88	pg/L	1.71	23.4
70424-67-8	PCB-57	U	1.41	1.41	pg/L	1.41	23.4
41464-49-7	PCB-58	U	1.57	1.57	pg/L	1.57	23.4
PCB-59/62/75	PCB-59/PCB-62/PCB-75	CU	1.43	1.43	pg/L	1.43	70.3
33025-41-1	PCB-60	U	3.68	1.59	pg/L	1.59	23.4
PCB-61-76	PCB-61/PCB-70/PCB-74/PCB-76	BCJ	28.8	26	pg/L	1.52	93.8
74472-34-7	PCB-63	U	1.34	1.34	pg/L	1.34	23.4
52663-58-8	PCB-64	J	6.68	4.01	pg/L	1.52	23.4
32598-10-0	PCB-66	BJ	13.2	10.5	pg/L	1.43	23.4
73575-53-8	PCB-67	U	1.27	1.27	pg/L	1.27	23.4
73575-52-7	PCB-68	U	2.09	1.41	pg/L	1.41	23.4
41464-42-0	PCB-72	U	1.36	1.36	pg/L	1.36	23.4
74338-23-1	PCB-73	U	1.52	1.52	pg/L	1.52	23.4
32598-13-3	PCB-77	BKU	1.66	1.29	pg/L	1.29	23.4
70362-49-1	PCB-78	U	1.52	1.52	pg/L	1.52	23.4
41464-48-6	PCB-79	U	1.29	1.29	pg/L	1.29	23.4
33284-52-5	PCB-80	U	1.31	1.31	pg/L	1.31	23.4

Comments:

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K Estimated Maximum Possible Concentration
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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998003	**Date Collected:**	09/21/2016 12:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 08:19	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-5			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	852.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
70362-50-4	PCB-81	U	1.38	1.38	pg/L	1.38	23.4
52663-62-4	PCB-82	U	1.78	1.5	pg/L	1.50	23.4
60145-20-2	PCB-83	U	1.57	1.57	pg/L	1.57	23.4
52663-60-2	PCB-84	U	3.26	1.48	pg/L	1.48	23.4
PCB-85-117	PCB-85/PCB-116/PCB-117	CU	1.45	1.15	pg/L	1.15	70.3
PCB-86-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-	BCJ	8.14	5.02	pg/L	1.22	141
PCB-88/91	PCB-88/PCB-91	CU	1.85	1.41	pg/L	1.41	46.9
73575-57-2	PCB-89	U	1.41	1.41	pg/L	1.41	23.4
PCB-90-113	PCB-90/PCB-101/PCB-113	BCJ	11.4	8.32	pg/L	1.20	70.3
52663-61-3	PCB-92	U	2.02	1.34	pg/L	1.34	23.4
PCB-93/100	PCB-93/PCB-100	CU	1.41	1.41	pg/L	1.41	46.9
73575-55-0	PCB-94	U	1.55	1.55	pg/L	1.55	23.4
38379-99-6	PCB-95	BJ	8.56	5.48	pg/L	1.27	23.4
73575-54-9	PCB-96	U	.633	.633	pg/L	0.633	23.4
PCB-98/102	PCB-98/PCB-102	CU	1.45	1.45	pg/L	1.45	46.9
38380-01-7	PCB-99	BU	4.83	1.41	pg/L	1.41	23.4
60145-21-3	PCB-103	U	1.22	1.22	pg/L	1.22	23.4
56558-16-8	PCB-104	U	5.02	5.02	pg/L	5.02	23.4
32598-14-4	PCB-105	U	3.63	1.57	pg/L	1.57	23.4
70424-69-0	PCB-106	U	1.59	1.59	pg/L	1.59	23.4
70424-68-9	PCB-107	U	1.57	1.57	pg/L	1.57	23.4
PCB-108/124	PCB-108/PCB-124	CU	1.76	1.76	pg/L	1.76	46.9
PCB-110/115	PCB-110/PCB-115	BCJ	12.7	9.71	pg/L	1.15	46.9
39635-32-0	PCB-111	U	1.08	1.08	pg/L	1.08	23.4
74472-36-9	PCB-112	U	.938	.938	pg/L	0.938	23.4
74472-37-0	PCB-114	U	1.71	1.71	pg/L	1.71	23.4
31508-00-6	PCB-118	BJ	8.00	4.77	pg/L	1.57	23.4
68194-12-7	PCB-120	U	.891	.891	pg/L	0.891	23.4
56558-18-0	PCB-121	U	1.08	1.08	pg/L	1.08	23.4
76842-07-4	PCB-122	U	1.81	1.81	pg/L	1.81	23.4
65510-44-3	PCB-123	U	1.69	1.69	pg/L	1.69	23.4
57465-28-8	PCB-126	U	1.62	1.62	pg/L	1.62	23.4

Comments:

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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998003	**Date Collected:**	09/21/2016 12:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 08:19	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-5			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	852.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
39635-33-1	PCB-127	U	1.71	1.71	pg/L	1.71	23.4
PCB-128/166	PCB-128/PCB-166	CU	1.45	1.34	pg/L	1.34	46.9
PCB-129-163	PCB-129/PCB-138/PCB-163	BCJ	9.07	4.86	pg/L	1.52	70.3
52663-66-8	PCB-130	U	1.64	1.64	pg/L	1.64	23.4
61798-70-7	PCB-131	U	1.92	1.92	pg/L	1.92	23.4
38380-05-1	PCB-132	BU	2.81	1.76	pg/L	1.76	23.4
35694-04-3	PCB-133	U	1.57	1.57	pg/L	1.57	23.4
52704-70-8	PCB-134	U	1.99	1.99	pg/L	1.99	23.4
PCB-135/151	PCB-135/PCB-151	BCU	3.21	.868	pg/L	0.868	46.9
38411-22-2	PCB-136	BU	1.34	.633	pg/L	0.633	23.4
35694-06-5	PCB-137	U	1.71	1.71	pg/L	1.71	23.4
PCB-139/140	PCB-139/PCB-140	CU	1.48	1.48	pg/L	1.48	46.9
52712-04-6	PCB-141	KU	1.62	1.41	pg/L	1.41	23.4
41411-61-4	PCB-142	U	1.64	1.64	pg/L	1.64	23.4
68194-15-0	PCB-143	U	1.5	1.5	pg/L	1.50	23.4
68194-14-9	PCB-144	U	0.844	.774	pg/L	0.774	23.4
74472-40-5	PCB-145	U	.727	.727	pg/L	0.727	23.4
51908-16-8	PCB-146	U	1.17	1.17	pg/L	1.17	23.4
PCB-147/149	PCB-147/PCB-149	BCJ	6.43	1.74	pg/L	1.45	46.9
74472-41-6	PCB-148	U	.844	.844	pg/L	0.844	23.4
68194-08-1	PCB-150	U	.68	.68	pg/L	0.680	23.4
68194-09-2	PCB-152	U	.61	.61	pg/L	0.610	23.4
PCB-153/168	PCB-153/PCB-168	BCJ	7.13	3.43	pg/L	1.24	46.9
60145-22-4	PCB-154	U	.68	.68	pg/L	0.680	23.4
33979-03-2	PCB-155	U	1.55	1.55	pg/L	1.55	23.4
PCB-156/157	PCB-156/PCB-157	BCU	1.22	1.03	pg/L	1.03	46.9
74472-42-7	PCB-158	U	1.03	1.03	pg/L	1.03	23.4
39635-35-3	PCB-159	U	.868	.868	pg/L	0.868	23.4
41411-62-5	PCB-160	U	1.27	1.27	pg/L	1.27	23.4
74472-43-8	PCB-161	U	1.08	1.08	pg/L	1.08	23.4
39635-34-2	PCB-162	U	.938	.938	pg/L	0.938	23.4
74472-45-0	PCB-164	U	1.08	1.08	pg/L	1.08	23.4

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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998003	**Date Collected:**	09/21/2016 12:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 08:19	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-5			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	852.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-46-1	PCB-165	U	1.36	1.36	pg/L	1.36	23.4
52663-72-6	PCB-167	U	.774	.774	pg/L	0.774	23.4
32774-16-6	PCB-169	U	.844	.844	pg/L	0.844	23.4
35065-30-6	PCB-170	BU	1.83	1.15	pg/L	1.15	23.4
PCB-171/173	PCB-171/PCB-173	CU	1.15	1.15	pg/L	1.15	46.9
52663-74-8	PCB-172	U	1.17	1.17	pg/L	1.17	23.4
38411-25-5	PCB-174	BU	2.44	1.08	pg/L	1.08	23.4
40186-70-7	PCB-175	U	.821	.821	pg/L	0.821	23.4
52663-65-7	PCB-176	U	.633	.633	pg/L	0.633	23.4
52663-70-4	PCB-177	BU	1.27	1.15	pg/L	1.15	23.4
52663-67-9	PCB-178	U	.868	.868	pg/L	0.868	23.4
52663-64-6	PCB-179	BU	1.03	.633	pg/L	0.633	23.4
PCB-180/193	PCB-180/PCB-193	CU	.985	.985	pg/L	0.985	46.9
74472-47-2	PCB-181	U	1.2	1.2	pg/L	1.20	23.4
60145-23-5	PCB-182	U	.821	.821	pg/L	0.821	23.4
PCB-183/185	PCB-183/PCB-185	BCU	1.95	1.1	pg/L	1.10	46.9
74472-48-3	PCB-184	U	.657	.657	pg/L	0.657	23.4
74472-49-4	PCB-186	U	.727	.727	pg/L	0.727	23.4
52663-68-0	PCB-187	BU	3.02	.868	pg/L	0.868	23.4
74487-85-7	PCB-188	U	.774	.774	pg/L	0.774	23.4
39635-31-9	PCB-189	U	.844	.844	pg/L	0.844	23.4
41411-64-7	PCB-190	U	.868	.868	pg/L	0.868	23.4
74472-50-7	PCB-191	U	.844	.844	pg/L	0.844	23.4
74472-51-8	PCB-192	U	1.01	1.01	pg/L	1.01	23.4
35694-08-7	PCB-194	BU	1.10	.68	pg/L	0.680	23.4
52663-78-2	PCB-195	U	.727	.727	pg/L	0.727	23.4
42740-50-1	PCB-196	U	.68	.68	pg/L	0.680	23.4
PCB-197/200	PCB-197/PCB-200	CU	.563	.563	pg/L	0.563	46.9
PCB-198/199	PCB-198/PCB-199	BCU	1.13	.75	pg/L	0.750	46.9
40186-71-8	PCB-201	U	.539	.539	pg/L	0.539	23.4
2136-99-4	PCB-202	U	.586	.586	pg/L	0.586	23.4
52663-76-0	PCB-203	BU	0.961	.703	pg/L	0.703	23.4

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Rio Grande North

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998003	**Date Collected:**	09/21/2016 12:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 08:19	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-5			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	852.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-52-9	PCB-204	U	.563	.563	pg/L	0.563	23.4
74472-53-0	PCB-205	U	.563	.563	pg/L	0.563	23.4
40186-72-9	PCB-206	U	.797	.797	pg/L	0.797	23.4
52663-79-3	PCB-207	U	.586	.586	pg/L	0.586	23.4
52663-77-1	PCB-208	U	.633	.633	pg/L	0.633	23.4
2051-24-3	PCB-209	BU	1.78	.703	pg/L	0.703	23.4
27323-18-8	Total monoCB		45.3	38.8	pg/L		
25512-42-9	Total diCB		978	955	pg/L		
25323-68-6	Total triCB		184	149	pg/L		
26914-33-0	Total tetraCB		139	96.2	pg/L		
25429-29-2	Total pentaCB		67.6	33.3	pg/L		
26601-64-9	Total hexaCB		33.5	10	pg/L		
28655-71-2	Total heptaCB	U	11.5	0	pg/L		
55722-26-4	Total octaCB	U	3.19	0	pg/L		
53742-07-7	Total nonaCB	U	0	0	pg/L		
DECACB(Tot)	Total decaCB	U	1.78	0	pg/L		
1336-36-3	Total PCB		1460	1280	pg/L		
TEQ 7	TOTAL (TEQ ND=1/2 DL)_2005		0.0943		pg/L		
TEQ 8	TOTAL (TEQ ND=0)_2005		0.000386		pg/L		

=0.00146 ug/L

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-1-MoCB		230	2340	pg/L	9.80	*	(15%-150%)
13C-3-MoCB		262	2340	pg/L	11.2	*	(15%-150%)
13C-4-DiCB		240	2340	pg/L	10.2	*	(25%-150%)
13C-15-DiCB		710	2340	pg/L	30.3		(25%-150%)
13C-19-TrCB		336	2340	pg/L	14.3	*	(25%-150%)
13C-37-TrCB		839	2340	pg/L	35.8		(25%-150%)
13C-54-TeCB		150	2340	pg/L	6.41	*	(25%-150%)
13C-77-TeCB		1860	2340	pg/L	79.4		(25%-150%)
13C-81-TeCB		1650	2340	pg/L	70.6		(25%-150%)
13C-104-PeCB		138	2340	pg/L	5.91	*	(25%-150%)
13C-105-PeCB		1680	2340	pg/L	71.8		(25%-150%)
13C-114-PeCB		1470	2340	pg/L	62.6		(25%-150%)
13C-118-PeCB		1540	2340	pg/L	65.6		(25%-150%)
13C-123-PeCB		1510	2340	pg/L	64.4		(25%-150%)
13C-126-PeCB		1890	2340	pg/L	80.6		(25%-150%)
13C-155-HxCB		452	2340	pg/L	19.3	*	(25%-150%)
13C-156-HxCB	C	3350	4690	pg/L	71.5		(25%-150%)
13C-167-HxCB		1690	2340	pg/L	72.0		(25%-150%)
13C-169-HxCB		1790	2340	pg/L	76.1		(25%-150%)
13C-188-HpCB		1340	2340	pg/L	57.1		(25%-150%)
13C-189-HpCB		1920	2340	pg/L	81.8		(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998003	**Date Collected:**	09/21/2016 12:15	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-001G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 08:19	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-5			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	852.9 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1800	2340	pg/L	76.7	(25%-150%)
13C-205-OcCB		2150	2340	pg/L	91.6	(25%-150%)
13C-206-NoCB		2130	2340	pg/L	90.9	(25%-150%)
13C-208-NoCB		1940	2340	pg/L	82.8	(25%-150%)
13C-209-DeCB		2180	2340	pg/L	93.1	(25%-150%)
13C-28-TrCB		1430	2340	pg/L	61.0	(30%-135%)
13C-111-PeCB		1920	2340	pg/L	81.9	(30%-135%)
13C-178-HpCB		1950	2340	pg/L	83.1	(30%-135%)

Comments:

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J Value is estimated
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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1	BJ	22.5	18.7	pg/L	11.2	43.1
2051-61-8	PCB-2	J	14.0	11.1	pg/L	10.2	43.1
2051-62-9	PCB-3	JK	27.7	25	pg/L	9.90	43.1
13029-08-8	PCB-4		53.9	44.8	pg/L	14.3	43.1
16605-91-7	PCB-5	U	10.1	10.1	pg/L	10.1	43.1
25569-80-6	PCB-6	JK	12.8	8.72	pg/L	7.34	43.1
33284-50-3	PCB-7	U	8.31	8.31	pg/L	8.31	43.1
34883-43-7	PCB-8	BJ	36.2	32.4	pg/L	6.67	43.1
34883-39-1	PCB-9	U	8.24	8.24	pg/L	8.24	21.5
33146-45-1	PCB-10	U	4.69	4.69	pg/L	4.69	21.5
2050-67-1	PCB-11	B	1100	1100	pg/L	8.70	43.1
PCB-12/13	PCB-12/PCB-13	CU	9.04	9.04	pg/L	9.04	43.1
34883-41-5	PCB-14	U	8.12	8.12	pg/L	8.12	43.1
2050-68-2	PCB-15	BJ	32.7	27.4	pg/L	8.52	43.1
38444-78-9	PCB-16	J	15.5	12.3	pg/L	4.82	21.5
37680-66-3	PCB-17	BJ	12.9	9.7	pg/L	4.09	21.5
PCB-18/30	PCB-18/PCB-30	BCJ	23.2	20.9	pg/L	3.40	43.1
38444-73-4	PCB-19	J	14.2	10.7	pg/L	9.15	21.5
PCB-20/28	PCB-20/PCB-28	BC	62.5	60.2	pg/L	3.01	43.1
PCB-21/33	PCB-21/PCB-33	BCJ	28.7	26.5	pg/L	2.95	43.1
38444-85-8	PCB-22	J	22.2	19.7	pg/L	3.32	21.5
55720-44-0	PCB-23	U	3.04	3.04	pg/L	3.04	21.5
55702-45-9	PCB-24	U	3.14	3.14	pg/L	3.14	21.5
55712-37-3	PCB-25	J	5.23	3.26	pg/L	2.88	21.5
PCB-26/29	PCB-26/PCB-29	CU	2.82	2.82	pg/L	2.82	43.1
38444-76-7	PCB-27	U	3.90	2.91	pg/L	2.91	21.5
16606-02-3	PCB-31	U	2.76	2.76	pg/L	2.76	21.5
38444-77-8	PCB-32	J	8.63	6.75	pg/L	2.65	21.5
37680-68-5	PCB-34	U	2.93	2.93	pg/L	2.93	21.5
37680-69-6	PCB-35	BJ	11.5	8.4	pg/L	6.54	43.1
38444-87-0	PCB-36	U	5.83	5.83	pg/L	5.83	21.5
38444-90-5	PCB-37	BJ	22.0	19	pg/L	6.29	21.5

Comments:

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
53555-66-1	PCB-38	U	5.92	5.92	pg/L	5.92	21.5
38444-88-1	PCB-39	U	6.09	6.09	pg/L	6.09	21.5
PCB-40/71	PCB-40/PCB-71	CJ	9.00	5.76	pg/L	2.13	43.1
52663-59-9	PCB-41	U	3.14	3.14	pg/L	3.14	43.1
36559-22-5	PCB-42	U	5.92	2.6	pg/L	2.60	43.1
70362-46-8	PCB-43	U	2.95	2.95	pg/L	2.95	43.1
PCB-44/47/65	PCB-44/PCB-65/PCB-47	CU	2.28	2.28	pg/L	2.28	64.6
PCB-45/51	PCB-45/PCB-51	BCJ	6.46	3.28	pg/L	1.40	43.1
41464-47-5	PCB-46	U	1.49	1.49	pg/L	1.49	21.5
70362-47-9	PCB-48	U	2.54	2.54	pg/L	2.54	21.5
PCB-49/69	PCB-49/PCB-69	BCJ	15.0	12.2	pg/L	2.13	43.1
PCB-50/53	PCB-50/PCB-53	BCU	2.88	1.31	pg/L	1.31	43.1
35693-99-3	PCB-52		38.3	35.1	pg/L	2.30	21.5
15968-05-5	PCB-54	U	6.05	6.05	pg/L	6.05	21.5
74338-24-2	PCB-55	U	2.32	2.32	pg/L	2.32	21.5
41464-43-1	PCB-56	BJ	11.6	8.42	pg/L	2.50	21.5
70424-67-8	PCB-57	U	2.07	2.07	pg/L	2.07	21.5
41464-49-7	PCB-58	U	2.28	2.28	pg/L	2.28	21.5
PCB-59/62/75	PCB-59/PCB-62/PCB-75	CU	1.79	1.79	pg/L	1.79	64.6
33025-41-1	PCB-60	J	6.50	3.36	pg/L	2.32	21.5
PCB-61-76	PCB-61/PCB-70/PCB-74/PCB-76	BCJ	46.2	43.4	pg/L	2.20	86.1
74472-34-7	PCB-63	U	1.96	1.96	pg/L	1.96	21.5
52663-58-8	PCB-64	J	10.6	7.96	pg/L	1.94	21.5
32598-10-0	PCB-66	BJ	20.6	17.9	pg/L	2.09	21.5
73575-53-8	PCB-67	U	1.83	1.83	pg/L	1.83	21.5
73575-52-7	PCB-68	U	2.04	2.04	pg/L	2.04	21.5
41464-42-0	PCB-72	U	1.96	1.96	pg/L	1.96	21.5
74338-23-1	PCB-73	U	1.92	1.92	pg/L	1.92	21.5
32598-13-3	PCB-77	BU	3.19	1.83	pg/L	1.83	21.5
70362-49-1	PCB-78	U	2.22	2.22	pg/L	2.22	21.5
41464-48-6	PCB-79	U	1.89	1.89	pg/L	1.89	21.5
33284-52-5	PCB-80	U	1.92	1.92	pg/L	1.92	21.5

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
70362-50-4	PCB-81	U	2.11	2.11	pg/L	2.11	21.5
52663-62-4	PCB-82	U	3.21	2.3	pg/L	2.30	21.5
60145-20-2	PCB-83	KU	2.76	2.39	pg/L	2.39	21.5
52663-60-2	PCB-84	U	5.60	2.24	pg/L	2.24	21.5
PCB-85-117	PCB-85/PCB-116/PCB-117	CU	4.50	1.74	pg/L	1.74	64.6
PCB-86-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-	BCJ	18.6	15.5	pg/L	1.85	129
PCB-88/91	PCB-88/PCB-91	CU	3.75	2.15	pg/L	2.15	43.1
73575-57-2	PCB-89	U	2.13	2.13	pg/L	2.13	21.5
PCB-90-113	PCB-90/PCB-101/PCB-113	CJ	29.0	26	pg/L	1.83	64.6
52663-61-3	PCB-92	U	5.14	2.04	pg/L	2.04	21.5
PCB-93/100	PCB-93/PCB-100	CU	2.17	2.17	pg/L	2.17	43.1
73575-55-0	PCB-94	U	2.39	2.39	pg/L	2.39	21.5
38379-99-6	PCB-95	J	17.1	14.1	pg/L	1.94	21.5
73575-54-9	PCB-96	U	.818	.818	pg/L	0.818	21.5
PCB-98/102	PCB-98/PCB-102	CU	2.24	2.24	pg/L	2.24	43.1
38380-01-7	PCB-99	BJ	11.5	8.02	pg/L	2.15	21.5
60145-21-3	PCB-103	U	1.85	1.85	pg/L	1.85	21.5
56558-16-8	PCB-104	U	8.59	8.59	pg/L	8.59	21.5
32598-14-4	PCB-105	J	7.32	3.7	pg/L	1.83	21.5
70424-69-0	PCB-106	U	1.96	1.96	pg/L	1.96	21.5
70424-68-9	PCB-107	U	1.92	1.92	pg/L	1.92	21.5
PCB-108/124	PCB-108/PCB-124	CU	2.13	2.13	pg/L	2.13	43.1
PCB-110/115	PCB-110/PCB-115	CJ	33.3	30.3	pg/L	1.74	43.1
39635-32-0	PCB-111	U	1.64	1.64	pg/L	1.64	21.5
74472-36-9	PCB-112	U	1.42	1.42	pg/L	1.42	21.5
74472-37-0	PCB-114	U	2.09	2.09	pg/L	2.09	21.5
31508-00-6	PCB-118	BJ	18.6	15.4	pg/L	1.92	21.5
68194-12-7	PCB-120	U	1.38	1.38	pg/L	1.38	21.5
56558-18-0	PCB-121	U	1.66	1.66	pg/L	1.66	21.5
76842-07-4	PCB-122	U	2.17	2.17	pg/L	2.17	21.5
65510-44-3	PCB-123	U	2.07	2.07	pg/L	2.07	21.5
57465-28-8	PCB-126	U	1.85	1.85	pg/L	1.85	21.5

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
39635-33-1	PCB-127	U	2.09	2.09	pg/L	2.09	21.5
PCB-128/166	PCB-128/PCB-166	CJ	5.34	1.4	pg/L	1.23	43.1
PCB-129-163	PCB-129/PCB-138/PCB-163	CJ	53.3	49.1	pg/L	1.40	64.6
52663-66-8	PCB-130	U	2.48	1.51	pg/L	1.51	21.5
61798-70-7	PCB-131	U	1.77	1.77	pg/L	1.77	21.5
38380-05-1	PCB-132	J	13.8	8.32	pg/L	1.61	21.5
35694-04-3	PCB-133	U	1.44	1.44	pg/L	1.44	21.5
52704-70-8	PCB-134	U	2.35	1.83	pg/L	1.83	21.5
PCB-135/151	PCB-135/PCB-151	CJ	15.9	10.4	pg/L	1.08	43.1
38411-22-2	PCB-136	J	5.53	1.91	pg/L	0.796	21.5
35694-06-5	PCB-137	U	1.79	1.57	pg/L	1.57	21.5
PCB-139/140	PCB-139/PCB-140	CU	1.36	1.36	pg/L	1.36	43.1
52712-04-6	PCB-141	J	8.52	3.43	pg/L	1.29	21.5
41411-61-4	PCB-142	U	1.51	1.51	pg/L	1.51	21.5
68194-15-0	PCB-143	U	1.38	1.38	pg/L	1.38	21.5
68194-14-9	PCB-144	U	1.96	.969	pg/L	0.969	21.5
74472-40-5	PCB-145	U	.883	.883	pg/L	0.883	21.5
51908-16-8	PCB-146	J	5.83	1.51	pg/L	1.10	21.5
PCB-147/149	PCB-147/PCB-149	CJ	38.0	33.3	pg/L	1.33	43.1
74472-41-6	PCB-148	U	1.1	1.1	pg/L	1.10	21.5
68194-08-1	PCB-150	U	.861	.861	pg/L	0.861	21.5
68194-09-2	PCB-152	U	.775	.775	pg/L	0.775	21.5
PCB-153/168	PCB-153/PCB-168	CJ	43.4	39.7	pg/L	1.14	43.1
60145-22-4	PCB-154	U	.861	.861	pg/L	0.861	21.5
33979-03-2	PCB-155	U	3.1	3.1	pg/L	3.10	21.5
PCB-156/157	PCB-156/PCB-157	BCU	3.92	1.27	pg/L	1.27	43.1
74472-42-7	PCB-158	J	4.54	1.03	pg/L	0.947	21.5
39635-35-3	PCB-159	U	1.1	1.1	pg/L	1.10	21.5
41411-62-5	PCB-160	U	1.16	1.16	pg/L	1.16	21.5
74472-43-8	PCB-161	U	.99	.99	pg/L	0.990	21.5
39635-34-2	PCB-162	U	1.18	1.18	pg/L	1.18	21.5
74472-45-0	PCB-164	U	3.40	.99	pg/L	0.990	21.5

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-46-1	PCB-165	U	1.25	1.25	pg/L	1.25	21.5
52663-72-6	PCB-167	BU	1.66	.947	pg/L	0.947	21.5
32774-16-6	PCB-169	U	1.01	1.01	pg/L	1.01	21.5
35065-30-6	PCB-170	J	17.0	12.7	pg/L	1.68	21.5
PCB-171/173	PCB-171/PCB-173	CJ	6.67	2.2	pg/L	1.70	43.1
52663-74-8	PCB-172	U	3.70	1.72	pg/L	1.72	21.5
38411-25-5	PCB-174	J	19.1	14.4	pg/L	1.59	21.5
40186-70-7	PCB-175	U	1.05	1.05	pg/L	1.05	21.5
52663-65-7	PCB-176	U	1.87	.818	pg/L	0.818	21.5
52663-70-4	PCB-177	J	11.8	7.42	pg/L	1.70	21.5
52663-67-9	PCB-178	U	3.94	1.12	pg/L	1.12	21.5
52663-64-6	PCB-179	J	7.47	3.56	pg/L	0.818	21.5
PCB-180/193	PCB-180/PCB-193	CU	1.46	1.46	pg/L	1.46	43.1
74472-47-2	PCB-181	U	1.77	1.77	pg/L	1.77	21.5
60145-23-5	PCB-182	U	1.03	1.03	pg/L	1.03	21.5
PCB-183/185	PCB-183/PCB-185	CJ	13.3	9.24	pg/L	1.61	43.1
74472-48-3	PCB-184	U	.84	.84	pg/L	0.840	21.5
74472-49-4	PCB-186	U	.926	.926	pg/L	0.926	21.5
52663-68-0	PCB-187	J	24.7	19.7	pg/L	1.10	21.5
74487-85-7	PCB-188	U	1.1	1.1	pg/L	1.10	21.5
39635-31-9	PCB-189	U	.861	.861	pg/L	0.861	21.5
41411-64-7	PCB-190	U	3.66	1.27	pg/L	1.27	21.5
74472-50-7	PCB-191	U	1.25	1.25	pg/L	1.25	21.5
74472-51-8	PCB-192	U	1.49	1.49	pg/L	1.49	21.5
35694-08-7	PCB-194	BJ	6.46	2.2	pg/L	0.883	21.5
52663-78-2	PCB-195	U	3.32	.947	pg/L	0.947	21.5
42740-50-1	PCB-196	U	3.62	.99	pg/L	0.990	21.5
PCB-197/200	PCB-197/PCB-200	CU	1.46	.818	pg/L	0.818	43.1
PCB-198/199	PCB-198/PCB-199	CJ	8.57	2.64	pg/L	1.05	43.1
40186-71-8	PCB-201	U	1.21	.775	pg/L	0.775	21.5
2136-99-4	PCB-202	U	1.72	.883	pg/L	0.883	21.5
52663-76-0	PCB-203	U	4.63	1.01	pg/L	1.01	21.5

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Rio Grande South

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	FQL
74472-52-9	PCB-204	U	.796	.796	pg/L	0.796	21.5
74472-53-0	PCB-205	U	.71	.71	pg/L	0.710	21.5
40186-72-9	PCB-206	U	2.30	.861	pg/L	0.861	21.5
52663-79-3	PCB-207	U	.646	.646	pg/L	0.646	21.5
52663-77-1	PCB-208	U	1.01	.689	pg/L	0.689	21.5
2051-24-3	PCB-209	BU	2.69	.689	pg/L	0.689	21.5
27323-18-8	Total monoCB		36.5	29.8	pg/L		
25512-42-9	Total diCB		1230	1200	pg/L		
25323-68-6	Total triCB		231	197	pg/L		
26914-33-0	Total tetraCB		176	137	pg/L		
25429-29-2	Total pentaCB		158	113	pg/L		
26601-64-9	Total hexaCB		212	150	pg/L		
28655-71-2	Total heptaCB		113	69.3	pg/L		
55722-26-4	Total octaCB		31.0	4.84	pg/L		
53742-07-7	Total nonaCB	U	3.52	0	pg/L		
DECACB(Tot)	Total decaCB	U	2.69	0	pg/L		
1336-36-3	Total PCB		2190	1910	pg/L		
TEQ 7	TOTAL (TEQ ND=1/2 DL)_2005		0.109		pg/L		
TEQ 8	TOTAL (TEQ ND=0)_2005		0.00126		pg/L		

=0.00219 ug/L

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-1-MoCB		175	2150	pg/L	8.15	*	(15%-150%)
13C-3-MoCB		190	2150	pg/L	8.84	*	(15%-150%)
13C-4-DiCB		184	2150	pg/L	8.56	*	(25%-150%)
13C-15-DiCB		566	2150	pg/L	26.3		(25%-150%)
13C-19-TrCB		270	2150	pg/L	12.5	*	(25%-150%)
13C-37-TrCB		572	2150	pg/L	26.6		(25%-150%)
13C-54-TeCB		113	2150	pg/L	5.25	*	(25%-150%)
13C-77-TeCB		1440	2150	pg/L	66.8		(25%-150%)
13C-81-TeCB		1200	2150	pg/L	55.6		(25%-150%)
13C-104-PeCB		84.4	2150	pg/L	3.92	*	(25%-150%)
13C-105-PeCB		1410	2150	pg/L	65.5		(25%-150%)
13C-114-PeCB		1180	2150	pg/L	54.6		(25%-150%)
13C-118-PeCB		1230	2150	pg/L	57.2		(25%-150%)
13C-123-PeCB		1190	2150	pg/L	55.5		(25%-150%)
13C-126-PeCB		1650	2150	pg/L	76.7		(25%-150%)
13C-155-HxCB		232	2150	pg/L	10.8	*	(25%-150%)
13C-156-HxCB	C	2920	4310	pg/L	67.8		(25%-150%)
13C-167-HxCB		1470	2150	pg/L	68.2		(25%-150%)
13C-169-HxCB		1560	2150	pg/L	72.7		(25%-150%)
13C-188-HpCB		979	2150	pg/L	45.5		(25%-150%)
13C-189-HpCB		1670	2150	pg/L	77.8		(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	9998004	**Date Collected:**	09/22/2016 11:00	**Matrix:**	WATER
Client Sample:	1668A Water	**Date Received:**	10/28/2016 14:15		
Client ID:	1609C98-002G			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/10/2016 09:25	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a_2-6			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	929.1 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1530	2150	pg/L	71.0	(25%-150%)
13C-205-OcCB		1900	2150	pg/L	88.3	(25%-150%)
13C-206-NoCB		1850	2150	pg/L	86.0	(25%-150%)
13C-208-NoCB		1720	2150	pg/L	80.1	(25%-150%)
13C-209-DeCB		1910	2150	pg/L	88.7	(25%-150%)
13C-28-TrCB		1290	2150	pg/L	59.8	(30%-135%)
13C-111-PeCB		1930	2150	pg/L	89.7	(30%-135%)
13C-178-HpCB		1930	2150	pg/L	89.8	(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
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

PCB Congeners

Surrogate Recovery Report

SDG Number: 1609609_1609C98

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12017260	LCS for batch 33207	13C-1-MoCB		55.0	(15%-140%)
		13C-3-MoCB		51.8	(15%-140%)
		13C-4-DiCB		52.1	(30%-140%)
		13C-15-DiCB		89.3	(30%-140%)
		13C-19-TrCB		81.3	(30%-140%)
		13C-37-TrCB		72.9	(30%-140%)
		13C-54-TeCB		54.8	(30%-140%)
		13C-77-TeCB		94.6	(30%-140%)
		13C-81-TeCB		95.3	(30%-140%)
		13C-104-PeCB		58.4	(30%-140%)
		13C-105-PeCB		82.9	(30%-140%)
		13C-114-PeCB		80.7	(30%-140%)
		13C-118-PeCB		82.8	(30%-140%)
		13C-123-PeCB		84.1	(30%-140%)
		13C-126-PeCB		85.5	(30%-140%)
		13C-155-HxCB		66.4	(30%-140%)
		13C-156-HxCB	C	74.3	(30%-140%)
		13C-167-HxCB		76.9	(30%-140%)
		13C-169-HxCB		77.2	(30%-140%)
		13C-188-HpCB		77.6	(30%-140%)
		13C-189-HpCB		78.5	(30%-140%)
		13C-202-OcCB		84.9	(30%-140%)
		13C-205-OcCB		97.1	(30%-140%)
		13C-206-NoCB		101	(30%-140%)
		13C-208-NoCB		90.5	(30%-140%)
		13C-209-DeCB		108	(30%-140%)
		13C-28-TrCB		63.8	(40%-125%)
		13C-111-PeCB		81.4	(40%-125%)
		13C-178-HpCB		85.5	(40%-125%)
12017261	LCSD for batch 33207	13C-1-MoCB		52.3	(15%-140%)
		13C-3-MoCB		48.6	(15%-140%)
		13C-4-DiCB		49.2	(30%-140%)
		13C-15-DiCB		153 *	(30%-140%)
		13C-19-TrCB		97.5	(30%-140%)
		13C-37-TrCB		110	(30%-140%)
		13C-54-TeCB		55.8	(30%-140%)
		13C-77-TeCB		146 *	(30%-140%)
		13C-81-TeCB		146 *	(30%-140%)
		13C-104-PeCB		75.8	(30%-140%)
		13C-105-PeCB		126	(30%-140%)
		13C-114-PeCB		122	(30%-140%)
		13C-118-PeCB		124	(30%-140%)
		13C-123-PeCB		126	(30%-140%)
		13C-126-PeCB		134	(30%-140%)
		13C-155-HxCB		87.5	(30%-140%)
		13C-156-HxCB	C	110	(30%-140%)
		13C-167-HxCB		114	(30%-140%)
		13C-169-HxCB		117	(30%-140%)
		13C-188-HpCB		108	(30%-140%)
		13C-189-HpCB		116	(30%-140%)
		13C-202-OcCB		122	(30%-140%)
		13C-205-OcCB		140	(30%-140%)

PCB Congeners

Surrogate Recovery Report

SDG Number: 1609609_1609C98

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12017261	LCSD for batch 33207	13C-206-NoCB		146 *	(30%-140%)
		13C-208-NoCB		131	(30%-140%)
		13C-209-DeCB		158 *	(30%-140%)
		13C-28-TrCB		72.9	(40%-125%)
		13C-111-PeCB		101	(40%-125%)
		13C-178-HpCB		104	(40%-125%)
12017259	MB for batch 33207	13C-1-MoCB		33.1	(15%-150%)
		13C-3-MoCB		33.0	(15%-150%)
		13C-4-DiCB		31.7	(25%-150%)
		13C-15-DiCB		83.7	(25%-150%)
		13C-19-TrCB		59.1	(25%-150%)
		13C-37-TrCB		64.3	(25%-150%)
		13C-54-TeCB		36.1	(25%-150%)
		13C-77-TeCB		86.3	(25%-150%)
		13C-81-TeCB		85.3	(25%-150%)
		13C-104-PeCB		45.4	(25%-150%)
		13C-105-PeCB		75.7	(25%-150%)
		13C-114-PeCB		72.4	(25%-150%)
		13C-118-PeCB		74.1	(25%-150%)
		13C-123-PeCB		74.2	(25%-150%)
		13C-126-PeCB		81.2	(25%-150%)
		13C-155-HxCB		53.4	(25%-150%)
		13C-156-HxCB	C	67.7	(25%-150%)
		13C-167-HxCB		69.6	(25%-150%)
		13C-169-HxCB		72.5	(25%-150%)
		13C-188-HpCB		66.4	(25%-150%)
		13C-189-HpCB		71.0	(25%-150%)
		13C-202-OcCB		75.9	(25%-150%)
		13C-205-OcCB		86.1	(25%-150%)
		13C-206-NoCB		89.2	(25%-150%)
		13C-208-NoCB		80.8	(25%-150%)
		13C-209-DeCB		96.6	(25%-150%)
		13C-28-TrCB		60.9	(30%-135%)
		13C-111-PeCB		81.0	(30%-135%)
		13C-178-HpCB		84.7	(30%-135%)
9998001	1609609-001G	13C-1-MoCB		11.3 *	(15%-150%)
		13C-3-MoCB		12.3 *	(15%-150%)
		13C-4-DiCB		11.4 *	(25%-150%)
		13C-15-DiCB		31.9	(25%-150%)
		13C-19-TrCB		15.4 *	(25%-150%)
		13C-37-TrCB		41.7	(25%-150%)
		13C-54-TeCB		7.40 *	(25%-150%)
		13C-77-TeCB		81.6	(25%-150%)
		13C-81-TeCB		75.6	(25%-150%)
		13C-104-PeCB		9.85 *	(25%-150%)
		13C-105-PeCB		71.9	(25%-150%)
		13C-114-PeCB		65.7	(25%-150%)
		13C-118-PeCB		68.4	(25%-150%)
		13C-123-PeCB		67.9	(25%-150%)
		13C-126-PeCB		78.0	(25%-150%)
		13C-155-HxCB		28.6	(25%-150%)

PCB Congeners

Surrogate Recovery Report

SDG Number: 1609609_1609C98

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
9998001	1609609-001G	13C-156-HxCB	C	70.4	(25%-150%)
		13C-167-HxCB		72.0	(25%-150%)
		13C-169-HxCB		73.8	(25%-150%)
		13C-188-HpCB		63.5	(25%-150%)
		13C-189-HpCB		79.1	(25%-150%)
		13C-202-OcCB		78.4	(25%-150%)
		13C-205-OcCB		89.7	(25%-150%)
		13C-206-NoCB		88.1	(25%-150%)
		13C-208-NoCB		83.0	(25%-150%)
		13C-209-DeCB		89.8	(25%-150%)
		13C-28-TrCB		61.7	(30%-135%)
		13C-111-PeCB		81.8	(30%-135%)
		13C-178-HpCB		84.0	(30%-135%)
9998002	1609609-002G	13C-1-MoCB		11.5 *	(15%-150%)
		13C-3-MoCB		12.7 *	(15%-150%)
		13C-4-DiCB		11.9 *	(25%-150%)
		13C-15-DiCB		36.0	(25%-150%)
		13C-19-TrCB		17.6 *	(25%-150%)
		13C-37-TrCB		46.1	(25%-150%)
		13C-54-TeCB		8.41 *	(25%-150%)
		13C-77-TeCB		89.8	(25%-150%)
		13C-81-TeCB		83.6	(25%-150%)
		13C-104-PeCB		12.1 *	(25%-150%)
		13C-105-PeCB		79.2	(25%-150%)
		13C-114-PeCB		72.5	(25%-150%)
		13C-118-PeCB		75.2	(25%-150%)
		13C-123-PeCB		75.2	(25%-150%)
		13C-126-PeCB		84.4	(25%-150%)
		13C-155-HxCB		33.0	(25%-150%)
		13C-156-HxCB	C	73.9	(25%-150%)
		13C-167-HxCB		75.9	(25%-150%)
		13C-169-HxCB		77.4	(25%-150%)
		13C-188-HpCB		68.4	(25%-150%)
		13C-189-HpCB		82.9	(25%-150%)
		13C-202-OcCB		81.7	(25%-150%)
		13C-205-OcCB		93.4	(25%-150%)
		13C-206-NoCB		90.4	(25%-150%)
		13C-208-NoCB		86.0	(25%-150%)
		13C-209-DeCB		92.1	(25%-150%)
		13C-28-TrCB		63.8	(30%-135%)
		13C-111-PeCB		86.0	(30%-135%)
		13C-178-HpCB		87.1	(30%-135%)
9998003	1609C98-001G	13C-1-MoCB		9.80 *	(15%-150%)
		13C-3-MoCB		11.2 *	(15%-150%)
		13C-4-DiCB		10.2 *	(25%-150%)
		13C-15-DiCB		30.3	(25%-150%)
		13C-19-TrCB		14.3 *	(25%-150%)
		13C-37-TrCB		35.8	(25%-150%)
		13C-54-TeCB		6.41 *	(25%-150%)
		13C-77-TeCB		79.4	(25%-150%)
		13C-81-TeCB		70.6	(25%-150%)

PCB Congeners

Surrogate Recovery Report

SDG Number: 1609609_1609C98

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
9998003	1609C98-001G	13C-104-PeCB		5.91 *	(25%-150%)
		13C-105-PeCB		71.8	(25%-150%)
		13C-114-PeCB		62.6	(25%-150%)
		13C-118-PeCB		65.6	(25%-150%)
		13C-123-PeCB		64.4	(25%-150%)
		13C-126-PeCB		80.6	(25%-150%)
		13C-155-HxCB		19.3 *	(25%-150%)
		13C-156-HxCB	C	71.5	(25%-150%)
		13C-167-HxCB		72.0	(25%-150%)
		13C-169-HxCB		76.1	(25%-150%)
		13C-188-HpCB		57.1	(25%-150%)
		13C-189-HpCB		81.8	(25%-150%)
		13C-202-OcCB		76.7	(25%-150%)
		13C-205-OcCB		91.6	(25%-150%)
		13C-206-NoCB		90.9	(25%-150%)
		13C-208-NoCB		82.8	(25%-150%)
		13C-209-DeCB		93.1	(25%-150%)
		13C-28-TrCB		61.0	(30%-135%)
		13C-111-PeCB		81.9	(30%-135%)
		13C-178-HpCB		83.1	(30%-135%)
9998004	1609C98-002G	13C-1-MoCB		8.15 *	(15%-150%)
		13C-3-MoCB		8.84 *	(15%-150%)
		13C-4-DiCB		8.56 *	(25%-150%)
		13C-15-DiCB		26.3	(25%-150%)
		13C-19-TrCB		12.5 *	(25%-150%)
		13C-37-TrCB		26.6	(25%-150%)
		13C-54-TeCB		5.25 *	(25%-150%)
		13C-77-TeCB		66.8	(25%-150%)
		13C-81-TeCB		55.6	(25%-150%)
		13C-104-PeCB		3.92 *	(25%-150%)
		13C-105-PeCB		65.5	(25%-150%)
		13C-114-PeCB		54.6	(25%-150%)
		13C-118-PeCB		57.2	(25%-150%)
		13C-123-PeCB		55.5	(25%-150%)
		13C-126-PeCB		76.7	(25%-150%)
		13C-155-HxCB		10.8 *	(25%-150%)
		13C-156-HxCB	C	67.8	(25%-150%)
		13C-167-HxCB		68.2	(25%-150%)
		13C-169-HxCB		72.7	(25%-150%)
		13C-188-HpCB		45.5	(25%-150%)
		13C-189-HpCB		77.8	(25%-150%)
		13C-202-OcCB		71.0	(25%-150%)
		13C-205-OcCB		88.3	(25%-150%)
		13C-206-NoCB		86.0	(25%-150%)
		13C-208-NoCB		80.1	(25%-150%)
		13C-209-DeCB		88.7	(25%-150%)
		13C-28-TrCB		59.8	(30%-135%)
		13C-111-PeCB		89.7	(30%-135%)
		13C-178-HpCB		89.8	(30%-135%)

* Recovery outside Acceptance Limits

PCB Congeners

Surrogate Recovery Report

SDG Number: 1609609_1609C98

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits

* 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: 1609609_1609C98
Sample Type: Laboratory Control Sample
Client ID: LCS for batch 33207
Matrix: WATER
Lab Sample ID: 12017260
Instrument: HRP791
Analysis Date: 11/09/2016 16:41
Dilution: 1
Analyst: MJC
Prep Batch ID: 33207
Batch ID: 33209

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits
2051-60-7	LCS	PCB-1	500		518	104	50-150
2051-62-9	LCS	PCB-3	500		604	121	50-150
13029-08-8	LCS	PCB-4	500		499	99.7	50-150
2050-68-2	LCS	PCB-15	500		523	105	50-150
38444-73-4	LCS	PCB-19	500		494	98.8	50-150
38444-90-5	LCS	PCB-37	500		484	96.8	50-150
15968-05-5	LCS	PCB-54	1000		1000	100	50-150
32598-13-3	LCS	PCB-77	1000		942	94.2	50-150
70362-50-4	LCS	PCB-81	1000		1120	112	50-150
56558-16-8	LCS	PCB-104	1000		1060	106	50-150
32598-14-4	LCS	PCB-105	1000		1180	118	50-150
74472-37-0	LCS	PCB-114	1000		1020	102	50-150
31508-00-6	LCS	PCB-118	1000		977	97.7	50-150
65510-44-3	LCS	PCB-123	1000		916	91.6	50-150
57465-28-8	LCS	PCB-126	1000		1010	101	50-150
33979-03-2	LCS	PCB-155	1000		980	98	50-150
38380-08-4	LCS	PCB-156/PCB-157	2000	C	2230	111	50-150
52663-72-6	LCS	PCB-167	1000		1150	115	50-150
32774-16-6	LCS	PCB-169	1000		1010	101	50-150
74487-85-7	LCS	PCB-188	1000		972	97.2	50-150
39635-31-9	LCS	PCB-189	1000		971	97.1	50-150
2136-99-4	LCS	PCB-202	1500		1430	95	50-150
74472-53-0	LCS	PCB-205	1500		1290	85.7	50-150
40186-72-9	LCS	PCB-206	1500		1410	93.7	50-150
52663-77-1	LCS	PCB-208	1500		1490	99.4	50-150
2051-24-3	LCS	PCB-209	1500		1380	91.8	50-150

PCB Congeners

Quality Control Summary
Spike Recovery Report

SDG Number: 1609609_1609C98 **Sample Type:** Laboratory Control Sample Duplicate
Client ID: LCSD for batch 33207 **Matrix:** WATER
Lab Sample ID: 12017261
Instrument: HRP791 **Analysis Date:** 11/09/2016 17:47 **Dilution:** 1
Analyst: MJC **Prep Batch ID:** 33207
Batch ID: 33209

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
2051-60-7	LCSD	PCB-1	500		454	90.9	50-150	13.2	0-20
2051-62-9	LCSD	PCB-3	500		544	109	50-150	10.5	0-20
13029-08-8	LCSD	PCB-4	500		424	84.7	50-150	16.2	0-20
2050-68-2	LCSD	PCB-15	500		473	94.6	50-150	9.99	0-20
38444-73-4	LCSD	PCB-19	500		447	89.5	50-150	9.89	0-20
38444-90-5	LCSD	PCB-37	500		420	84.1	50-150	14.1	0-20
15968-05-5	LCSD	PCB-54	1000		876	87.6	50-150	13.3	0-20
32598-13-3	LCSD	PCB-77	1000		826	82.6	50-150	13.2	0-20
70362-50-4	LCSD	PCB-81	1000		968	96.8	50-150	14.7	0-20
56558-16-8	LCSD	PCB-104	1000		920	92	50-150	13.9	0-20
32598-14-4	LCSD	PCB-105	1000		1030	103	50-150	12.9	0-20
74472-37-0	LCSD	PCB-114	1000		888	88.8	50-150	13.9	0-20
31508-00-6	LCSD	PCB-118	1000		842	84.2	50-150	14.9	0-20
65510-44-3	LCSD	PCB-123	1000		793	79.3	50-150	14.4	0-20
57465-28-8	LCSD	PCB-126	1000		906	90.6	50-150	10.9	0-20
33979-03-2	LCSD	PCB-155	1000		873	87.3	50-150	11.6	0-20
38380-08-4	LCSD	PCB-156/PCB-157	2000	C	1920	95.9	50-150	14.9	0-20
52663-72-6	LCSD	PCB-167	1000		996	99.6	50-150	14.4	0-20
32774-16-6	LCSD	PCB-169	1000		864	86.4	50-150	15.6	0-20
74487-85-7	LCSD	PCB-188	1000		834	83.4	50-150	15.3	0-20
39635-31-9	LCSD	PCB-189	1000		831	83.1	50-150	15.5	0-20
2136-99-4	LCSD	PCB-202	1500		1220	81.3	50-150	15.5	0-20
74472-53-0	LCSD	PCB-205	1500		1110	74.2	50-150	14.4	0-20
40186-72-9	LCSD	PCB-206	1500		1200	79.8	50-150	16.1	0-20
52663-77-1	LCSD	PCB-208	1500		1290	85.7	50-150	14.8	0-20
2051-24-3	LCSD	PCB-209	1500		1190	79.2	50-150	14.8	0-20

Method Blank Summary

SDG Number:	**1609609_1609C98**	**Client:**	**NMED001**	**Matrix:**	**WATER**
Client ID:	**MB for batch 33207**	**Instrument ID:**	**HRP791**	**Data File:**	**c09nov16a-4**
Lab Sample ID:	**12017259**	**Prep Date:**	**08-NOV-16**	**Analyzed:**	**11/09/16 18:53**
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 33207	12017260	c09nov16a-2	11/09/16	1641
02	LCSD for batch 33207	12017261	c09nov16a-3	11/09/16	1747
03	1609609-001G	9998001	c09nov16a_2-3	11/10/16	0606
04	1609609-002G	9998002	c09nov16a_2-4	11/10/16	0713
05	1609C98-001G	9998003	c09nov16a_2-5	11/10/16	0819
06	1609C98-002G	9998004	c09nov16a_2-6	11/10/16	0925

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017259			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	MB for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 18:53	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1	KU	5.92	4.76	pg/L	4.76	40.0
2051-61-8	PCB-2	U	4.74	4.74	pg/L	4.74	40.0
2051-62-9	PCB-3	U	4.62	4.62	pg/L	4.62	40.0
13029-08-8	PCB-4	U	5.28	5.28	pg/L	5.28	40.0
16605-91-7	PCB-5	U	4.24	4.24	pg/L	4.24	40.0
25569-80-6	PCB-6	U	3.04	3.04	pg/L	3.04	40.0
33284-50-3	PCB-7	U	3.44	3.44	pg/L	3.44	40.0
34883-43-7	PCB-8	J	10.3	6.58	pg/L	2.76	40.0
34883-39-1	PCB-9	U	3.44	3.44	pg/L	3.44	20.0
33146-45-1	PCB-10	U	1.86	1.86	pg/L	1.86	20.0
2050-67-1	PCB-11		317	312	pg/L	3.70	40.0
PCB-12/13	PCB-12/PCB-13	CU	3.88	3.88	pg/L	3.88	40.0
34883-41-5	PCB-14	U	3.44	3.44	pg/L	3.44	40.0
2050-68-2	PCB-15	U	7.74	3.36	pg/L	3.36	40.0
38444-78-9	PCB-16	U	1.98	1.98	pg/L	1.98	20.0
37680-66-3	PCB-17	U	4.12	1.74	pg/L	1.74	20.0
PCB-18/30	PCB-18/PCB-30	CJ	6.62	4.31	pg/L	1.46	40.0
38444-73-4	PCB-19	U	2.36	2.36	pg/L	2.36	20.0
PCB-20/28	PCB-20/PCB-28	CJ	17.6	15.2	pg/L	1.30	40.0
PCB-21/33	PCB-21/PCB-33	CJ	10.3	8.17	pg/L	1.34	40.0
38444-85-8	PCB-22	U	1.44	1.44	pg/L	1.44	20.0
55720-44-0	PCB-23	U	1.36	1.36	pg/L	1.36	20.0
55702-45-9	PCB-24	U	2.92	1.4	pg/L	1.40	20.0
55712-37-3	PCB-25	U	1.26	1.26	pg/L	1.26	20.0
PCB-26/29	PCB-26/PCB-29	CU	1.26	1.26	pg/L	1.26	40.0
38444-76-7	PCB-27	U	1.26	1.26	pg/L	1.26	20.0
16606-02-3	PCB-31	U	1.18	1.18	pg/L	1.18	20.0
38444-77-8	PCB-32	U	1.14	1.14	pg/L	1.14	20.0
37680-68-5	PCB-34	U	1.3	1.3	pg/L	1.30	20.0
37680-69-6	PCB-35	U	3.66	2.76	pg/L	2.76	40.0
38444-87-0	PCB-36	U	3.20	2.44	pg/L	2.44	20.0
38444-90-5	PCB-37	U	4.98	2.64	pg/L	2.64	20.0

Comments:

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

J Value is estimated

K Estimated Maximum Possible Concentration

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

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017259			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	MB for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 18:53	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
53555-66-1	PCB-38	U	2.52	2.52	pg/L	2.52	20.0
38444-88-1	PCB-39	U	2.56	2.56	pg/L	2.56	20.0
PCB-40/71	PCB-40/PCB-71	CU	2.32	2.32	pg/L	2.32	40.0
52663-59-9	PCB-41	U	3.1	3.1	pg/L	3.10	40.0
36559-22-5	PCB-42	U	2.9	2.9	pg/L	2.90	40.0
70362-46-8	PCB-43	U	2.98	2.98	pg/L	2.98	40.0
PCB-44/47/65	PCB-44/PCB-65/PCB-47	CU	2.4	2.4	pg/L	2.40	60.0
PCB-45/51	PCB-45/PCB-51	CU	2.26	1.1	pg/L	1.10	40.0
41464-47-5	PCB-46	U	1.16	1.16	pg/L	1.16	20.0
70362-47-9	PCB-48	U	2.72	2.72	pg/L	2.72	20.0
PCB-49/69	PCB-49/PCB-69	CU	4.96	2.24	pg/L	2.24	40.0
PCB-50/53	PCB-50/PCB-53	CU	1.08	1.04	pg/L	1.04	40.0
35693-99-3	PCB-52	U	2.38	2.38	pg/L	2.38	20.0
15968-05-5	PCB-54	U	1.4	1.4	pg/L	1.40	20.0
74338-24-2	PCB-55	U	1.52	1.52	pg/L	1.52	20.0
41464-43-1	PCB-56	U	4.32	1.58	pg/L	1.58	20.0
70424-67-8	PCB-57	U	1.34	1.34	pg/L	1.34	20.0
41464-49-7	PCB-58	U	1.5	1.5	pg/L	1.50	20.0
PCB-59/62/75	PCB-59/PCB-62/PCB-75	CU	1.9	1.9	pg/L	1.90	60.0
33025-41-1	PCB-60	U	1.5	1.5	pg/L	1.50	20.0
PCB-61-76	PCB-61/PCB-70/PCB-74/PCB-76	CJ	16.0	13.2	pg/L	1.42	80.0
74472-34-7	PCB-63	U	1.28	1.28	pg/L	1.28	20.0
52663-58-8	PCB-64	U	2.04	2.04	pg/L	2.04	20.0
32598-10-0	PCB-66	J	7.58	4.8	pg/L	1.34	20.0
73575-53-8	PCB-67	U	1.2	1.2	pg/L	1.20	20.0
73575-52-7	PCB-68	U	1.32	1.32	pg/L	1.32	20.0
41464-42-0	PCB-72	U	1.26	1.26	pg/L	1.26	20.0
74338-23-1	PCB-73	U	2.1	2.1	pg/L	2.10	20.0
32598-13-3	PCB-77	U	1.68	1.32	pg/L	1.32	20.0
70362-49-1	PCB-78	U	1.44	1.44	pg/L	1.44	20.0
41464-48-6	PCB-79	U	1.22	1.22	pg/L	1.22	20.0
33284-52-5	PCB-80	U	1.2	1.2	pg/L	1.20	20.0

Comments:

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

J Value is estimated

K Estimated Maximum Possible Concentration

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

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017259			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	MB for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 18:53	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
70362-50-4	PCB-81	U	1.28	1.28	pg/L	1.28	20.0
52663-62-4	PCB-82	U	1.62	1.62	pg/L	1.62	20.0
60145-20-2	PCB-83	U	1.74	1.74	pg/L	1.74	20.0
52663-60-2	PCB-84	U	1.6	1.6	pg/L	1.60	20.0
PCB-85-117	PCB-85/PCB-116/PCB-117	CU	1.22	1.22	pg/L	1.22	60.0
PCB-86-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-	CJ	4.42	1.3	pg/L	1.30	120
PCB-88/91	PCB-88/PCB-91	CU	1.52	1.52	pg/L	1.52	40.0
73575-57-2	PCB-89	U	1.52	1.52	pg/L	1.52	20.0
PCB-90-113	PCB-90/PCB-101/PCB-113	CJ	5.62	2.56	pg/L	1.28	60.0
52663-61-3	PCB-92	U	1.46	1.46	pg/L	1.46	20.0
PCB-93/100	PCB-93/PCB-100	CU	1.5	1.5	pg/L	1.50	40.0
73575-55-0	PCB-94	U	1.66	1.66	pg/L	1.66	20.0
38379-99-6	PCB-95	U	3.20	1.4	pg/L	1.40	20.0
73575-54-9	PCB-96	U	.68	.68	pg/L	0.680	20.0
PCB-98/102	PCB-98/PCB-102	CU	1.6	1.6	pg/L	1.60	40.0
38380-01-7	PCB-99	U	2.48	1.42	pg/L	1.42	20.0
60145-21-3	PCB-103	U	1.32	1.32	pg/L	1.32	20.0
56558-16-8	PCB-104	U	.94	.94	pg/L	0.940	20.0
32598-14-4	PCB-105	U	1.84	1.84	pg/L	1.84	20.0
70424-69-0	PCB-106	U	1.66	1.66	pg/L	1.66	20.0
70424-68-9	PCB-107	U	1.56	1.56	pg/L	1.56	20.0
PCB-108/124	PCB-108/PCB-124	CU	1.78	1.78	pg/L	1.78	40.0
PCB-110/115	PCB-110/PCB-115	CJ	4.54	1.57	pg/L	1.22	40.0
39635-32-0	PCB-111	U	1.16	1.16	pg/L	1.16	20.0
74472-36-9	PCB-112	U	1.04	1.04	pg/L	1.04	20.0
74472-37-0	PCB-114	U	1.8	1.8	pg/L	1.80	20.0
31508-00-6	PCB-118	U	4.12	1.7	pg/L	1.70	20.0
68194-12-7	PCB-120	U	1.04	1.04	pg/L	1.04	20.0
56558-18-0	PCB-121	U	1.18	1.18	pg/L	1.18	20.0
76842-07-4	PCB-122	U	1.78	1.78	pg/L	1.78	20.0
65510-44-3	PCB-123	U	1.76	1.76	pg/L	1.76	20.0
57465-28-8	PCB-126	U	1.98	1.98	pg/L	1.98	20.0

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017259			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	MB for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 18:53	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
39635-33-1	PCB-127	U	1.68	1.68	pg/L	1.68	20.0
PCB-128/166	PCB-128/PCB-166	CU	1.3	1.3	pg/L	1.30	40.0
PCB-129-163	PCB-129/PCB-138/PCB-163	CJ	6.20	1.98	pg/L	1.46	60.0
52663-66-8	PCB-130	U	1.58	1.58	pg/L	1.58	20.0
61798-70-7	PCB-131	U	1.9	1.9	pg/L	1.90	20.0
38380-05-1	PCB-132	U	2.36	1.72	pg/L	1.72	20.0
35694-04-3	PCB-133	U	1.52	1.52	pg/L	1.52	20.0
52704-70-8	PCB-134	U	2.14	2.14	pg/L	2.14	20.0
PCB-135/151	PCB-135/PCB-151	CU	2.82	1.04	pg/L	1.04	40.0
38411-22-2	PCB-136	U	0.860	.76	pg/L	0.760	20.0
35694-06-5	PCB-137	U	1.64	1.64	pg/L	1.64	20.0
PCB-139/140	PCB-139/PCB-140	CU	1.46	1.46	pg/L	1.46	40.0
52712-04-6	PCB-141	U	1.4	1.4	pg/L	1.40	20.0
41411-61-4	PCB-142	U	1.62	1.62	pg/L	1.62	20.0
68194-15-0	PCB-143	U	1.44	1.44	pg/L	1.44	20.0
68194-14-9	PCB-144	U	.96	.96	pg/L	0.960	20.0
74472-40-5	PCB-145	U	.84	.84	pg/L	0.840	20.0
51908-16-8	PCB-146	U	1.2	1.2	pg/L	1.20	20.0
PCB-147/149	PCB-147/PCB-149	CU	4.98	1.44	pg/L	1.44	40.0
74472-41-6	PCB-148	U	.96	.96	pg/L	0.960	20.0
68194-08-1	PCB-150	U	.82	.82	pg/L	0.820	20.0
68194-09-2	PCB-152	U	.72	.72	pg/L	0.720	20.0
PCB-153/168	PCB-153/PCB-168	CU	4.28	1.22	pg/L	1.22	40.0
60145-22-4	PCB-154	U	.86	.86	pg/L	0.860	20.0
33979-03-2	PCB-155	U	.76	.76	pg/L	0.760	20.0
PCB-156/157	PCB-156/PCB-157	CU	2.14	1.48	pg/L	1.48	40.0
74472-42-7	PCB-158	U	1	1	pg/L	1.00	20.0
39635-35-3	PCB-159	U	1.1	1.1	pg/L	1.10	20.0
41411-62-5	PCB-160	U	1.26	1.26	pg/L	1.26	20.0
74472-43-8	PCB-161	U	1.06	1.06	pg/L	1.06	20.0
39635-34-2	PCB-162	U	1.16	1.16	pg/L	1.16	20.0
74472-45-0	PCB-164	U	1.08	1.08	pg/L	1.08	20.0

Comments:

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

J Value is estimated

K Estimated Maximum Possible Concentration

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

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017259			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	MB for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 18:53	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-46-1	PCB-165	U	1.32	1.32	pg/L	1.32	20.0
52663-72-6	PCB-167	U	1.14	1.1	pg/L	1.10	20.0
32774-16-6	PCB-169	U	1.2	1.2	pg/L	1.20	20.0
35065-30-6	PCB-170	U	2.24	1.08	pg/L	1.08	20.0
PCB-171/173	PCB-171/PCB-173	CU	1.20	1.1	pg/L	1.10	40.0
52663-74-8	PCB-172	U	1.1	1.1	pg/L	1.10	20.0
38411-25-5	PCB-174	U	3.08	1.04	pg/L	1.04	20.0
40186-70-7	PCB-175	U	.8	.8	pg/L	0.800	20.0
52663-65-7	PCB-176	U	.64	.64	pg/L	0.640	20.0
52663-70-4	PCB-177	U	1.22	1.12	pg/L	1.12	20.0
52663-67-9	PCB-178	U	.84	.84	pg/L	0.840	20.0
52663-64-6	PCB-179	U	0.660	.64	pg/L	0.640	20.0
PCB-180/193	PCB-180/PCB-193	CU	.92	.92	pg/L	0.920	40.0
74472-47-2	PCB-181	U	1.14	1.14	pg/L	1.14	20.0
60145-23-5	PCB-182	U	.78	.78	pg/L	0.780	20.0
PCB-183/185	PCB-183/PCB-185	CU	1.78	1.06	pg/L	1.06	40.0
74472-48-3	PCB-184	U	.64	.64	pg/L	0.640	20.0
74472-49-4	PCB-186	U	.72	.72	pg/L	0.720	20.0
52663-68-0	PCB-187	U	3.04	.84	pg/L	0.840	20.0
74487-85-7	PCB-188	U	.68	.68	pg/L	0.680	20.0
39635-31-9	PCB-189	U	1.30	1.08	pg/L	1.08	20.0
41411-64-7	PCB-190	U	.82	.82	pg/L	0.829	20.0
74472-50-7	PCB-191	U	.8	.8	pg/L	0.800	20.0
74472-51-8	PCB-192	U	.96	.96	pg/L	0.960	20.0
35694-08-7	PCB-194	U	1.52	.72	pg/L	0.720	20.0
52663-78-2	PCB-195	U	.78	.78	pg/L	0.780	20.0
42740-50-1	PCB-196	U	.8	.8	pg/L	0.800	20.0
PCB-197/200	PCB-197/PCB-200	CU	.66	.66	pg/L	0.660	40.0
PCB-198/199	PCB-198/PCB-199	CKU	1.18	.84	pg/L	0.840	40.0
40186-71-8	PCB-201	U	.64	.64	pg/L	0.640	20.0
2136-99-4	PCB-202	U	.7	.7	pg/L	0.700	20.0
52663-76-0	PCB-203	U	0.920	.82	pg/L	0.820	20.0

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017259			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	MB for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 18:53	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
74472-52-9	PCB-204	U	.64	.64	pg/L	0.640	20.0
74472-53-0	PCB-205	U	0.640	.62	pg/L	0.620	20.0
40186-72-9	PCB-206	U	1.06	1.06	pg/L	1.06	20.0
52663-79-3	PCB-207	U	.78	.78	pg/L	0.780	20.0
52663-77-1	PCB-208	U	.84	.84	pg/L	0.840	20.0
2051-24-3	PCB-209	U	1.22	.68	pg/L	0.680	20.0
27323-18-8	Total monoCB	U	0	0	pg/L		
25512-42-9	Total diCB		335	319	pg/L		
25323-68-6	Total triCB		53.5	27.7	pg/L		
26914-33-0	Total tetraCB		37.9	18	pg/L		
25429-29-2	Total pentaCB		24.4	5.43	pg/L		
26601-64-9	Total hexaCB		24.8	1.98	pg/L		
28655-71-2	Total heptaCB	U	14.5	0	pg/L		
55722-26-4	Total octaCB	U	3.08	0	pg/L		
53742-07-7	Total nonaCB	U	0	0	pg/L		
DECACB(Tot)	Total decaCB	U	1.22	0	pg/L		
1336-36-3	Total PCB		495	372	pg/L		
TEQ 7	TOTAL (TEQ ND=1/2 DL)_2005		0.118		pg/L		
TEQ 8	TOTAL (TEQ ND=0)_2005		0.000429		pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		661	2000	pg/L	33.1	(15%-150%)
13C-3-MoCB		660	2000	pg/L	33.0	(15%-150%)
13C-4-DiCB		635	2000	pg/L	31.7	(25%-150%)
13C-15-DiCB		1670	2000	pg/L	83.7	(25%-150%)
13C-19-TrCB		1180	2000	pg/L	59.1	(25%-150%)
13C-37-TrCB		1290	2000	pg/L	64.3	(25%-150%)
13C-54-TeCB		721	2000	pg/L	36.1	(25%-150%)
13C-77-TeCB		1730	2000	pg/L	86.3	(25%-150%)
13C-81-TeCB		1710	2000	pg/L	85.3	(25%-150%)
13C-104-PeCB		908	2000	pg/L	45.4	(25%-150%)
13C-105-PeCB		1510	2000	pg/L	75.7	(25%-150%)
13C-114-PeCB		1450	2000	pg/L	72.4	(25%-150%)
13C-118-PeCB		1480	2000	pg/L	74.1	(25%-150%)
13C-123-PeCB		1480	2000	pg/L	74.2	(25%-150%)
13C-126-PeCB		1620	2000	pg/L	81.2	(25%-150%)
13C-155-HxCB		1070	2000	pg/L	53.4	(25%-150%)
13C-156-HxCB	C	2710	4000	pg/L	67.7	(25%-150%)
13C-167-HxCB		1390	2000	pg/L	69.6	(25%-150%)
13C-169-HxCB		1450	2000	pg/L	72.5	(25%-150%)
13C-188-HpCB		1330	2000	pg/L	66.4	(25%-150%)
13C-189-HpCB		1420	2000	pg/L	71.0	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017259			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	MB for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 18:53	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-4			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1520	2000	pg/L	75.9	(25%-150%)
13C-205-OcCB		1720	2000	pg/L	86.1	(25%-150%)
13C-206-NoCB		1780	2000	pg/L	89.2	(25%-150%)
13C-208-NoCB		1620	2000	pg/L	80.8	(25%-150%)
13C-209-DeCB		1930	2000	pg/L	96.6	(25%-150%)
13C-28-TrCB		1220	2000	pg/L	60.9	(30%-135%)
13C-111-PeCB		1620	2000	pg/L	81.0	(30%-135%)
13C-178-HpCB		1690	2000	pg/L	84.7	(30%-135%)

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017260			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	LCS for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 16:41	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-2			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1		522	518	pg/L	5.74	40.0
2051-62-9	PCB-3		606	604	pg/L	4.96	40.0
13029-08-8	PCB-4		508	499	pg/L	4.28	40.0
2050-68-2	PCB-15		528	523	pg/L	4.74	40.0
38444-73-4	PCB-19		497	494	pg/L	2.40	20.0
38444-90-5	PCB-37		487	484	pg/L	6.88	20.0
15968-05-5	PCB-54		1000	1000	pg/L	1.16	20.0
32598-13-3	PCB-77		945	942	pg/L	4.18	20.0
70362-50-4	PCB-81		1120	1120	pg/L	3.92	20.0
56558-16-8	PCB-104		1060	1060	pg/L	1.18	20.0
32598-14-4	PCB-105		1180	1180	pg/L	5.10	20.0
74472-37-0	PCB-114		1020	1020	pg/L	5.02	20.0
31508-00-6	PCB-118		981	977	pg/L	4.70	20.0
65510-44-3	PCB-123		920	916	pg/L	4.86	20.0
57465-28-8	PCB-126		1020	1010	pg/L	5.84	20.0
33979-03-2	PCB-155		983	980	pg/L	0.720	20.0
PCB-156/157	PCB-156/PCB-157	C	2230	2230	pg/L	6.24	40.0
52663-72-6	PCB-167		1150	1150	pg/L	4.52	20.0
32774-16-6	PCB-169		1020	1010	pg/L	5.24	20.0
74487-85-7	PCB-188		975	972	pg/L	0.920	20.0
39635-31-9	PCB-189		977	971	pg/L	2.34	20.0
2136-99-4	PCB-202		1430	1430	pg/L	1.02	20.0
74472-53-0	PCB-205		1290	1290	pg/L	1.32	20.0
40186-72-9	PCB-206		1410	1410	pg/L	1.42	20.0
52663-77-1	PCB-208		1500	1490	pg/L	1.12	20.0
2051-24-3	PCB-209		1380	1380	pg/L	0.880	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		1100	2000	pg/L	55.0	(15%-140%)
13C-3-MoCB		1040	2000	pg/L	51.8	(15%-140%)
13C-4-DiCB		1040	2000	pg/L	52.1	(30%-140%)
13C-15-DiCB		1790	2000	pg/L	89.3	(30%-140%)
13C-19-TrCB		1630	2000	pg/L	81.3	(30%-140%)
13C-37-TrCB		1460	2000	pg/L	72.9	(30%-140%)
13C-54-TeCB		1100	2000	pg/L	54.8	(30%-140%)
13C-77-TeCB		1890	2000	pg/L	94.6	(30%-140%)
13C-81-TeCB		1910	2000	pg/L	95.3	(30%-140%)
13C-104-PeCB		1170	2000	pg/L	58.4	(30%-140%)
13C-105-PeCB		1660	2000	pg/L	82.9	(30%-140%)
13C-114-PeCB		1610	2000	pg/L	80.7	(30%-140%)
13C-118-PeCB		1660	2000	pg/L	82.8	(30%-140%)
13C-123-PeCB		1680	2000	pg/L	84.1	(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017260			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	LCS for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 16:41	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-2			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-126-PeCB		1710	2000	pg/L	85.5	(30%-140%)
13C-155-HxCB		1330	2000	pg/L	66.4	(30%-140%)
13C-156-HxCB	C	2970	4000	pg/L	74.3	(30%-140%)
13C-167-HxCB		1540	2000	pg/L	76.9	(30%-140%)
13C-169-HxCB		1540	2000	pg/L	77.2	(30%-140%)
13C-188-HpCB		1550	2000	pg/L	77.6	(30%-140%)
13C-189-HpCB		1570	2000	pg/L	78.5	(30%-140%)
13C-202-OcCB		1700	2000	pg/L	84.9	(30%-140%)
13C-205-OcCB		1940	2000	pg/L	97.1	(30%-140%)
13C-206-NoCB		2010	2000	pg/L	101	(30%-140%)
13C-208-NoCB		1810	2000	pg/L	90.5	(30%-140%)
13C-209-DeCB		2160	2000	pg/L	108	(30%-140%)
13C-28-TrCB		1280	2000	pg/L	63.8	(40%-125%)
13C-111-PeCB		1630	2000	pg/L	81.4	(40%-125%)
13C-178-HpCB		1710	2000	pg/L	85.5	(40%-125%)

Comments:

B The target analyte was detected in the associated blank.

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

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017261			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	LCSD for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 17:47	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units	EDL	PQL
2051-60-7	PCB-1		458	454	pg/L	5.08	40.0
2051-62-9	PCB-3		546	544	pg/L	4.68	40.0
13029-08-8	PCB-4		433	424	pg/L	5.84	40.0
2050-68-2	PCB-15		478	473	pg/L	3.62	40.0
38444-73-4	PCB-19		451	447	pg/L	2.06	20.0
38444-90-5	PCB-37		423	420	pg/L	2.02	20.0
15968-05-5	PCB-54		879	876	pg/L	1.08	20.0
32598-13-3	PCB-77		829	826	pg/L	2.42	20.0
70362-50-4	PCB-81		970	968	pg/L	2.34	20.0
56558-16-8	PCB-104		923	920	pg/L	0.680	20.0
32598-14-4	PCB-105		1040	1030	pg/L	3.62	20.0
74472-37-0	PCB-114		892	888	pg/L	3.56	20.0
31508-00-6	PCB-118		845	842	pg/L	3.34	20.0
65510-44-3	PCB-123		797	793	pg/L	3.50	20.0
57465-28-8	PCB-126		910	906	pg/L	3.98	20.0
33979-03-2	PCB-155		876	873	pg/L	0.540	20.0
PCB-156/157	PCB-156/PCB-157	C	1920	1920	pg/L	3.62	40.0
52663-72-6	PCB-167		999	996	pg/L	2.72	20.0
32774-16-6	PCB-169		869	864	pg/L	3.00	20.0
74487-85-7	PCB-188		837	834	pg/L	0.560	20.0
39635-31-9	PCB-189		837	831	pg/L	1.20	20.0
2136-99-4	PCB-202		1220	1220	pg/L	0.680	20.0
74472-53-0	PCB-205		1120	1110	pg/L	0.800	20.0
40186-72-9	PCB-206		1200	1200	pg/L	0.900	20.0
52663-77-1	PCB-208		1290	1290	pg/L	0.740	20.0
2051-24-3	PCB-209		1200	1190	pg/L	0.500	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-1-MoCB		1050	2000	pg/L	52.3		(15%-140%)
13C-3-MoCB		971	2000	pg/L	48.6		(15%-140%)
13C-4-DiCB		984	2000	pg/L	49.2		(30%-140%)
13C-15-DiCB		3070	2000	pg/L	153	*	(30%-140%)
13C-19-TrCB		1950	2000	pg/L	97.5		(30%-140%)
13C-37-TrCB		2200	2000	pg/L	110		(30%-140%)
13C-54-TeCB		1120	2000	pg/L	55.8		(30%-140%)
13C-77-TeCB		2920	2000	pg/L	146	*	(30%-140%)
13C-81-TeCB		2920	2000	pg/L	146	*	(30%-140%)
13C-104-PeCB		1520	2000	pg/L	75.8		(30%-140%)
13C-105-PeCB		2520	2000	pg/L	126		(30%-140%)
13C-114-PeCB		2440	2000	pg/L	122		(30%-140%)
13C-118-PeCB		2480	2000	pg/L	124		(30%-140%)
13C-123-PeCB		2510	2000	pg/L	126		(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1609609_1609C98	**Client:**	NMED001	**Project:**	NMED00113
Lab Sample ID:	12017261			**Matrix:**	WATER
Client Sample:	QC for batch 33207				
Client ID:	LCSD for batch 33207			**Prep Basis:**	As Received
Batch ID:	33209	**Method:**	EPA Method 1668A HS		
Run Date:	11/09/2016 17:47	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09nov16a-3			**Dilution:**	1
Prep Batch:	33207	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	08-NOV-16	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	MBCR	Units		EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-126-PeCB		2680	2000	pg/L	134		(30%-140%)
13C-155-HxCB		1750	2000	pg/L	87.5		(30%-140%)
13C-156-HxCB	C	4400	4000	pg/L	110		(30%-140%)
13C-167-HxCB		2290	2000	pg/L	114		(30%-140%)
13C-169-HxCB		2340	2000	pg/L	117		(30%-140%)
13C-188-HpCB		2170	2000	pg/L	108		(30%-140%)
13C-189-HpCB		2320	2000	pg/L	116		(30%-140%)
13C-202-OcCB		2440	2000	pg/L	122		(30%-140%)
13C-205-OcCB		2800	2000	pg/L	140		(30%-140%)
13C-206-NoCB		2920	2000	pg/L	146	*	(30%-140%)
13C-208-NoCB		2620	2000	pg/L	131		(30%-140%)
13C-209-DeCB		3150	2000	pg/L	158	*	(30%-140%)
13C-28-TrCB		1460	2000	pg/L	72.9		(40%-125%)
13C-111-PeCB		2010	2000	pg/L	101		(40%-125%)
13C-178-HpCB		2080	2000	pg/L	104		(40%-125%)

Comments:

B The target analyte was detected in the associated blank.

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27691**	SampType:	**MBLK**	TestCode:	**EPA Method 1664A**					
Client ID:	**PBW**	Batch ID:	**27691**	RunNo:	**37504**					
Prep Date:	**9/26/2016**	Analysis Date:	**9/26/2016**	SeqNo:	**1166137**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	ND	10								
Silica Gel Treated N-Hexane Extrac	ND	10								

Sample ID	**LCS-27691**	SampType:	**LCS**	TestCode:	**EPA Method 1664A**					
Client ID:	**LCSW**	Batch ID:	**27691**	RunNo:	**37504**					
Prep Date:	**9/26/2016**	Analysis Date:	**9/26/2016**	SeqNo:	**1166138**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	41	10	40.00	0	103	78	114			
Silica Gel Treated N-Hexane Extrac	20	10	20.00	0	100	64	132			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MBLK-D**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**		
Client ID:	**PBW**	Batch ID:	**D37643**	RunNo:	**37643**		
Prep Date:		Analysis Date:	**10/3/2016**	SeqNo:	**1171903**	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								

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **B37945**			RunNo: **37945**					
Prep Date:		Analysis Date: **10/13/2016**			SeqNo: **1182520**		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	95.0	85	115			
Lead	0.012	0.00050	0.01250	0	97.3	85	115			

Sample ID	**LLLCS**	SampType: **LCSLL**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **B37945**			RunNo: **37945**					
Prep Date:		Analysis Date: **10/13/2016**			SeqNo: **1182521**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0012	0.0010	0.001000	0	117	50	150			
Lead	0.00057	0.00050	0.0005000	0	113	50	150			

Sample ID	**MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **B37945**			RunNo: **37945**					
Prep Date:		Analysis Date: **10/13/2016**			SeqNo: **1182522**		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								

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A37430**	RunNo: **37430**
Prep Date:	Analysis Date: **9/23/2016**	SeqNo: **1163546** 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: **A37430**	RunNo: **37430**
Prep Date:	Analysis Date: **9/23/2016**	SeqNo: **1163547** 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	94.9	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	103	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **B37435**	RunNo: **37435**
Prep Date:	Analysis Date: **9/23/2016**	SeqNo: **1163875** 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: **B37435**	RunNo: **37435**
Prep Date:	Analysis Date: **9/23/2016**	SeqNo: **1163876** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	95.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27653**	SampType:	**MBLK**		TestCode:	**SM5210B: BOD**				
Client ID:	**PBW**	Batch ID:	**27653**		RunNo:	**37534**				
Prep Date:	**9/22/2016**	Analysis Date:	**9/27/2016**		SeqNo:	**1167364**	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	**MB--27653**	SampType:	**MBLK**		TestCode:	**SM5210B: BOD**				
Client ID:	**PBW**	Batch ID:	**27653**		RunNo:	**37534**				
Prep Date:	**9/22/2016**	Analysis Date:	**9/27/2016**		SeqNo:	**1167365**	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-27653**	SampType:	**LCS**		TestCode:	**SM5210B: BOD**				
Client ID:	**LCSW**	Batch ID:	**27653**		RunNo:	**37534**				
Prep Date:	**9/22/2016**	Analysis Date:	**9/27/2016**		SeqNo:	**1167366**	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	83.4	56.9	131			

Sample ID	**LCSD-27653**	SampType:	**LCSD**		TestCode:	**SM5210B: BOD**				
Client ID:	**LCSS02**	Batch ID:	**27653**		RunNo:	**37534**				
Prep Date:	**9/22/2016**	Analysis Date:	**9/27/2016**		SeqNo:	**1167367**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	190	2.0	198.0	0	97.2	56.9	131	15.4	20	

Sample ID	**MB-27670**	SampType:	**MBLK**		TestCode:	**SM5210B: BOD**				
Client ID:	**PBW**	Batch ID:	**27670**		RunNo:	**37641**				
Prep Date:	**9/23/2016**	Analysis Date:	**9/28/2016**		SeqNo:	**1171545**	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	**MB--27670**	SampType:	**MBLK**		TestCode:	**SM5210B: BOD**				
Client ID:	**PBW**	Batch ID:	**27670**		RunNo:	**37641**				
Prep Date:	**9/23/2016**	Analysis Date:	**9/28/2016**		SeqNo:	**1171546**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**LCS-27670**	SampType:	**LCS**		TestCode:	**SM5210B: BOD**					
Client ID:	**LCSW**	Batch ID:	**27670**		RunNo:	**37641**					
Prep Date:	**9/23/2016**	Analysis Date:	**9/28/2016**		SeqNo:	**1171547**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand		180	2.0	198.0	0	91.4	56.9	131			

Sample ID	**LCSD-27670**	SampType:	**LCSD**		TestCode:	**SM5210B: BOD**					
Client ID:	**LCSS02**	Batch ID:	**27670**		RunNo:	**37641**					
Prep Date:	**9/23/2016**	Analysis Date:	**9/28/2016**		SeqNo:	**1171548**	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	86.8	56.9	131	5.10	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27666**	SampType:	**MBLK**	TestCode:	**SM 9223B Fecal Indicator: E. coli MPN**					
Client ID:	**PBW**	Batch ID:	**27666**	RunNo:	**37450**					
Prep Date:	**9/22/2016**	Analysis Date:	**9/23/2016**	SeqNo:	**1164161**	Units:	**CFU/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.	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID **MB**	SampType: **MBLK**	TestCode: **SM 4500 NH3: Ammonia**
Client ID: **PBW**	Batch ID: **R37892**	RunNo: **37892**
Prep Date:	Analysis Date: **10/12/2016**	SeqNo: **1180229** 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: **R37892**	RunNo: **37892**
Prep Date:	Analysis Date: **10/12/2016**	SeqNo: **1180230** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	10	1.0	10.00	0	101	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-28009**	SampType:	**MBLK**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**PBW**	Batch ID:	**28009**	RunNo:	**37907**					
Prep Date:	**10/11/2016**	Analysis Date:	**10/12/2016**	SeqNo:	**1180912**	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-28009**	SampType:	**LCS**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**LCSW**	Batch ID:	**28009**	RunNo:	**37907**					
Prep Date:	**10/11/2016**	Analysis Date:	**10/12/2016**	SeqNo:	**1180913**	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	101	90	110			

Sample ID	**1609C98-001DMS**	SampType:	**MS**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**Rio Grande-North-0**	Batch ID:	**28009**	RunNo:	**37907**					
Prep Date:	**10/11/2016**	Analysis Date:	**10/12/2016**	SeqNo:	**1180916**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.29	0.010	0.2500	0.04220	99.3	90	110			

Sample ID	**1609C98-001DMSD**	SampType:	**MSD**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**Rio Grande-North-0**	Batch ID:	**28009**	RunNo:	**37907**					
Prep Date:	**10/11/2016**	Analysis Date:	**10/12/2016**	SeqNo:	**1180917**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.28	0.010	0.2500	0.04220	96.6	90	110	2.37	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27761**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**27761**	RunNo:	**37597**					
Prep Date:	**9/28/2016**	Analysis Date:	**9/30/2016**	SeqNo:	**1170153**	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-27761**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**27761**	RunNo:	**37597**					
Prep Date:	**9/28/2016**	Analysis Date:	**9/30/2016**	SeqNo:	**1170154**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1000	20.0	1000	0	100	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID **MB-28008**	SampType: **MBLK**	TestCode: **SM 4500 Norg C: TKN**
Client ID: **PBW**	Batch ID: **28008**	RunNo: **37920**
Prep Date: **10/11/2016**	Analysis Date: **10/13/2016**	SeqNo: **1181637** 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-28008**	SampType: **LCS**	TestCode: **SM 4500 Norg C: TKN**
Client ID: **LCSW**	Batch ID: **28008**	RunNo: **37920**
Prep Date: **10/11/2016**	Analysis Date: **10/13/2016**	SeqNo: **1181638** 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.	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609C98**

02-Dec-16

Client: AMAFCA

Project: CMC

Sample ID	**MB-27741**	SampType:	**MBLK**	TestCode:	**SM 2540D: TSS**					
Client ID:	**PBW**	Batch ID:	**27741**	RunNo:	**37575**					
Prep Date:	**9/27/2016**	Analysis Date:	**9/29/2016**	SeqNo:	**1169096**	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-27741**	SampType:	**LCS**	TestCode:	**SM 2540D: TSS**					
Client ID:	**LCSW**	Batch ID:	**27741**	RunNo:	**37575**					
Prep Date:	**9/27/2016**	Analysis Date:	**9/29/2016**	SeqNo:	**1169097**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	93	4.0	92.50	0	101	83.35	118.92			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: AMAFCA Work Order Number: 1609C98 RcptNo: 1

Received by/date: AT 09/22/16

Logged By: Lindsay Mangin 9/22/2016 1:50:00 PM

Completed By: Lindsay Mangin 9/22/2016 2:27:47 PM

Reviewed By: 09/22/16 @ 1600

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. 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.			
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. 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:

Special Handling (if applicable)

16. 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:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	6.3	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

Email or Fax#: pchavez@amafca.org

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: C. Johannesen

On Ice: ☒ Yes ☐ No

Sample Temperature: 6.3

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 Request ID	Container Type and #	Preservative Type	HEAL No. 1609C98	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)	See Attached Table	E. Coli Num			Air Bubbles (Y or N)
9/16	1215	AQ	Rio Grande - North - 092116	Numerous		-001												X				
9/16	1100	AQ	Rio Grande - South - 092216			-002												X	X			
—	—	AQ	Trip Blank	2	HCl	-003												X				

Date: 9/16 Time: 1550 Relinquished by: Received by: Date Time: 09/22/16 1850

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.

AMAFCA and CMC samples

- Hardness
- TSS
- TDS
- COD
- BOD
- DO
- Oil & grease
- E. coli
- pH
- Total kjeldahl nitrogen
- Nitrate plus nitrite
- Dissolved phosphorus
- Ammonia plus organic nitrogen
- Total Phosphorus
- Chromium IV
- Copper-dissolved
- Lead-dissolved
- PCBs
- Gross Alpha
- Tetrahydrofuran
- Benzo(a)pyrene
- Benzo(b)fluoranthene, alternate name 3, 4 Benzofluoranthene
- Benzo(k)fluoranthene
- Chrysene
- Indeno(1,2,3-cd)pyrene
- Dieldrin
- Pentachlorophenol
- Benzidine
- Benzo(a)anthracene
- Pentachlorophenol
- Dibenzofuran
- Dibenzo(a,h)anthracene
- Bis(2-ethylhexyl)phthalate

AMAFCA E.Coli only sites:

- Bear Arroyo
- Main Hanh Arroyo
- Embudo

ATTACHMENT 2

FY 2017 WET SEASON COMPLETED DATA VERIFICATION AND VALIDATION FORMS

Attachment 1.1 Water Quality Sample Data Verification and Validation Worksheet

Study Name: Compliance Monitoring Cooperative (CMC)
Year: FY 2017 (August 2016 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 8/2/16 – E. coli Only Sample – Was Not Qualifying Storm Event
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? ☒ Yes ☐ No
*Note – Field Data for DO (mg/L) was recalculated by DBS&A and provided to BHI, e-mail 12-21-16. Corrected Field Notebook not provided to BHI. Database has the recalculated DO from the 12-21-16 e-mail.

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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

*Note – HEAL Lab report order number – 1608105_v1
Total number of occurrences: 0

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/16

****

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



1/13/17

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 2017 (August 2016 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 8/3/16 – E. coli Only Sample – Was Not Qualifying Storm Event
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? ☒ Yes ☐ No
*Note – Field Data for DO (mg/L) was recalculated by DBS&A and provided to BHI, e-mail 12-21-16. Corrected Field Notebook not provided to BHI. Database has the recalculated DO from the 12-21-16 e-mail.

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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

*Note – HEAL Lab report order number – 1608171_v1
Total number of occurrences: 0

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/16

****

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



1/13/17

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 2017 (August 2016 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 8/10/16 and 8/11/16
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? ☒ Yes ☐ No
*Note – Field Data for DO (mg/L) was recalculated by DBS&A and provided to BHI, e-mail 12-21-16. Corrected Field Notebook not provided to BHI. Database has the recalculated DO from the 12-21-16 e-mail.
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:*** 1/13/17

- - - -

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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 & South	8/11/16	Sample was tested for PCBs using Method 608, screening method.	Lab was contacted by CMC/DBS&A once aware of this testing method – there was not enough sample volume to re-test for PCBs using Method 1668.
Rio Grande North & South	8/11/16	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA and DBS&A of this and requested that lab more clearly report data.

*Note – HEAL Lab report order numbers – 1608623_v1 and 1608678_v2
Total number of occurrences: 2

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- - - -

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



1/13/17

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 2017 (August 2016 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande South – 8/11/16
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? ☒ Yes ☐ No
*Note – Field Data for DO (mg/L) was recalculated by DBS&A and provided to BHI, e-mail 12-21-16. Corrected Field Notebook not provided to BHI. Database has the recalculated DO from the 12-21-16 e-mail.
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:*** 1/13/17

- - - -

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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 & South	8/11/16	Sample was tested for PCBs using Method 608, screening method.	Lab was contacted by CMC/DBS&A once aware of this testing method – there was not enough sample volume to re-test for PCBs using Method 1668.
Rio Grande North & South	8/11/16	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA and DBS&A of this and requested that lab more clearly report data.

*Note – HEAL Lab report order number – 1608678_v2
Total number of occurrences: 2

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- - - -

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



1/13/17

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 2017 (August 2016 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 8/31/16 – E. coli Only Sample – Was Not Qualifying Storm Event
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? ☒ Yes ☐ No
*Note – Field Data for DO (mg/L) was recalculated by DBS&A and provided to BHI, e-mail 12-21-16. Corrected Field Notebook not provided to BHI. Database has the recalculated DO from the 12-21-16 e-mail.

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:*** 1/16/17

- -

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:*** 1/16/17

- -

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:*** 1/16/17

- -

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

*Note – HEAL Lab report order number – 1608H83_v1
Total number of occurrences: 0

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/16/17

- -

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:*** 1/16/17

- -

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:*** 1/16/17

- - - -

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



1/16/17

Data Verifier/Validator Signature Date

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Validation Code	Definition	WQX Equivalent
A1	Sample not collected according to SOP	
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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 2017 (September 2016 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 9/7/16 – E. coli Only Sample – Was Not Qualifying Storm Event
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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

*Note – HEAL Lab report order number – 1608289_v1
Total number of occurrences: 0

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/16

****

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



1/13/17

Data Verifier/Validator Signature Date

COMPLETION OF DATA VERIFICATION AND VALIDATION PROCESS

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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 2017 (September 2016 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 9/12/16 and 9/13/16
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

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:*** 1/13/17

- -

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?
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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 & South	9/13/16	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA and DBS&A of this and requested that lab more clearly report data.

*Note – HEAL Lab report order number – 1609527_v1 and 1609609_v2
Total number of occurrences: 1

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/16

****

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1/13/17

Data Verifier/Validator Signature Date

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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 2017 (September 2016 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande South – 9/13/16
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

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:*** 1/13/17

- - - -

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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 & South	9/13/16	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA and DBS&A of this and requested that lab more clearly report data.

*Note – HEAL Lab report order number – 1609609_v2
Total number of occurrences: 1

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/16

****

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



1/13/17

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 2017 (September 2016 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 9/21/16 and 9/22/16
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

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:*** 1/13/17

- -

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” and does not distinguish this as a filtered sample, as prior lab reports have done. Lower value of “Total Phosphorous” reported as the “Dissolved Phosphorous” result.

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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 & South	9/22/16	Lab report provides two "Total Phosphorous" results, and no "Dissolved Phosphorous" results. Used lower value as "Dissolved Phosphorous".	Notified AMAFCA and DBS&A of this and requested that lab more clearly report data.

*Note – HEAL Lab report order number – 1609B94_v1 and 1609609_v2
Total number of occurrences: 1

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/16

****

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



1/13/17

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 2017 (September 2016 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande South – 9/22/16
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015)

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:*** 1/13/17

- - - -

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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 & South	9/22/16	Lab report provides two "Total Phosphorous" results, and no "Dissolved Phosphorous" results. Used lower value as "Dissolved Phosphorous".	Notified AMAFCA and DBS&A of this and requested that lab more clearly report data.

*Note – HEAL Lab report order number – 1609609_v2
Total number of occurrences: 1

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/17

- -

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:*** 1/13/16

****

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



1/13/17

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 3

DOCUMENTATION RELATED TO E. COLI UNITS MPN/100ML AND CFU/100 ML

From: Holcomb, Sarah, NMENV [mailto:sarah.holcomb@state.nm.us]
Sent: Monday, February 6, 2017 8:08 AM
To: Chavez, Patrick <pchavez@amafca.org>
Subject: RE: MPN vs CFU for E.coli

Hi Patrick,
According to our Monitoring folks, MPN and CFU are interchangeable. We did propose the change in the most recent triennial:

https://www.env.nm.gov/swqb/Standards/TR2013/01a_TRPetition04-2014.pdf

Once they are approved, you might want to check with EPA for how they would like you to report moving forward.

~ Sarah

From: Chavez, Patrick [mailto:pchavez@amafca.org]
Sent: Friday, February 3, 2017 8:54 AM
To: Holcomb, Sarah, NMENV <sarah.holcomb@state.nm.us>
Subject: MPN vs CFU for E.coli

Sarah:

Here is the memo I was referring to that discusses the difference between MPN and CFU. There isn't a lab that does the CFU method in Albuquerque and so all of our results to date are MPN. The permit refers to CFU as does the water quality standard. Be nice if we were able to compare apples-to-apples since the literature suggests that MPN may be higher than when compared to CFU. Should we be applying a correction factor to our lab results and is NMED going to consider EPA's guidance (in the memo) and list the water quality standards in both MPN and CFU?

Thanks,
Patrick

Patrick Chavez, MS, PE, LEED AP+
Storm Water Quality Engineer
Albuquerque **M**etropolitan **A**rroyo **F**lood **C**ontrol **A**uthority
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From: Andy Freeman [mailto:andy@hallenvironmental.com]
Sent: Tuesday, January 31, 2017 3:16 PM
To: Chavez, Patrick <pchavez@amafca.org>
Subject: RE: E.coli results

Hi Patrick,

We report e.Coli enumeration using EPA Method 9223B quantitray. Our reports list e.Coli MPN, but the units say cfu/100mls. This can be confusing. It would be better for us to report as MPN/100mls.

Let me know if you have further questions on this.

Andy

From: Chavez, Patrick [mailto:pchavez@amafca.org]
Sent: Tuesday, January 31, 2017 8:19 AM
To: Andy Freeman
Subject: E.coli results

Andy:

Have a question hoping you can shed some light on concerning the difference between MPN and CFU/100ml. Have attached a lab result as an example but the question pertains to all the E.coli results that have been obtained from HEAL.

The question is: why is E.coli MPN listed as the type of test and the Units are listed as CFU/100ml? It was brought to my attention yesterday from another engineer that the result should either be MPN or CFU/100ml and that they are really two different tests? Can you clarify please?

Thanks again,
Patrick

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ENVIRONMENT DEPARTMENT

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Governor

JOHN A. SANCHEZ
Lieutenant Governor

RYAN FLYNN
Cabinet Secretary

BUTCH TONGATE
Deputy Secretary

ERIKA SCHWENDER
Director
Resource Protection Division

MEMORANDUM

TO: Kris Pintado, Standards, Planning and Reporting Team Leader

FROM: Jodey Kougioulis, Quality Assurance Officer

DATE: February 26, 2014

SUBJECT: Triennial Review – Most probable number (MPN) and colony forming units (cfu) enumeration methods and proposed standards reporting revision

Introduction and Purpose

The purpose of this memo is to address EPA's and SWQB staff comments and suggestions regarding the reporting of bacterial concentrations as MPN and to propose suggested revisions to the state's current reporting language for bacteria criteria which are expressed as colony forming units (cfu) per 100 ml. Currently, the SWQB reports bacteria data as most probable number (MPN) per 100 ml based on the use of IDEXX *Quanti-Tray* (QT) method which is an extended version of the IDEXX Colilert test. MPN and cfu represent different enumeration methods and result in different method specific units, but for purposes of reporting, EPA has used these terms interchangeably. EPA has approved methods for enumeration and allows reporting in either cfu or MPN per 100/ml in federal rule for ambient water (40 CFR, 2003) and for wastewater and sludge (40 CFR, 2007).

Background and General Description of MPN and cfu.

The MPN is a statistical estimate of the number of bacteria that, more probable than any other number, would give the observed result; it is not an actual count of the bacteria present. Membrane filtration (MF) methods which produce results expressed as cfu are culture-based and results are quantified by counting the number of colonies that arise from bacteria captured on the membrane filter per volume of water filtered. Although expressed as an actual count of the bacterial colony forming units, the number is still considered an estimate because colonies can be produced by one or several cells that can clump together in the sample. MPN methods are also culture-based with a defined substrate which produces an estimate number (density) of organisms based on the combination of positive and negative test tube results that can be read from a statistical probability MPN table.

Proposal

The SWQB currently uses an approved EPA method for sampling and analyzing bacteria levels in its ambient water quality monitoring program and reports these results in MPN. The water quality standards for bacteria criteria are proposed to be revised to reflect SWQB's current reporting practices and EPA's approved use of either membrane filtration methods, reported as cfu, or MPN methods, reported as MPN for enumeration of bacteria in ambient water and effluent. This change, if adopted, would allow results to be reported in either cfu or MPN, depending on the analytical method. The most appropriate place to do this may be in 20.6.4.900.D and E of NMAC by adding language similar to the following: "Water quality standards for E. coli are expressed in colony forming units per 100 milliliters of water (cfu/100 ml) or as a Most Probable Number (MPN)/100 ml."

Related Research

There have been numerous published papers that address the similarities or differences between enumeration results obtained by cfu methods and those obtained by MPN methods. Much of the earlier research concluded that *"there was no significant difference for the enumeration of E. coli between the QT and MF methods" (Rompré et al., 2002).*

More recently published research by Wohlsen et al. (2006) does show a significant difference between the two enumeration methods when using a standard reference inoculum. The use and calibration of a standard reference inoculum of only viable cells still needs to be related to original criteria development which was based on a combination of frequency, magnitude, and duration of exposure to ambient recreational waters, bacterial densities as enumerated by MF, and selected illness rates in response. As stated earlier, this is primarily a reporting revision to acknowledge the programmatic reality that both MPN and cfu can be reported and used to assess against the water quality standard.

Staff and EPA Comments, Suggestions, and Initial Review of Bacteria Criteria Reporting

Responses to both the EPA, SWQB staff, and the proposal justification will need to be clearly communicated in a consistent and coordinated fashion. The need to remain consistent with existing water quality standard language, definitions, and format may limit the expanse of revised language but ultimately the simple proposed revision will communicate the available reporting options for bacteria criteria. Comments from SWQB staff largely focused on the fact that MPN and cfu are enumerated and expressed differently with method specific units and that clear definitions are needed to describe this difference. EPA's comments and suggestion are largely in concert with the proposed revision and the suggested language will provide the clarity needed for criteria interpretation.

SWQB Staff Questions and Responses

Question 1): I have come across several scholarly articles that attempt to correlate MPN to cfu. They are not the same; cfu represents an absolute number of units, whereas MPN represents a theoretical value (often considered the maximum value).

Response: *EPA permits staff and SWQB staff raised issues about the enumeration of bacteria - most probable number (MPN) and colony forming units (*cfu*) - relative to implementation and assessment of the WQS. The traditional plate tests, including membrane filtration, estimate or count 'colonies' of bacteria reported as* cfu*. These provide a direct count of an indicator organism (E. coli) in ambient water or wastewater based on the development of colonies in/on media and a calculation is still performed. While microscopic counts may be more accurate, it's costly and time consuming, and there's still the problem of what's viable or not. Very few tests are conducted to determine live and dead colonies; in summary exact counts are generally not feasible to obtain. Newer tests such as Colilert (which is used by SWQWB for assessment and monitoring) report data as MPN which is a statistical representation of what level of E. coli is likely present in a sample. While MPN and* cfu *may not be entirely equivalent, for the purposes of reporting, these terms are currently used interchangeably by the EPA. EPA has approved these methods for enumeration in federal rule for ambient water (40 CFR, 2003) and for wastewater and sludge (40 CFR, 2007). The currently recommended EPA recreational or bacteria criteria for E. coli are expressed as cfu/100 ml measured using EPA Method 1603 or any other equivalent method that measures culturable E. coli. Therefore, the water quality standards are under deliberation to be revised to reflect the use of updated methods for monitoring, assessment and reporting. After much consideration, the most appropriate place to do this may be in 20.6.4.900.D and E of NMAC by adding language similar to the following:*

> *"Water quality standards for E. coli are expressed in colony forming units per 100 milliliters of water (cfu / 100 ml) or as a Most Probable Number (MPN)/100 ml"*

References for EPA Method 1603 and EPA's final rules establishing alternate test procedures could also be included in 20.6.4.901 NMAC as references.

Abbreviations for both cfu *and MPN are suggested to be included in the WQS definitions.*

Question 2) Similar to the cfu/100mL definition, do we need to make reference to cfu/100mL in the MPN definition?
Add the term "most probable number" (under terms beginning with the letter 'M').

Response: *Generally, the definitions seem to stand on their own, e.g., there doesn't seem to be any 'cross referencing' in these definitions. Instead of adding a definition for MPN, the abbreviation for MPN is retained in this section. Please also see the previous discussion in response to bacteria enumeration (under 20.6.4.7.A (3)(a) NMAC), and response below.*

"MPN" will be listed under the abbreviations section of the definitions, so it'll be 'defined' in that way. It's also appropriate to add 'MPN' (as an alternate enumeration to cfu) under the criteria section in 20.6.4.900.D and E NMAC (see the new language in that section). As there's not a "full" definition for cfu in the WQS, to be consistent with the rule format, a "full" definition for MPN won't be added. Also, there's really not a concise, easily understood definition for cfu to put into the standards. Both enumeration methods are also fully described in the EPA criteria recommendations and supporting documents, in the methods, and in the scientific literature.

EPA Comment and SWQB Response

The Region's concern with the state's current bacteria criteria are related to how the provision reads and its interpretation. The *E. coli* standard that the state uses is expressed as colony forming units (cfu) per 100 ml. In a plain reading, this provision requires a specific test method but does not allow an alternative test. Generally the Region recommends avoiding this type of approach to test methods.

When bacterial Total Maximum Daily Loads (TMDL) are issued, they may specify extremely large numbers of cfu/100 ml as a loading limit. This requires building an equation for calculating the loading limit as expressed in the TMDL into a footnote into NPDES permits. To simplify the process, the Region has consulted with waste water treatment plant operators to determine if the most probable number (MPN) can be used as an equivalent to cfu/100 ml. The general answer is yes, and the Region has been using this approach. NMED inspectors seem to agree with this approach, since they also see the problem in the field. The problem here is that this approach requires the use of a different test method. What the Region suggests is that both the standards and TMDL guidance documents refer to both cfu/100 ml *and* MPN as equivalent, allowing either generally approved test method to be used to account the level of indicator bacteria in permits.

Response: *EPA Region 6 has suggested that the water quality standards and the state's TMDL guidance refer to both colony forming units (*cfu*) and most probable number (MPN), as EPA has approved the use of test methods with results that are expressed in either cfu or MPN. The use of more cost-effective and time efficient methods in which counts are expressed as MPN was approved by EPA as equivalent for testing ambient waters in 2003*[1] *, and for wastewater and sewage sludge in 2007*[2]*. The SWQB is currently using an approved EPA method for sampling and analyzing bacteria levels in ambient water and reporting results in MPN. The currently recommended EPA recreational or bacteria criteria for E. coli are expressed as* cfu*/100 ml measured using EPA Method 1603 or any other equivalent method that measures culturable E. coli* [3],[4]*. Therefore, the water quality standards are proposed to be revised to reflect the use of updated methods for monitoring, assessment and reporting. References for EPA Method 1603 and EPA's final rules establishing alternate test procedures may be considered for inclusion under 220.6.4.901 NMAC.*

Footnotes

1. *U.S. Federal Register* - 40 CFR Part 136 Vol. 68, No. 139; July 21, 2003.
2. *U.S. Federal Register* - 40 CFR Parts 136 and 503, Vol. 72, No. 157; March 26, 2007.
3. EPA, 2012: http://water.epa.gov/scitech/swguidance/standards/criteria/health/recreation/upload/factsheet2012.pdf
4. USEPA. 2002. Method 1603: *Escherichia coli* (*E. coli*) In Water By Membrane Filtration Using Modified membrane-Thermotolerant *Escherichia coli* Agar (modified mTEC). U.S. Environmental Protection Agency, Office of Water, Washington D.C. EPA–821–R–02–023

References

Annie Rompre´, Pierre Servais, Julia Baudart, Marie-Rene´e de-Roubin, Patrick Laurent (2002). *Detection and enumeration of coliforms in drinking water: current methods and emerging approaches.* Journal of Microbiological Methods 49 (2002) 31–54

U.S. Federal Register - 40 CFR Part 136 Vol. 68, No. 139; July 21, 2003.

U.S. Federal Register - 40 CFR Parts 136 and 503, Vol. 72, No. 157; March 26, 2007.

USEPA, 2012:
http://water.epa.gov/scitech/swguidance/standards/criteria/health/recreation/upload/factsheet2012.pdf

USEPA. 2002. Method 1603: *Escherichia coli* (*E. coli*) In Water By Membrane Filtration Using Modified membrane-Thermotolerant *Escherichia coli* Agar (modified mTEC). U.S. Environmental Protection Agency, Office of Water, Washington D.C. EPA–821–R–02–023

Wohlsen, T., Bates, J., Vesey, G., Robinson, W.A. and M. Katouli (2006) Evaluation of the methods for enumerating coliform bacteria from water samples using precise reference standards. *Letters in Applied Microbiology* **42**, 350-356.

ATTACHMENT 4

DOCUMENTATION OF NMED COORDINATION REGARDING E. COLI LOADING CALCULATIONS AND CMC MS4 WASTE LOAD ALLOCATION

Bohannan Huston

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MEMORANDUM

DATE: February 8, 2017

TO: Compliance Monitoring Cooperative (CMC) Members

FROM: Sarah Ganley, PE

SUBJECT: **February 1, 2017, Meeting Minutes from Meeting with NMED Regarding E. coli TMDL and CMC MS4 Waste Load Allocation**

Attendees

Sarah Holcomb, New Mexico Environment Department (NMED), Surface Water
Wano Urbanos, NMED, Assessment & TMDL Team
Kali Bronson, Bernalillo County
Patrick Chavez, AMAFCA
Kevin Daggett, City of Albuquerque
Dave Gatterman, SSCAFCA
Steven Morgenstern, NMDOT
Stephen Thies, NMDOT
Sarah Ganley, Bohannan Huston (BHI)

Purpose of Meeting

This meeting was initiated by the Compliance Monitoring Cooperative (CMC) group to discuss with NMED E. coli Total Maximum Daily Load (TMDL) in the Rio Grande, CMC MS4 Waste Load Allocation (WLA), and E. coli loading calculations in order to clarify and confirm calculation assumptions. Also, the group wanted to discuss what the E. coli loading results compared to the WLA mean for the CMC.

General Discussion of TMDL and Single Sample Results

The CMC began the discussion asking NMED for an overall explanation of the TMDL. This led to the CMC questioning the fact that the TMDL is based on daily, instream loading and that the MS4 discharge related to a storm event is not on a daily basis and also that MS4 non-point discharge is not accurately represented as an instream sample. The group also discussed that the TMDL is based on the Pueblos of Sandia and Isleta geometric mean water quality standard (WQS) of 47 CFU/100 ml.

Regarding the daily loading verses loading over a shorter storm duration, NMED's basis for the TMDL is daily loading in the river. If the CMC were to reduce the time duration for the E. coli loading, they would also need to reduce the WLA over that same time period. The E. coli loading

could not be calculated for only the storm duration and then compared to the WLA which was determined on a daily basis. The daily loading is just spreading out the E. coli concentration for a given flow rate over a day. Based on the discussions, the daily loading is appropriate for loading comparison to the TMDL and WLA.

NMED admitted that the WLA is really designed for a pipe/point source, and the instream sample for the MS4 non-point source is not completely accurate. At this time though, this is how the loading calculations and comparisons to the WLA were established and are being done. NMED seemed willing to consider other suggestions in the future, if the CMC could support a better approach. For now, this is how the TMDL and WLA for E. coli was determined.

To improve on the instream sample relevance for the MS4s, NMED suggested that another E. coli sample is needed at the stream segment divide (at Alameda). Discussion of the Santa Fe River TMDL development may have led to this suggestion. This led to a discussion on the CMC refining its sampling plan. This sampling plan refinement would need NMED and EPA approval. In addition, the CMC discussed perhaps adding pre-storm event E. coli samples to determine the condition of the river before a storm event and to help better determine what loading the MS4s are contributing during storm events.

The CMC asked how the TMDL could be based on the Pueblos' geometric mean WQS, but all of the water quality samples are single, grab samples. The comparison of the two numbers does not seem equitable. NMED stated that they must meet most stringent downstream WQSs when developing the TMDL. The geometric mean compared to the single sample was not discussed further.

The CMC members also asked NMED about reporting the monitoring values in the NetDMR system, which is set up for point source reporting. Sarah Holcomb stated that she has not had any conversations with EPA regarding this, so she is not sure about the NetDMR forms.

Stream Segment Designation Questions

The CMC group showed NMED the figure of the Rio Grande designating the two MS4 segments and the four NMED 303(d)/305(b) segments and questioned the NMED 303(d)/305(b) 2016-2018 Integrated Report tables, which do not list E. coli as a TMDL for several of the reaches. NMED explained the tables and the segments. TMDLs are separate from the NMED 303(d)/305(b) 2016-2018 Integrated Report. Based on their explanation, the segments are not contradictory.

The NMED 303(d)/305(b) 2016-2018 Integrated Report tables show the most recent assessment results, and currently, there is only one segment of the Rio Grande (Isleta to Tijeras) that was found to be impaired for E. coli. However, the TMDL for the other stream segments do not go away even if they are no longer impaired – the TMDL remains in place as a protective measure. The analogy NMDOT used to explain this was that if there was an intersection with a lot of accidents, and a stop sign or reduced speed measure was added in an effort to reduce the accidents, once the accidents were reduced, the control measure would not be removed. TMDLs remain after impairments are removed as protective measures. NMED stated that the only way a TMDL would be removed is if the water quality standard changed. NMED did state that new

assessment data or perhaps use of the CMC data could be used to revise the TMDL, but it would not be removed.

NMED stated that the fact that the E. coli impairment has been removed in several segments is a very good thing, and it's likely the MS4 work has helped with this improvement on the river. This point is a good point for CMC members to mention in their annual reporting.

The group briefly discussed why one segment (Isleta to Tijeras) was still impaired. The group asked if NMED looked for sources during the assessment. NMED explained that the NMED 303(d)/305(b) 2016-2018 Integrated Report tables list probable sources which come from staff observations, historical knowledge, and a checklist that is used during the assessments.

E. coli Loading Calculations – Questions on Assumptions

NMED clarified that the two assessment units (AUs) listed in the 2010 TMDL report are not additive – each was looked at individually during TMDL assessment. For calculations this translates to, when there is not a mid-point E. coli sample taken (as the CMC is currently operating), 77% of the instream E. coli loading is applied to the upstream reach (Alameda to Angostura), and 23% is applied to the downstream reach (Isleta to Alameda). As a reminder, currently the E. coli loading is the Rio Grande South E. coli loading minus the Rio Grande North E. coli loading. The draft of the E. coli loading spreadsheet incorrectly assumed the reaches were additive and had applied 100% to the lower reach (Isleta to Alameda)—this was corrected after this meeting. The refined sampling plan (discussed above) would add an intermediate E. coli sample, and the 77% and 23% discussed above would no longer be needed in the loading calculations.

We also briefly discussed that with the way the Rio Grande is operated, flow downstream (using the USGS gage at Central) is not necessarily higher than flow upstream (using the USGS gage at Alameda). This could result in a negative loading. The group's calculation spreadsheet will be updated to not allow negative loading.

WLA Exceedance When no Storm Event

The CMC pointed out that they had upstream and downstream E. coli results for non-storm events and analysis of these loading results show that the CMC WLA was exceeded even in "dry," non-storm event conditions. NMED stated that you would never analyze non-storm event flows related to the CMC, and the CMC could not be in exceedance. The CMC's point that the "dry" exceedances show that the river E. coli issues are likely not correctly attributed to the MS4s was not fully understood/accepted by NMED during the meeting. NMED focused on the fact the MS4s would never look at "dry" conditions or be in exceedance of any WLAs in "dry," non-storm event conditions.

This led to a brief discussion on if MS4s could be contributing to the E. coli loading during non-storm conditions (illicit discharges, septic systems, etc.). This led to a discussion by the CMC members of potentially conducting one day of watershed-wide dry weather inspections at the same time as sampling the E. coli upstream and downstream (maybe at the mid-point also) of the MS4. The dry weather screening would give assurance that no (or minimal) illicit discharges or non-stormwater flows were contributing to the river at the time of the samples. Then the river E.

coli samples could be assessed with assurance that the MS4 was not contributing runoff and the results would only be attributable to point sources and background sources.

What Does WLA Exceedance Mean for CMC

The CMC discussed that the WLA seems unattainable. The NMED 2010 TMDL reports state this is a “difficult objective.” Some of the reasons discussed regarding the WLA as a poor measurable goal include: the basis of the TMDL/WLA (the Pueblo geometric mean), the instream and single grab sample used in the calculation, and the fact that the “dry,” non-storm event conditions E. coli analyses show exceedances that are not attributable to the MS4s. NMED suggested including these concerns in the EPA annual reports along with the results.

AMAFCA asked if the WLA was always going to be exceeded should NMED consider issuing advisories. There were no real responses to the advisory discussion.

NMED explained that exceeding the WLA does not trigger enforcement. However, the MS4s need to document what they are doing once they realize the WLA is exceeded. First, this meeting and CMC discussion with NMED demonstrate that CMC members are working toward understanding and improvement. In addition, the suggested refinements to the sampling plan (discussed above) show that the CMC is investigating the exceedance. The proposed one day, watershed-wide dry weather inspections would be another step to show actions taken to further investigate the exceedance. In addition, NMED mentioned looking at Best Management Practices (BMPs) and how those could improve. Also, NMED suggested that the CMC members document all of these actions in their annual reports.

Potential Upcoming TMDLs Discussion

At the end of the meeting, the CMC group asked about the estimated 2017 TMDLs listed in the NMED 303(d)/305(b) 2016-2018 Integrated Report tables and what to expect regarding those. NMED stated that these are not current priorities and will not occur in 2017. The discussion is important because, as discussed earlier, once a TMDL is issued, it does not go away. In addition, MS4s cannot really remove themselves from a TMDL; since runoff occurs, it has to have a WLA. Bernalillo County was particularly interested in this regarding the Tijeras Arroyo and a future TMDL for nutrients. Even though the County has data showing runoff is not contributing to the nutrient issue, they would still be given a WLA in the future TMDL.

SG/le
Attachment

Attachment 1 – Meeting Agenda

ATTACHMENT 1
MEETING AGENDA

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CMC Stormwater Quality Monitoring –
E. coli Loading and TMDL/WLA Discussion with NMED

NMED
Wednesday, February 1, 2017
9:30 am

Meeting Objective: Discuss E. coli TMDL in Rio Grande, CMC MS4 WLA, and E. coli loading calculations with NMED in order to clarify and confirm calculation assumptions. Also, discuss what the E. coli loading results mean for the CMC.

General Discussion of TMDL and Single Sample Results	Single sample and how one result translates/compares to the instream TMDL CMC has single sample for determining the E. coli loading – TMDL based on Pueblo geometric maximum mean value of 47 CFU/100 ml E. coli loading – daily loading compared to loading over the storm event duration NetDMR reporting – set up for point source reporting
Stream Segment Designation Questions	Compare MS4 and NMED §303(d)/§305(b) Integrated Report segment designations Question on NMED §303(d)/§305(b) Integrated Report listing of E. coli TMDLs
E. coli Loading Calculations – Questions on Assumptions	Flow regime designations – 2010 TMDL Report vs. NMED e-mail Confirm understanding and application of Jurisdictional Area Approach Delta in E. coli loading (north sample minus south sample) – this could be negative because of how Rio Grande is operated (flows can decrease downstream) Upstream exceedance – WLA only considers the delta in loading
WLA Exceedance When no Storm Event	Examples from Wet Season (July 2016) and Dry Season (Dec. 2016) E. coli data in 2010 TMDL Report – not related to storm events
What Does WLA Exceedance Mean for CMC	Need to calculate E. coli loading & compare to WLA – Required in MS4 Permit. Discuss what a calculated exceedance mean for the MS4s?

TMDL and MS4 Stream Segment
Alameda Bridge to Angostura Diversion
(2105.1_00)

NMED 303(d)/305(b) Stream Segment
US 550 to Angostura Diversion
(2105.1_02)

NMED 303(d)/305(b) Stream Segment
Alameda Bridge to US 550
(2105.1_00)

NMED 303(d)/305(b) Stream Segment
Tijeras Arroyo to Alameda Bridge
(2105_10)

Rio Grande Segment
with TMDL and Impairment
for E. Coli

NMED 303(d)/305(b) Stream Segment
Isleta Pueblo Boundary to Tijeras Arroyo
(2105_50)

TMDL and MS4 Stream Segment
Isleta Pueblo Boundary
to Alameda Bridge
(2105_50)

MCMAHON BLVD
ROY AV
TRAMWAY RD
ALAMEDA BLVD
PASEO DEL NORTE
OSUNA RD
MONTANO RD
CANDELARIA RD
MENAUL BLVD
LOMAS BLVD
LEAD AV
ZUNI RD
CENTRAL AV
BRIDGE BLVD
GIBSON BLVD
DENNIS CHAVEZ BLVD
UNSER BLVD
98TH ST
2ND ST
ISLETA BLVD
BROADWAY BLVD
COORS BLVD
WYOMING BLVD
EUBANK BLVD
JUAN TABO BLVD
TRAMWAY BLVD
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NM 147
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40
25
550

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Legend

- TMDL/MS4 Stream Segments
- NMED Stream Segments
- North Diversion Channel
- Rio Grande Segment w/ TMDL and Impairment for E. Coli
- Interstate Highway
- U.S. Highway
- State Highway

N W E S

0 0.5 1 2
Miles

CMC Monitoring

Figure 7
Rio Grande
NMED and MS4 Permit
Stream Segments

P:\20170386\WR\Reports\Preliminary & Draft\Figures\MXDs\Figure7-TMDLStreamSegments.mxd
Author: gmaynard

February 2017

Sarah Ganley

From: Sarah Ganley
Sent: Thursday, March 02, 2017 9:42 AM
To: 'smith.nelly@epa.gov'
Cc: Chavez, Patrick (pchavez@amafca.org); Sarah Holcomb (sarah.holcomb@state.nm.us)
Subject: FW: MS4 CMC E. coli Loading Calculation Follow-Up
Attachments: CMC E coli Loading Percentage Calculation 3_2_17.xlsx

Hello Nelly –

I am forwarding you this e-mail to keep you informed of on-going coordination between the Middle Rio Grande Stormwater MS4 Compliance Monitoring Cooperative (CMC) and NMED regarding E. coli loading calculations and comparison to the TMDL WLA values in the Rio Grande.

Thank you,

Sarah J. Ganley, PE
Engineer
Water Resources
Direct line: 505-923-3314

Bohannan Huston
Courtyard I
7500 Jefferson St. NE
Albuquerque, NM 87109-4335
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From: Sarah Ganley
Sent: Thursday, March 02, 2017 9:30 AM
To: Sarah Holcomb (sarah.holcomb@state.nm.us) <sarah.holcomb@state.nm.us>; Henderson, Heidi, NMENV <heidi.henderson@state.nm.us>; wayne.urbonas@state.nm.us
Cc: Chavez, Patrick (pchavez@amafca.org) <pchavez@amafca.org>
Subject: MS4 CMC E. coli Loading Calculation Follow-Up

Hello Sarah, Heidi, and Wano,

Thank you for taking the time for a conference call on February 16, 2017 with myself and Patrick Chavez regarding the Middle Rio Grande Stormwater MS4 Compliance Monitoring Cooperative (CMC) E. coli loading calculations and comparison to the TMDL WLA values in the Rio Grande.

After our conversation, we went back and re-checked our approach, made one modification, and added notes/clarifications to our calculations spreadsheet. I have attached an updated spreadsheet to this e-mail for your reference.

As a summary of what we discussed on February 16th:

- Sources for the E. coli loading measured in the river are not solely attributable to the CMC MS4 members; the calculations we presented serve to provide a reasonable estimate of the CMC contribution to the measured E. coli loading.
- The measured E. coli loading is attributable to point sources (Town of Bernalillo WWTP, City of Rio Rancho WWTP No. 2, City of Rio Rancho WWTP No. 3, Albuquerque Bernalillo Water Utility Authority, and Sandia Peak Ski Co.), as well as non-point sources such as MS4 contributions and natural background contributions.
- An estimation of the E. coli loading attributable to the CMC is needed to allow comparison with the WLA values.
- We presented reasoning for why the 6% and 10% values from the US EPA Approved Total Maximum Daily Load (TMDL) for the Middle Rio Grande Watershed, June 30, 2010, Appendix F are not applicable estimations for this approach because these percentages do not consider the point source contributions to the measured E. coli loading. They make sense regarding the WLA determination, but not when looking at this from an in-stream E. coli loading determination.
- We presented alternative percentages of contribution – and as mentioned earlier, modified these after our conversation with you – that calculate a percentage of the CMC WLA value divided by the TMDL minus the MOS. This percentage represents an estimate of the percent of the CMC E. coli loading to all of the E. coli contributors (point sources, MS4s, and natural background). This percentage allows a reasonable estimation of the percent of the E. coli loading that is attributable to the CMC MS4s. Since our discussion, we removed the MOS from our percentage calculation.
- Using the above approach, the CMC then has an E. coli loading value to compare to the applicable WLA values, for a given stream segment and flow regime.
- The percentages of contribution that are presented for the upper stream segment (Alameda to Angostura) are essentially 6%, the same value presented in Appendix F of the 2010 US EPA Approved TMDL. The point sources in this stream segment are small (0 to 3% of the total TMDL), so although the jurisdictional area percentage presented in Appendix F did not include point sources, the effect is negligible. The pie charts in the attached spreadsheet help to illustrate this.
- The percentages of contribution that are presented for the lower stream segment (Isleta to Alameda) range from 1.8% to 6.5%. In Appendix F of the 2010 US EPA Approved TMDL and the NMED Nov. 2016 e-mail, the CMC value would be 6.7%. The greater difference in percentages in this stream segment is due to the presence of significant point sources (specifically the ABCWUA), which are relatively large contributors (2.5% to 70.7%, depending on the flow regime) to the total TMDL; therefore, because the percentage presented in Appendix F did not account for point sources, the impact to the calculated percent contribution by the CMC members can be significant.
- This approach is only an estimate of the CMC contribution to the E. coli loading. We do not know from the in-stream data the concentration of E. coli contributed by the CMC MS4s, or any of the other potential sources. By using this percentage 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. Therefore, the data collected by the CMC could not be used to determine the source causing the exceedance.

You left me a voicemail regarding the application of these percentages if and when the CMC adds a mid-point E. coli sample to their sampling program. To clarify:

- The percentages presented above and discussed during our conference call will still need to be applied if and when the CMC adds a mid-point E. coli sample to their sampling program. These percentages are to estimate how much of the total measured E. coli loading applies to the CMC MS4s.
- The TMDL was determined for two river segments, so each segment has different WLAs for the CMC; therefore, we currently divide the measured E. coli loading between these two segments so that they can be compared to the applicable WLA. The jurisdictional area from Appendix F of the 2010 US EPA Approved TMDL was used to estimate the percent of E. coli loading attributable to the northern segment (Alameda to Angostura) and the southern segment (Isleta to Alameda) of the Middle Rio Grande – 77% and 23%, respectively. If and when the

CMC adds a mid-point E. coli sample to their sampling program, these percentages will no longer need to be applied to the CMC E. coli loading calculation.

Thank you again for taking the time to discuss and review the CMC E. coli loading approach and calculations. We are moving forward with this E. coli loading approach. Please let me know if you have any questions or I can provide additional information or rational for this approach.

Sarah J. Ganley, PE
Engineer
Water Resources
Direct line: 505-923-3314

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Sarah Ganley

From: Holcomb, Sarah, NMENV <sarah.holcomb@state.nm.us>
Sent: Thursday, March 02, 2017 1:20 PM
To: Sarah Ganley; Henderson, Heidi, NMENV; Urbonas, Wayne, NMENV
Cc: Chavez, Patrick (pchavez@amafca.org); Smith, Nelly (Smith.Nelly@epa.gov)
Subject: RE: MS4 CMC E. coli Loading Calculation Follow-Up

Hi Sarah & Patrick:

Thanks for the email. I think this is a good approach to estimating the CMC's contribution in stormwater. If there continue to be exceedances of the benchmark, then perhaps it may be a worthwhile discussion to refine the math at work here and look closer at conditions the day of monitoring. But we'll cross that bridge when we come to it.

I also wanted to ask when the CMC will add the additional monitoring location (for E. coli only) at the AU break.. I believe this should be documented in your next annual report, but this shouldn't require re-approval of the monitoring plan overall. Nelly, do you agree?

~ Sarah

From: Sarah Ganley [mailto:sganley@bhinc.com]
Sent: Thursday, March 2, 2017 9:30 AM
To: Holcomb, Sarah, NMENV <sarah.holcomb@state.nm.us>; Henderson, Heidi, NMENV <heidi.henderson@state.nm.us>; wayne.urbanos@state.nm.us
Cc: Chavez, Patrick (pchavez@amafca.org) <pchavez@amafca.org>
Subject: MS4 CMC E. coli Loading Calculation Follow-Up

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Sarah J. Ganley, PE
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DRY WEATHER DISCHARGE SCREENING

From **JULY 1, 2016** to **JUNE 30, 2017**

Due to the arid and semi-arid conditions of the area, the dry weather discharges screening program may be carried out during both:

Wet Season (July 1 through October 31)

and

Dry Season (November 1 through June 30)

CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory)	DATE	TIME	INVESTIGATOR(S)
DRY WEATHER SCREENING	6/16/17	2:00pm	XAVIER PEREZ
OUTFALL ID	**SUBWATERSHED**	**LATITUDE** 35° 17' 54" N	**OBSERVER INFO. (Reported by Citizens)**
RIVERS EDGE 1	BARRANCA	**LONGITUDE** 106° 34' 50" W	ANNUAL SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential)	**WEATHER**	**LAST RAIN (>72 hours or <72 hours)**	
RESIDENTIAL	MID 90's	0.0"	

Conveyance (Check one only)	☒ MS4 Outfall	☐ Other MS4 Structure	☐ Concrete Channel	☐ Earthen Channel	☐ Arroyo/Natural Creek	Comments:			
Material	☒ Concrete	☐ Earthen	☐ Rip-Rap	☒ RCP	☐ CMP	☐ PVC	☐ HDPE	☐ Steel	☐ Other_____
Shape	☒ Circular	☐ Elliptical	☐ Box	☐ Trapezoid	☐ Parabolic	☐ Other_____	☐ Single	☐ Double	☐ Triple ☐ Other_____
Dimensions	☒ Diameter/Dimensions: 24"			☐ Depth: _____	☐ Bottom Width: _____		☐ Top Width: _____		
Submerged	In Water: ☒ No	☐ Partially	☐ Fully		With Sediment: ☒ No	☐ Partially	☐ Fully		
Ownership	☐ SSCAFCA	☒ City	☐ Private	☐ Unknown	☐ Other_____				
Discharges to	☐ Pond/Depressional Feature	☐ Natural Conveyance	☐ Storm Drain Channel	☐ Open Space	☒ Other RIO GRANDE				
Flow Status	☐ Flowing	☒ Dry	☐ Ponded		**Flow Reaches Receiving Water?** ☒ Yes	☐ No			

WATER QUALITY APPEARANCE							
ODOR	☐ HYDROGEN SULFIDE ☐ SOAP	☐ MUSTY ☐ CHLORINE	☐ SEWAGE ☐ NONE	☐ AMMONIA ☐ EARTHY	☐ GASOLINE ☐ PESTICIDE	☒ OTHER	N/A
COLOR	☐ YELLOW ☐ GRAY	☐ GREEN ☐ WHITE	☐ BLUE ☐ COLORLESS	☐ BROWN	☐ BLACK	☒ OTHER	N/A
FLOATING MATERIALS	☐ TRASH OR DEBRIS ☐ OBJECTS (DESCRIBE)	☐ OILY SHEEN ☐ FECAL MATTER	☐ ORGANIC ☐ BIOFILM	☐ SCUM ☐ NONE	☐ SUDS	☒ OTHER	N/A
OIL AND GREASE	☒ NONE	☐ DEPOSIT	☐ EMULSION	☐ SHEEN	☐ HEAVY FLOATING CONCENTRATION		
TURBIDITY	☐ HEAVY CLOUDINESS, OPAQUE		☐ CLOUDY	☐ SOME CLOUDINESS	☒ NONE		

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	☐ Pool/Spa Discharge	☐ Illicit Connection	☐ Restaurant Washing write restaurant name in comments	☐ Illegal Dumping	☐ Sewage	☐ Groundwater
	☐ Irrigation Runoff	☐ Vehicle Washing	☐ Water Line Break	☐ Permitted Discharge	☐ Power Washing	☐ Other
	DESCRIBE ALL SOURCES: NONE					

OTHER VISUAL OBSERVATIONS					
Outfall Damage	☐ Cracking or Chipping	☐ Corrosion	☐ Peeling Paint	☒ None	☐ Other_____
Deposits/Stains	☐ Flow Line	☐ Oily	☐ Paint	☒ None	☐ Other_____
Abnormal Vegetation	☒ Excessive	☐ Inhibited			
Pipe benthic growth	☐ Brown	☐ Orange	☐ Green	☒ None	☐ Other_____

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)	
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)	

GRAB COLLECTION TIME: **Grab samples collected:** (Circle all that apply)
Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants

QA/QC SAMPLES: ☐ Field Duplicate ☐ Field Blank

FLOW ESTIMATION Flow ~~Yes / No / Ponded~~ NONE Evidence of overland flow near sampling location? Yes / No

Marsh-McBirney used for flow measurements? Yes / No

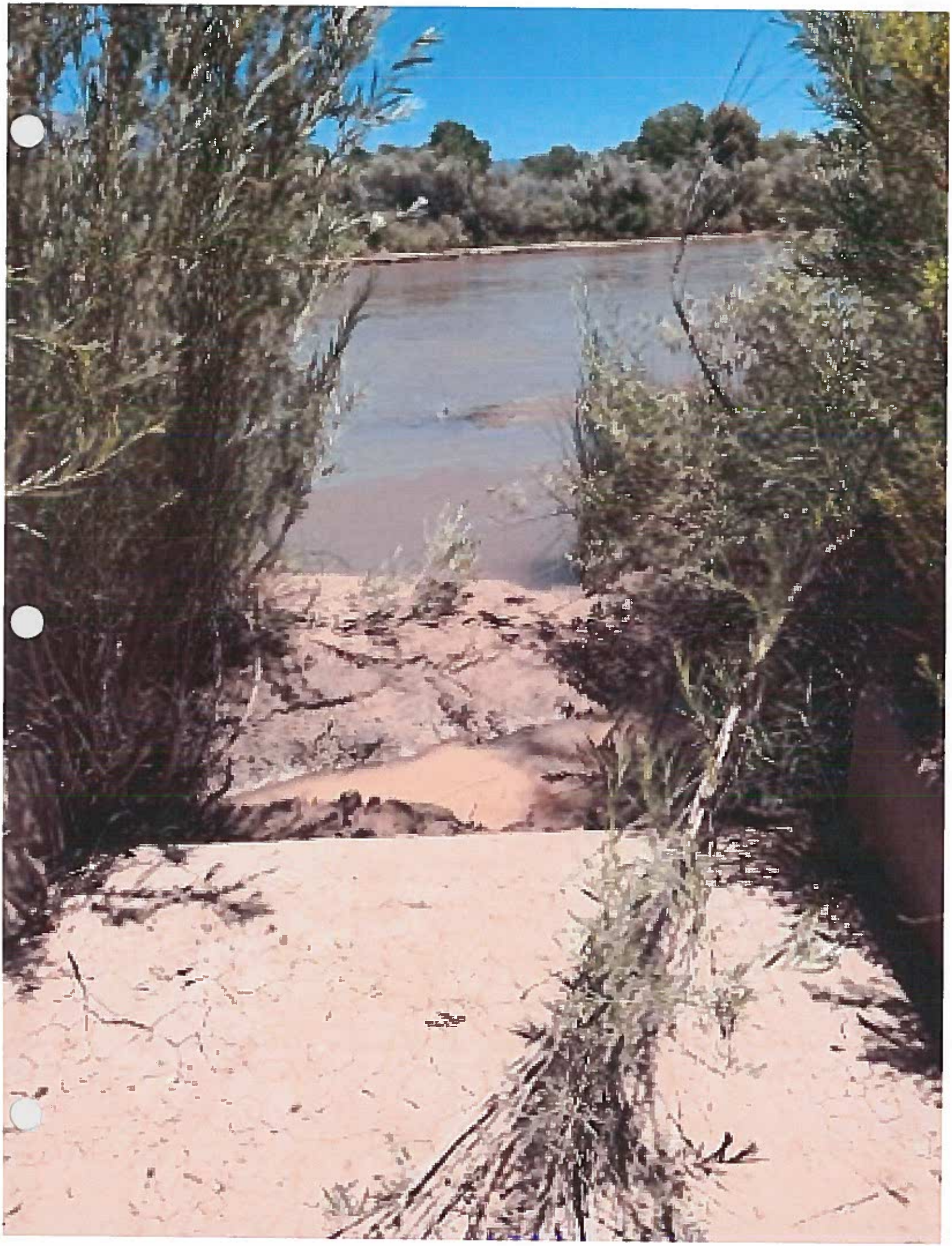
Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____
Flow _____	Flow _____	Flow _____

PHOTOS TAKEN: ☒ YES ☐ NO

COMMENTS: OUTFALL SITE WAS DRY DURING THE FIELD VISIT.

INVESTIGATOR SIGNATURE _____ NPDES PROJECT MANAGER





CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory)	DATE	TIME	INVESTIGATOR(S)
DRY WEATHER SCREENING	6/16/17	1:39 PM	XAVIER PEREZ
OUTFALL ID	**SUBWATERSHED**	**LATITUDE**	**OBSERVER INFO. (Reported by Citizens)**
RIVERS EDGE 2	BARRANCA	35° 17' 27" N	ANNUAL SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential)	**WEATHER**	**LONGITUDE / LAST RAIN (>72 hours or < 72 hours)**	
RESIDENTIAL	MID 90'S	106° 35' 20" W / 0.0"	

Conveyance (Check one only)	☒ MS4 Outfall	☐ Other MS4 Structure	☐ Concrete Channel	☐ Earthen Channel	☐ Arroyo/Natural Creek	Comments:		
Material	☐ Concrete	☐ Earthen	☐ Rip-Rap	☐ RCP	☐ CMP	☐ PVC	☐ HDPE	☒ Steel ☐ Other_____
Shape	☒ Circular	☐ Elliptical	☐ Box	☐ Trapezoid	☐ Parabolic	☐ Other_____	☐ Single	☐ Double ☐ Triple ☐ Other_____
Dimensions	☒ Diameter/Dimensions: 18"		☐ Depth: _____	☐ Bottom Width: _____		☐ Top Width: _____		
Submerged	In Water: ☒ No	☐ Partially	☐ Fully		With Sediment: ☒ No	☐ Partially	☐ Fully	
Ownership	☐ SSCAFCA	☒ City	☐ Private	☐ Unknown	☐ Other_____			
Discharges to	☐ Pond/Depressional Feature	☐ Natural Conveyance	☐ Storm Drain Channel	☒ Open Space	☐ Other_____			
Flow Status	☐ Flowing	☒ Dry	☐ Ponded	**Flow Reaches Receiving Water?**	☐ Yes	☐ No		

WATER QUALITY APPEARANCE							
ODOR	☐ HYDROGEN SULFIDE	☐ MUSTY	☐ SEWAGE	☐ AMMONIA	☐ GASOLINE	☒ OTHER	N/A
	☐ SOAP	☐ CHLORINE	☐ NONE	☐ EARTHY	☐ PESTICIDE		
COLOR	☐ YELLOW	☐ GREEN	☐ BLUE	☐ BROWN	☐ BLACK	☒ OTHER	N/A
	☐ GRAY	☐ WHITE	☐ COLORLESS				
FLOATING MATERIALS	☐ TRASH OR DEBRIS	☐ OILY SHEEN	☐ ORGANIC	☐ SCUM	☐ SUDS	☒ OTHER	N/A
	☐ OBJECTS (DESCRIBE)	☐ FECAL MATTER	☐ BIOFILM	☐ NONE			
OIL AND GREASE	☒ NONE	☐ DEPOSIT	☐ EMULSION	☐ SHEEN	☐ HEAVY FLOATING CONCENTRATION		
TURBIDITY	☐ HEAVY CLOUDINESS, OPAQUE		☐ CLOUDY	☐ SOME CLOUDINESS	☒ NONE		

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	☐ Pool/Spa Discharge	☐ Illicit Connection	☐ Restaurant Washing write restaurant name in comments	☐ Illegal Dumping	☐ Sewage	☐ Groundwater
	☐ Irrigation Runoff	☐ Vehicle Washing	☐ Water Line Break	☐ Permitted Discharge	☐ Power Washing	☐ Other
	DESCRIBE ALL SOURCES: NONE					

OTHER VISUAL OBSERVATIONS

Outfall Damage	☐ Cracking or Chipping	☐ Corrosion	☐ Peeling Paint	☒ None	☐ Other_____
Deposits/Stains	☐ Flow Line	☐ Oily	☐ Paint	☒ None	☐ Other_____
Abnormal Vegetation	☒ Excessive	☐ Inhibited			
Pipe benthic growth	☐ Brown	☐ Orange	☐ Green	☒ None	☐ Other_____

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME: **Grab samples collected:** (Circle all that apply)
Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants

QA/QC SAMPLES: ☐ Field Duplicate ☐ Field Blank

FLOW ESTIMATION Flow ~~Yes / No / Ponded~~ NONE Evidence of overland flow near sampling location? Yes / No

Marsh-McBirney used for flow measurements? Yes / No

Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____
Flow _____	Flow _____	Flow _____

PHOTOS TAKEN: ☐ YES ☒ NO

COMMENTS: OUTFALL SITE WAS DRY DURING THIS FIELD VISIT.

INVESTIGATOR SIGNATURE _____ NPDES PROJECT MANAGER

CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory)	DATE	TIME	INVESTIGATOR(S)
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OUTFALL ID	**SUBWATERSHED**	**LATITUDE** 35° 17' 22" N	**OBSERVER INFO. (Reported by Citizens)**
RIVERS EDGE 3	BARRANCA	**LONGITUDE** 106° 35' 30" W	ANNUAL SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential)	**WEATHER**	**LAST RAIN (>72 hours or <72 hours)**	
RESIDENTIAL	MID 90's	6.0"	

Conveyance (Check one only)	☒ MS4 Outfall	☐ Other MS4 Structure	☐ Concrete Channel	☐ Earthen Channel	☐ Arroyo/Natural Creek	Comments:		
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Shape	☒ Circular	☐ Eliptical	☐ Box	☐ Trapezoid	☐ Parabolic	☐ Other_____	☐ Single	☐ Double ☐ Triple ☐ Other_____
Dimensions	☒ Diameter/Dimensions: 100"		☐ Depth: _____	☐ Bottom Width: _____		☐ Top Width: _____		
Submerged	In Water: ☒ No	☐ Partially	☐ Fully		With Sediment: ☒ No	☐ Partially	☐ Fully	
Ownership	☐ SSCAFCA	☒ City	☐ Private	☐ Unknown	☐ Other_____			
Discharges to	☐ Pond/Depressional Feature	☐ Natural Conveyance	☐ Storm Drain Channel	☒ Open Space	☐ Other_____			
Flow Status	☐ Flowing	☒ Dry	☐ Ponded	**Flow Reaches Receiving Water?**	☐ Yes	☐ No		

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COLOR	☐ YELLOW ☐ GRAY	☐ GREEN ☐ WHITE	☐ BLUE ☐ COLORLESS	☐ BROWN	☐ BLACK	☒ OTHER	N/A
FLOATING MATERIALS	☐ TRASH OR DEBRIS ☐ OBJECTS (DESCRIBE)	☐ OILY SHEEN ☐ FECAL MATTER	☐ ORGANIC ☐ BIOFILM	☐ SCUM ☐ NONE	☐ SUDS	☒ OTHER	N/A
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TURBIDITY	☐ HEAVY CLOUDINESS, OPAQUE		☐ CLOUDY	☐ SOME CLOUDINESS	☒ NONE		

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	DESCRIBE ALL SOURCES: NONE					

OTHER VISUAL OBSERVATIONS					
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Pipe benthic growth	☐ Brown	☐ Orange	☐ Green	☒ None	☐ Other_____

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME:	**Grab samples collected:** (Circle all that apply) Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants	
QA/QC SAMPLES:	☐ Field Duplicate	☐ Field Blank

FLOW ESTIMATION Flow Yes / No Ponded — Evidence of overland flow near sampling location? Yes / No

Marsh-McBirney used for flow measurements? Yes / No

Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____
Flow _____	Flow _____	Flow _____

PHOTOS TAKEN: ☐ YES ☒ NO	**COMMENTS:** OUTFALL SITE WAS DRY DURING THE FIELD VISIT.
INVESTIGATOR SIGNATURE _____	NPDES PROJECT MANAGER

CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory)	DATE	TIME	INVESTIGATOR(S)
DRY WEATHER SCREENING	6/16/17	1:05 PM	XAVIER PEREZ
OUTFALL ID	**SUBWATERSHED**	**LATITUDE** 35° 17' 21" N	**OBSERVER INFO. (Reported by Citizens)**
RIVERS EDGE 4	BARRANCA	**LONGITUDE** 106° 35' 35" W	ANNUAL SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential)	**WEATHER**	**LAST RAIN (>72 hours or <72 hours)**	
RESIDENTIAL	MID 90'S	0.0"	

Conveyance (Check one only)	☒ MS4 Outfall	☐ Other MS4 Structure	☐ Concrete Channel	☐ Earthen Channel	☐ Arroyo/Natural Creek	Comments:		
Material	☐ Concrete	☐ Earthen	☐ Rip-Rap	☒ RCP	☐ CMP	☐ PVC	☐ HDPE	☐ Steel ☐ Other_____
Shape	☒ Circular	☐ Elliptical	☐ Box	☐ Trapezoid	☐ Parabolic	☐ Other_____	☐ Single	☐ Double ☐ Triple ☐ Other_____
Dimensions	☒ Diameter/Dimensions: 30"		☐ Depth: _____	☐ Bottom Width: _____		☐ Top Width: _____		
Submerged	In Water: ☒ No	☐ Partially	☐ Fully		With Sediment: ☒ No	☐ Partially	☐ Fully	
Ownership	☐ SSCAFCA	☒ City	☐ Private	☐ Unknown	☐ Other_____			
Discharges to	☐ Pond/Depressional Feature	☐ Natural Conveyance	☐ Storm Drain Channel	☒ Open Space	☐ Other_____			
Flow Status	☐ Flowing	☒ Dry	☐ Ponded		**Flow Reaches Receiving Water?**	☐ Yes	☐ No	

WATER QUALITY APPEARANCE							
ODOR	☐ HYDROGEN SULFIDE ☐ SOAP	☐ MUSTY ☐ CHLORINE	☐ SEWAGE ☐ NONE	☐ AMMONIA ☐ EARTHY	☐ GASOLINE ☐ PESTICIDE	☒ OTHER	N/A
COLOR	☐ YELLOW ☐ GRAY	☐ GREEN ☐ WHITE	☐ BLUE ☐ COLORLESS	☐ BROWN	☐ BLACK	☒ OTHER	N/A
FLOATING MATERIALS	☐ TRASH OR DEBRIS ☐ OBJECTS (DESCRIBE)	☐ OILY SHEEN ☐ FECAL MATTER	☐ ORGANIC ☐ BIOFILM	☐ SCUM ☐ NONE	☐ SUDS	☒ OTHER	N/A
OIL AND GREASE	☒ NONE	☐ DEPOSIT	☐ EMULSION	☐ SHEEN	☐ HEAVY FLOATING CONCENTRATION		
TURBIDITY	☐ HEAVY CLOUDINESS, OPAQUE		☐ CLOUDY	☐ SOME CLOUDINESS	☐ NONE		

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	☐ Pool/Spa Discharge	☐ Illicit Connection	☐ Restaurant Washing write restaurant name in comments	☐ Illegal Dumping	☐ Sewage	☐ Groundwater
	☐ Irrigation Runoff	☐ Vehicle Washing	☐ Water Line Break	☐ Permitted Discharge	☐ Power Washing	☐ Other
	DESCRIBE ALL SOURCES: NONE					

OTHER VISUAL OBSERVATIONS

Outfall Damage	☐ Cracking or Chipping	☐ Corrosion	☐ Peeling Paint	☒ None	☐ Other_____
Deposits/Stains	☐ Flow Line	☐ Oily	☐ Paint	☒ None	☐ Other_____
Abnormal Vegetation	☐ Excessive	☐ Inhibited			
Pipe benthic growth	☐ Brown	☐ Orange	☐ Green	☒ None	☐ Other_____

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME:	**Grab samples collected:** (Circle all that apply) **Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants**	
QA/QC SAMPLES:	☐ Field Duplicate	☐ Field Blank

FLOW ESTIMATION Flow Yes / ~~No~~ / Ponded — Evidence of overland flow near sampling location? Yes / No

Marsh-McBirney used for flow measurements? Yes / No

Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____
Flow _____	Flow _____	Flow _____

PHOTOS TAKEN: ☐ YES ☒ NO	**COMMENTS:** OUTFALL SITE WAS DRY DURING THIS FIELD VISIT.
INVESTIGATOR SIGNATURE	NPDES PROJECT MANAGER

CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory)	DATE	TIME	INVESTIGATOR(S)
DRY WEATHER SCREENING	6/16/17	12:45 pm	XAVIER PETTIES
OUTFALL ID	**SUBWATERSHED**	**LATITUDE** 35°17'13" N	**OBSERVER INFO. (Reported by Citizens)**
RIVERS EDGE 5	BARRANCA	**LONGITUDE** 106°35'42" W	ANNUAL DRY SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential)	**WEATHER**	**LAST RAIN (>72 hours or <72 hours)**	
RESIDENTIAL	90'S	0.0"	

Conveyance (Check one only)	☒ MS4 Outfall	☐ Other MS4 Structure	☐ Concrete Channel	☐ Earthen Channel	☐ Arroyo/Natural Creek	Comments:			
Material	☐ Concrete	☐ Earthen	☐ Rip-Rap	☒ RCP	☐ CMP	☐ PVC	☐ HDPE	☐ Steel	☐ Other_____
Shape	☒ Circular	☐ Eliptical	☐ Box	☐ Trapezoid	☐ Parabolic	☐ Other_____	☐ Single	☐ Double	☐ Triple ☐ Other_____
Dimensions	☒ Diameter/Dimensions: 48"		☐ Depth: _____	☐ Bottom Width: _____		☐ Top Width: _____			
Submerged	In Water: ☒ No	☐ Partially	☐ Fully		With Sediment: ☒ No	☐ Partially	☐ Fully		
Ownership	☐ SSCAFCA	☒ City	☐ Private	☐ Unknown	☐ Other_____				
Discharges to	☐ Pond/Depressional Feature	☐ Natural Conveyance	☐ Storm Drain Channel	☒ Open Space	☐ Other_____				
Flow Status	☐ Flowing	☒ Dry	☐ Ponded		**Flow Reaches Receiving Water?**	☐ Yes	☐ No		

WATER QUALITY APPEARANCE							
ODOR	☐ HYDROGEN SULFIDE	☐ MUSTY	☐ SEWAGE	☐ AMMONIA	☐ GASOLINE	☒ OTHER	N/A
	☐ SOAP	☐ CHLORINE	☐ NONE	☐ EARTHY	☐ PESTICIDE		
COLOR	☐ YELLOW	☐ GREEN	☐ BLUE	☐ BROWN	☐ BLACK	☒ OTHER	N/A
	☐ GRAY	☐ WHITE	☐ COLORLESS				
FLOATING MATERIALS	☐ TRASH OR DEBRIS	☐ OILY SHEEN	☐ ORGANIC	☐ SCUM	☐ SUDS	☒ OTHER	N/A
	☐ OBJECTS (DESCRIBE)	☐ FECAL MATTER	☐ BIOFILM	☐ NONE			
OIL AND GREASE	☒ NONE	☐ DEPOSIT	☐ EMULSION	☐ SHEEN	☐ HEAVY FLOATING CONCENTRATION		
TURBIDITY	☐ HEAVY CLOUDINESS, OPAQUE		☐ CLOUDY	☐ SOME CLOUDINESS	☒ NONE		

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	☐ Pool/Spa Discharge	☐ Illicit Connection	☐ Restaurant Washing write restaurant name in comments	☐ Illegal Dumping	☐ Sewage	☐ Groundwater
	☐ Irrigation Runoff	☐ Vehicle Washing	☐ Water Line Break	☐ Permitted Discharge	☐ Power Washing	☐ Other
	DESCRIBE ALL SOURCES: NONE					

OTHER VISUAL OBSERVATIONS					
Outfall Damage	☐ Cracking or Chipping	☐ Corrosion	☐ Peeling Paint	☒ None	☐ Other_____
Deposits/Stains	☐ Flow Line	☐ Oily	☐ Paint	☒ None	☐ Other_____
Abnormal Vegetation	☐ Excessive	☐ Inhibited			
Pipe benthic growth	☐ Brown	☐ Orange	☐ Green	☒ None	☐ Other_____

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME:	**Grab samples collected:** (Circle all that apply) **Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants**
QA/QC SAMPLES:	☐ Field Duplicate ☐ Field Blank

FLOW ESTIMATION Flow Yes / No / Ponded — Evidence of overland flow near sampling location? Yes / No

Marsh-McBirney used for flow measurements? Yes / No

Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____
Flow _____	Flow _____	Flow _____

PHOTOS TAKEN: ☐ YES ☒ NO	**COMMENTS:** OUTFALL SITE WAS DRY DURING THIS FIELD VISIT.
INVESTIGATOR SIGNATURE _____	NPDES PROJECT MANAGER

CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory)	DATE	TIME	INVESTIGATOR(S)
DRY WEATHER SCREENING	6/16/17	12:25 pm	XAVIER PEYES
OUTFALL ID	**SUBWATERSHED**	**LATITUDE** 35° 17' 06" N	**OBSERVER INFO. (Reported by Citizens)**
RIVERS EDGE 6	BARRANCA	**LONGITUDE** 106° 35' 48" W	ANNUAL SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential)	**WEATHER**	**LAST RAIN (>72 hours or <72 hours)**	
RESIDENTIAL	90's	0.0"	

Conveyance (Check one only)	☒ MS4 Outfall	☐ Other MS4 Structure	☐ Concrete Channel	☐ Earthen Channel	☐ Arroyo/Natural Creek	Comments:		
Material	☐ Concrete	☐ Earthen	☐ Rip-Rap	☒ RCP	☐ CMP	☐ PVC	☐ HDPE	☐ Steel ☐ Other_____
Shape	☒ Circular	☐ Elliptical	☐ Box	☐ Trapezoid	☐ Parabolic	☐ Other_____	☐ Single	☐ Double ☐ Triple ☐ Other_____
Dimensions	☒ Diameter/Dimensions: 48"		☐ Depth: _____	☐ Bottom Width: _____		☐ Top Width: _____		
Submerged	In Water: ☒ No	☐ Partially	☐ Fully		With Sediment: ☒ No	☐ Partially	☐ Fully	
Ownership	☐ SSCAFCA	☒ City	☐ Private	☐ Unknown	☐ Other_____			
Discharges to	☒ Pond/Depressional Feature	☐ Natural Conveyance	☐ Storm Drain Channel	☒ Open Space	☐ Other_____			
Flow Status	☐ Flowing	☒ Dry	☐ Ponded		**Flow Reaches Receiving Water?**	☐ Yes	☐ No	

WATER QUALITY APPEARANCE	**ODOR**	☐ HYDROGEN SULFIDE	☐ MUSTY	☐ SEWAGE	☐ AMMONIA	☐ GASOLINE	☒ OTHER N/A
		☐ SOAP	☐ CHLORINE	☐ NONE	☐ EARTHY	☐ PESTICIDE	
	COLOR	☐ YELLOW	☐ GREEN	☐ BLUE	☐ BROWN	☐ BLACK	☒ OTHER N/A
		☐ GRAY	☐ WHITE	☐ COLORLESS			
	FLOATING MATERIALS	☐ TRASH OR DEBRIS	☐ OILY SHEEN	☐ ORGANIC	☐ SCUM	☐ SUDS	☒ OTHER N/A
		☐ OBJECTS (DESCRIBE)	☐ FECAL MATTER	☐ BIOFILM	☐ NONE		
	OIL AND GREASE	☒ NONE	☐ DEPOSIT	☐ EMULSION	☐ SHEEN	☐ HEAVY FLOATING CONCENTRATION	
	TURBIDITY	☐ HEAVY CLOUDINESS, OPAQUE		☐ CLOUDY	☐ SOME CLOUDINESS	☒ NONE	

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	☐ Pool/Spa Discharge	☐ Illicit Connection	☐ Restaurant Washing write restaurant name in comments	☐ Illegal Dumping	☐ Sewage	☐ Groundwater
	☐ Irrigation Runoff	☐ Vehicle Washing	☐ Water Line Break	☐ Permitted Discharge	☐ Power Washing	☐ Other
	DESCRIBE ALL SOURCES: NONE					

OTHER VISUAL OBSERVATIONS					
Outfall Damage	☒ Cracking or Chipping	☐ Corrosion	☐ Peeling Paint	☐ None	☒ Other EROSION UNDER STILLING BASIN
Deposits/Stains	☐ Flow Line	☐ Oily	☐ Paint	☒ None	☐ Other_____
Abnormal Vegetation	☐ Excessive	☐ Inhibited			
Pipe benthic growth	☐ Brown	☐ Orange	☐ Green	☒ None	☐ Other_____

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME:	**Grab samples collected:** (Circle all that apply) Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants
QA/QC SAMPLES: ☐ Field Duplicate	☐ Field Blank

FLOW ESTIMATION Flow Yes / No / Ponded — Evidence of overland flow near sampling location? Yes / No

Marsh-McBirney used for flow measurements? Yes / No

Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____
Flow _____	Flow _____	Flow _____

PHOTOS TAKEN: ☐ YES ☒ NO	**COMMENTS:**

INVESTIGATOR SIGNATURE _____ NAYES PROJECT MANAGER

CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory)	DATE	TIME	INVESTIGATOR(S)
DRY WEATHER SCREENING	6/16/17	12:00 AM	XAVIER PETTES
OUTFALL ID	**SUBWATERSHED**	**LATITUDE** 35° 17' 54" N	**OBSERVER INFO. (Reported by Citizens)**
RIVER EDGE 7	BARRANCA	**LONGITUDE** 106° 35' 50" W	ANNUAL SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential)	**WEATHER**	**LAST RAIN (>72 hours or <72 hours)**	
RESIDENTIAL	90'S	0.0"	

Conveyance (Check one only)	☐ MS4 Outfall	☐ Other MS4 Structure	☐ Concrete Channel	☒ Earthen Channel	☐ Arroyo/Natural Creek	Comments:			
Material	☐ Concrete	☒ Earthen	☐ Rip-Rap	☐ RCP	☐ CMP	☐ PVC	☐ HDPE	☐ Steel	☐ Other_____
Shape	☐ Circular	☐ Eliptical	☐ Box	☐ Trapezoid	☐ Parabolic	☒ Other INCISED	☒ Single	☐ Double	☐ Triple ☐ Other_____
Dimensions	☐ Diameter/Dimensions: _____		☐ Depth: _____	☐ Bottom Width: _____		☐ Top Width: _____			
Submerged	In Water:	☒ No	☐ Partially	☐ Fully	With Sediment:	☐ No	☐ Partially	☐ Fully	
Ownership	☐ SSCAFCA	☒ City	☐ Private	☐ Unknown	☐ Other_____				
Discharges to	☐ Pond/Depressional Feature	☐ Natural Conveyance	☐ Storm Drain Channel	☒ Open Space	☐ Other_____				
Flow Status	☐ Flowing	☒ Dry	☐ Ponded		**Flow Reaches Receiving Water?**	☐ Yes	☐ No		

WATER QUALITY APPEARANCE							
ODOR	☐ HYDROGEN SULFIDE	☐ MUSTY	☐ SEWAGE	☐ AMMONIA	☐ GASOLINE	☒ OTHER	N/A
	☐ SOAP	☐ CHLORINE	☐ NONE	☐ EARTHY	☐ PESTICIDE		
COLOR	☐ YELLOW	☐ GREEN	☐ BLUE	☐ BROWN	☐ BLACK	☒ OTHER	N/A
	☐ GRAY	☐ WHITE	☐ COLORLESS				
FLOATING MATERIALS	☐ TRASH OR DEBRIS	☐ OILY SHEEN	☐ ORGANIC	☐ SCUM	☐ SUDS	☒ OTHER	N/A
	☐ OBJECTS (DESCRIBE)	☐ FECAL MATTER	☐ BIOFILM	☐ NONE			
OIL AND GREASE	☒ NONE	☐ DEPOSIT	☐ EMULSION	☐ SHEEN	☐ HEAVY FLOATING CONCENTRATION		
TURBIDITY	☐ HEAVY CLOUDINESS, OPAQUE		☐ CLOUDY	☐ SOME CLOUDINESS	☒ NONE		

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE						
☐ Pool/Spa Discharge	☐ Illicit Connection	☐ Restaurant Washing write restaurant name in comments	☐ Illegal Dumping	☐ Sewage	☐ Groundwater	
☐ Irrigation Runoff	☐ Vehicle Washing	☐ Water Line Break	☐ Permitted Discharge	☐ Power Washing	☐ Other	
DESCRIBE ALL SOURCES: NONE						

OTHER VISUAL OBSERVATIONS					
Outfall Damage	☐ Cracking or Chipping	☐ Corrosion	☐ Peeling Paint	☒ None	☐ Other_____
Deposits/Stains	☐ Flow Line	☐ Oily	☐ Paint	☒ None	☐ Other_____
Abnormal Vegetation	☐ Excessive	☐ Inhibited			
Pipe benthic growth	☐ Brown	☐ Orange	☐ Green	☒ None	☐ Other_____

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME:	**Grab samples collected:** (Circle all that apply) Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants
QA/QC SAMPLES: ☐ Field Duplicate	☐ Field Blank

FLOW ESTIMATION Flow Yes / No / Ponded — Evidence of overland flow near sampling location? Yes / No

Marsh-McBirney used for flow measurements? Yes / No

Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____
Flow _____	Flow _____	Flow _____

PHOTOS TAKEN: ☐ YES ☒ NO	**COMMENTS:** OUTFALL SITE WAS DRY DURING THIS VISIT.
INVESTIGATOR SIGNATURE _____	NPDES PROJECT MANAGER

REPORT RIO RANCHO: Online and mobile service request system for the City of Rio Rancho

July 1, 2016 to June 30, 2017 - (79) Citizen Concerns

No	Id	DateCreated	DateUpdated	DateClosed	DeviceModel	RequestType	Latitude	Longitude	Description	StatusType	AssignedTo
1	248181	2016-07-01T09:20:41	2016-10-06T01:49:06	2016-07-01T11:19:38	iPhone 5S (CDMA)	Illegal Dumping	35.292282	-106.716805	Illegal dumping	Closed	Yvette Griego
2	248195	2016-07-01T09:39:24	2016-10-06T01:49:04	2016-08-09T07:55:33	iPhone 5S (CDMA)	Illegal Dumping	35.291504	-106.716843	The resident of this house is clearly the person doing the dumping and should be cited and made to clean up their mess.	Closed	Rodney Soole
3	248439	2016-07-02T11:05:22	2016-10-06T01:49:00	2016-07-13T10:49:03	CreateReportV3	Illegal Dumping	35.2489749	-106.7317325	A lot of trash in lot	Closed	Koryn Misbach
4	248442	2016-07-02T11:09:07	2017-03-02T18:00:09	2017-01-18T13:16:55	CreateReportV3	Illegal Dumping	35.24906	-106.7313379	Mattresses and water heater and a lot of trash behind apartments	Closed	Bryan Misbach
5	248566	2016-07-03T07:16:25	2016-10-06T01:48:54	2016-07-27T06:27:50	v2.0.6.2	Illegal Dumping	35.2436607	-106.7363673	This is the third time I have reported this person and nothing is being done.I reported back in Dec. and He did clean up his Junk yard mess in front of his house for a while , Then he started again. I then reported him again about he using his front yard an a Junk Yard ! He told the office that he had a water line break and that's why there was all the junk in front of the home. I guess the office believed him because just yesterday, I drove by and It is a mess. There was a Car rear axle in front of the house??as well of all kinds of junk! That is NOT RIGHT. If this person live by you would you tolerate it? Last year his house almost burn down because of all the junk in the back yard and in the house. I do not know what else to do but take lots of pictures and go to the NEWS for help with this matter! There office that went there last week has do nothing!	Closed	Bryan Misbach
6	248684	2016-07-03T22:20:04	2016-10-06T01:48:48	2016-07-13T16:12:38	CreateReportV2	Illegal Dumping	35.2907225	-106.7202687	This is a supplement to a report I filed a few weeks ago -- one about a truck bed liner, mattresses and other trash dumped on the unpaved portion of 19th Avenue, about a block or so in from 10th Street. It's still there. Now there is what looks like a truckload of trash also dumped into the arroyo about a block further north (see photo); -- also a couple mattresses east of the truck bed liner site; -- also a truckload of trash where the arroyo ends at about what would be 7th Street.	Closed	Koryn Misbach
7	250140	2016-07-10T11:43:13	2016-10-06T01:47:53	2016-07-19T11:16:45	SM-G920T	Illegal Dumping	35.3465886	-106.6194585	Someone has dumped a flatbed trailer half way up the hill on Chopin.	Closed	Rodney Soole
8	250443	2016-07-11T13:38:03	2016-10-06T01:47:40	2016-07-13T10:47:39	CreateReportV3	Illegal Dumping	35.2865513	-106.6027401	Several wood pallets dumped at North Beach Bosque Trail parking area, at north end of parking lot. Photo attached. Thank you.	Closed	Koryn Misbach
9	250675	2016-07-12T10:46:16	2016-10-06T01:47:31	2016-07-12T13:03:46	v2.0.6.3	Illegal Dumping	35.2893025	-106.7039129	There's an old sofa/daybed that is in the arroyo behind our house - it was washed up a couple of years ago when the arroyo flooded and is an eyesore. Wondering if someone could please remove it?	Closed	Koryn Misbach
10	251086	2016-07-13T13:09:44	2016-10-06T01:47:17	2016-07-18T13:15:16	iPhone 5S (CDMA)	Illegal Dumping	35.248276	-106.697845	Ties dumped by gas station. Need code enforcement citation	Closed	Rodney Soole
11	252590	2016-07-19T13:46:19	2016-10-06T01:46:20	2016-07-25T09:29:30	v2.0.6.3	Illegal Dumping	35.2455067	-106.7270417	The builders of 6110 Pecos Trail NE in Mariposa is dumping their building trash over the wall to an empty lot behind the building site	Closed	Sherrie Rice
12	253334	2016-07-22T09:21:35	2016-10-06T01:45:47	2016-07-25T08:46:19	CreateReportV3	Illegal Dumping	35.2178422	-106.6624192	Boxes of tile on road	Closed	Yvette Griego
13	255217	2016-07-29T17:42:26	2016-10-06T01:44:50	2016-08-02T14:17:54	CreateReportV3	Illegal Dumping	35.3093984	-106.6107775	It appears a fifth wheel septic dump hole has been dug at this location which is under construction. I can't be sure but a quick check wouldn't hurt.	Closed	Charlie Lopez
14	255480	2016-07-31T14:55:07	2016-10-06T01:44:36	2016-08-01T10:04:13	CreateReportV3	Illegal Dumping	35.3066044	-106.6966881	Trash left by the light on Unser and Paseo del Volcan. Also trash left a mile from the light on Paseo del Volcan.	Closed	Yvette Griego
15	255583	2016-08-01T08:21:48	2016-10-06T01:44:32	2016-08-09T13:13:16	SM-G900V	Illegal Dumping	35.3460543	-106.6219307	Clandestine dump site on McCartney Road, NE in western Enchanted Hills. One of many and a chronic issue in and around this neighborhood.	Closed	Koryn Misbach
16	255587	2016-08-01T08:29:45	2016-11-18T15:18:10	2016-10-11T13:39:03	SM-G900V	Illegal Dumping	35.3391675	-106.6034178	Clandestine dump site. Frontier Road, NE, Enchanted Hills.	Closed	Yvette Griego
17	255588	2016-08-01T08:31:46	2016-10-06T01:44:31	2016-08-09T13:14:30	SM-G900V	Illegal Dumping	35.3413685	-106.6094019	Clandestine dump site. Enchanted Hills.	Closed	Koryn Misbach
18	255591	2016-08-01T08:43:28	2016-11-18T15:18:22	2016-09-12T16:09:37	SM-G900V	Illegal Dumping	35.337378	-106.6073863	Clandestine dump site. Chayote Road, NE.	Closed	Koryn Misbach
19	255594	2016-08-01T08:47:43	2016-11-18T15:18:22	2016-09-12T16:09:59	SM-G900V	Illegal Dumping	35.3410159	-106.6154256	Clandestine dump site on Boulder Road, NE.	Closed	Koryn Misbach
20	255598	2016-08-01T08:53:41	2016-10-06T01:44:27	2016-08-09T13:13:54	SM-G900V	Illegal Dumping	35.3422689	-106.6223647	Clandestine dump site at 5013 Chopin Road, NE.	Closed	Koryn Misbach
21	255638	2016-08-01T10:44:22	2016-10-06T01:44:25	2016-08-01T15:45:54	CreateReport-2.0.5	Illegal Dumping	35.3067029	-106.6969228	Mattresses dumped on the SE corner of Unser Blvd and Paseo del Volcan. Received via message, entered in by PW.	Closed	Koryn Misbach
22	257961	2016-08-09T14:09:28	2016-11-18T15:18:21	2016-08-25T08:56:28	CreateReportV3	Illegal Dumping	35.2661548	-106.7402029	Household items, yard waste and other debris. Whole area needs to be addressed	Closed	Koryn Misbach
23	258494	2016-08-11T13:46:42	2016-11-18T15:18:21	2016-09-12T16:10:43	CreateReportV3	Illegal Dumping	35.2251688	-106.6771994	This is a typical dump site just west of the church that is basically the last building on this street. It turns into open space past the church. Dumped here is a LOT of landscaping, toilets, etc.	Closed	Koryn Misbach
24	258724	2016-08-12T12:45:40	2016-11-18T15:18:21	2016-09-12T16:11:21	CreateReportV3	Illegal Dumping	35.2251688	-106.6771994	Another fresh dump load of all kinds of garbage, household items, etc. today. Same area as my report from yesterday.	Closed	Koryn Misbach
25	258989	2016-08-14T10:09:51	2016-11-18T15:18:21	2016-08-17T13:56:20	v2.0.6.4	Illegal Dumping	35.3530761	-106.6475487	Residents of 6921 Nacelle RD NE dumped trash on vacant lot of 6919 approx. 1month ago. Witnessed them placing it behind tree away from site line from street. It is now being blown around by weather	Closed	Charlie Lopez
26	271733	2016-08-24T10:18:04	2016-11-18T15:18:21	2016-09-30T12:21:33	CreateReportV3	Illegal Dumping	35.24906	-106.7313379	Behind the apartments there are boxes full of magazines just thrown there	Closed	Bryan Misbach
27	274003	2016-09-01T09:04:21	2016-11-18T15:18:20	2016-09-07T09:12:08	v2.0.7	Illegal Dumping	35.2657166	-106.6819275	The owner of 2709 Chessman DR NE, RR NM 87124 dug out a pool and illegally dumped the dirt at 2721 Chessman Dr NE Rio Rancho, NM 87124	Closed	David Branch
28	274127	2016-09-01T14:04:35	2016-11-18T15:18:20	2016-09-02T09:35:02	CreateReportV3	Illegal Dumping	35.2216267	-106.6878517	This is my third time reporting this same dump site that was never picked up even though I was told it would be last week. This is West of Unser past the Seventh Day Adventist church on Westside/19th Ave SE. At the top of the hill, plain as day.	Closed	Koryn Misbach
29	274213	2016-09-01T20:18:56	2016-11-18T15:18:20	2016-09-12T16:17:02	CreateReportV2	Illegal Dumping	35.28623	-106.7189169	A tire has been dumped along the west side of the unpaved section of 9th Street at the approximate location indicated on the map. This isn't an urgent issue -- I just wouldn't want that to become a mosquito breeding nest (if we ever get enough rain.)	Closed	Koryn Misbach
30	274785	2016-09-05T09:10:44	2016-10-06T01:38:31		CreateReportV2	Illegal Dumping	35.2802504	-106.697596	Near the stop sign at the southwest corner of Pine Road and Unser Frontage road, there are at least two discarded hypodermic needles. When I've reported such sightings in the past, I know you need to send a hazardous materials unit to the site.	In Process	Connie Peterson
31	276155	2016-09-10T13:23:22	2016-11-18T15:18:20	2016-09-12T16:16:41	CreateReportV2	Illegal Dumping	35.2908407	-106.7176509	Someone dumped a large mattress beside the unpaved part of 19th Avenue, not far from the intersection with 10th Street.	Closed	Koryn Misbach
32	276519	2016-09-12T11:10:13	2016-11-18T15:18:20	2016-09-14T09:24:46	CreateReportV3	Illegal Dumping	35.2272648	-106.6986609	Two mattresses that are dumped on the street just off road. We tried to pick these up on the Toss No Mas day (Saturday) but we didn't have room to get that into the truck with all the trash we'd picked up to take to the dumpsters. You can see us standing bon the side. We didn't have anyone to come by from the city to help us move this stuff. Good thing someone had a truck just to take the garbage bags full of stuff. Thank you.	Closed	Koryn Misbach
33	277759	2016-09-15T12:22:30	2016-11-18T15:18:20	2016-09-21T14:05:36	CreateReportV3	Illegal Dumping	35.2747324	-106.6304623	on Saratoga dr. ne there is a bridge right where the 15 miles per hour signal that flashes for the enchanted hills elementary is. right under there is a couch floating around and now that is raining we are concern and request that you send somebody to pick it up. I walk my kids to school and we saw it there when it rain very hard a couple of days ago. Also there is a house 925 Saratoga dr. ne. They also leave their trash (big boxes and stuff) out by the side of the road even though is it comun knowledge that the trash collection person does not get off the truck to pick it up. they always do this. Please could you talk to the home owner. We don't like to see all their trash wash all over the road.	Closed	Charlie Lopez
34	277774	2016-09-15T12:40:08	2016-11-18T15:18:19	2016-09-15T13:20:05	v2.0.6.2	Illegal Dumping	35.2269411	-106.698674	Mattress etc. dumped. Very odd that I just saw a Rio Rancho City vehicle in the very same area on the previous day with a mattress in the back of the vehicle.	Closed	Yvette Griego
35	278076	2016-09-16T16:10:33	2016-11-18T15:18:19	2016-09-21T08:11:27	CreateReportV3	Illegal Dumping	35.2763507	-106.74119	Concrete dumped on Camino Xing NW. Front end loader needed to remove it. Resident request posts and/or barricade to block the end of the road.	Closed	Yvette Griego
36	279645	2016-09-22T14:21:52	2016-11-18T15:18:19	2016-09-27T09:43:11	v2.0.6.2	Illegal Dumping	35.229739	-106.667609	Citizen called and states that a couch and a small tree were recently dumped in front of long vacant property. Items are located near curb/gutter area. Any help with this is greatly appreciated as Property Mgmt may never address.	Closed	Yvette Griego
37	280745	2016-09-27T10:59:52	2016-11-18T15:18:19	2016-09-27T13:24:42	CreateReportV3	Illegal Dumping	35.242945	-106.659119	3905 residents leave unwanted items by street with free signs for others to take. On Saturday 9/24 they left a couch by the street, and a piano in the street, not on their property, with free signs. Several different people tried to roll the piano away on Saturday, Sunday, and Monday with no success. The piano now lies broken on the side of the road across from 3901 and 3813 residences. This is an eyesore and makes the neighborhood look trashy. The couch is still sitting in front of 3905 with a free sign. 3905 residents do not live at this address, they rent it.	Closed	Yvette Griego
38	281760	2016-09-30T16:41:12	2016-11-18T15:18:33	2016-10-17T16:01:32	iPhone 6S Plus	Illegal Dumping	35.335983	-106.614708	Clandestine dump site.	Closed	Koryn Misbach
39	281767	2016-09-30T16:50:47	2016-11-18T15:18:33	2016-10-17T16:03:16	iPhone 6S Plus	Illegal Dumping	35.335831	-106.61673	Clandestine dump site.	Closed	Koryn Misbach
40	281768	2016-09-30T16:54:01	2016-11-18T15:18:33	2016-10-17T16:02:56	iPhone 6S Plus	Illegal Dumping	35.337341	-106.616974	Clandestine dump site.	Closed	Koryn Misbach
41	281770	2016-09-30T16:56:33	2016-11-18T15:18:33	2016-10-12T09:58:45	iPhone 6S Plus	Illegal Dumping	35.337387	-106.617744	Clandestine dump site.	Closed	Koryn Misbach
42	281772	2016-09-30T16:59:04	2016-11-18T15:18:33	2016-10-17T16:02:32	iPhone 6S Plus	Illegal Dumping	35.337921	-106.616493	Clandestine dump site.	Closed	Koryn Misbach
43	281773	2016-09-30T17:03:04	2016-11-18T15:18:33	2016-10-17T16:01:58	iPhone 6S Plus	Illegal Dumping	35.339729	-106.615257	Clandestine dump site.	Closed	Koryn Misbach

44	284631	2016-10-12T19:20:13	2016-11-18T15:18:32	2016-10-17T16:00:59	CreateReportV2	Illegal Dumping	35.2908889	-106.7195821	At about the location indicated in the open space area, on the north side of unpaved 19th Avenue near approximately 8th Street, someone dumped an old water heater. Also, further down 19th Avenue near what would be 6th Street, someone dumped several filled black trash bags in the gully. Not certain what is in them, maybe brush but maybe trash as well.	Closed	Koryn Misbach
45	285980	2016-10-18T18:47:44	2016-11-18T15:18:32	2016-10-31T14:59:04	iPhone 6S Plus	Illegal Dumping	35.345959	-106.74707	This is about a mile and half north of King off of Rainbow. On the east side of the road. It's a spot common for dirt bike riders to park. Found garbage dumped and multiple items had this address on them.	Closed	Sherrie Rice
46	286095	2016-10-19T09:52:20	2016-11-18T15:18:32	2016-10-31T16:19:10	CreateReportV3	Illegal Dumping	35.3588053	-106.680987	Area builders are dumping concrete, chunks of concrete,....on vacant lots	Closed	Sherrie Rice
47	286698	2016-10-21T14:45:38	2016-11-18T15:18:32	2016-10-26T11:27:35	CreateReportV3	Illegal Dumping	35.2879905	-106.6046441	When is city streets/right of way department going to stop grading on private property? The dirt pile on the northeast corner of Iris and NM528 is illegally dumped on private property.	Closed	Yvette Griego
48	287653	2016-10-25T19:57:55	2016-11-18T15:18:32	2016-10-31T08:07:25	CreateReportV2	Illegal Dumping	35.2910378	-106.716857	Someone dumped a large TV beside the unpaved section of Tenth Street just north of the intersection with 19th Avenue. Looks like the tube section separated from the case.	Closed	Yvette Griego
49	287984	2016-10-27T07:26:58	2016-11-18T15:18:31	2016-10-31T08:48:12	CreateReportV3	Illegal Dumping	35.3588053	-106.680987	Builders and contractors are using vacant lots as dumping grounds for concrete, chunks of curbing.....that they won't put in dumpsters apparently because of weight limitations. Since when did this neighborhood become the local dumping ground for builders and contractors.	Closed	Sherrie Rice
50	288805	2016-10-31T08:12:13	2016-11-18T15:18:31	2016-10-31T16:15:33	CreateReportV2	Illegal Dumping	35.2840493	-106.7054629	There is what looks like a full-size mattress on the shoulder of Pine Road, across the street from the three houses on Pine, and just west of the intersection with Lil Avenue.	Closed	Yvette Griego
51	290336	2016-11-06T13:05:58	2016-11-18T15:18:31	2016-11-08T16:05:16	iPhone 6S Plus	Illegal Dumping	35.341881	-106.632729	Clandestine dump site.	Closed	Koryn Misbach
52	290351	2016-11-06T14:01:34	2016-11-18T15:18:31	2016-11-08T09:36:40	iPhone 6S Plus	Illegal Dumping	35.348137	-106.621941	Clandestine dump site.	Closed	Yvette Griego
53	290352	2016-11-06T14:03:39	2016-11-18T15:18:31	2016-11-17T12:53:32	iPhone 6S Plus	Illegal Dumping	35.34684	-106.62175	Clandestine dump site.	Closed	Koryn Misbach
54	290353	2016-11-06T14:04:51	2016-11-18T15:18:31	2016-11-17T12:54:00	iPhone 6S Plus	Illegal Dumping	35.347122	-106.621864	Clandestine dump site.	Closed	Koryn Misbach
55	290354	2016-11-06T14:07:30	2016-11-18T15:18:30	2016-11-08T16:04:37	iPhone 6S Plus	Illegal Dumping	35.345963	-106.621735	Clandestine dump site.	Closed	Koryn Misbach
56	291351	2016-11-10T11:25:28	2016-11-18T15:18:30	2016-11-14T12:25:39	v2.0.7.4	Illegal Dumping	35.3324749	-106.5807724	Two large pieces of debris dumped on west sidewalk of Sprint Blvd.	Closed	Yvette Griego
57	291693	2016-11-12T16:14:23	2016-11-18T15:18:30	2016-11-14T17:42:22	iPhone 6 Plus	Environmental Concerns	35.305023	-106.704895	This is a tub full of motor oil from an illegal dump site we cleaned up a few weeks ago. This is the second time I'm reporting this tub of oil. The first time I contacted hazardous waste along with keep Rio Rancho beautiful.	Closed	Koryn Misbach
58	299920	2016-12-20T16:35:40	2016-12-20T16:48:37		CreateReportV3	Environmental Concerns	35.2444231	-106.6835439	This neighbor has not maintenances their pool the way it should be. I have seen the color and the entire thing looks like it is molding, the water is the same color as the leaves on our trees. I am very concerned for their safety as well as those of us living around them, including their dogs in the yard. Since this issue surfaced there has been an increase of bugs in our yards as well as sickness and this problem should be looked into. Thank you for looking into this!	In Process	Xavier Pettes
59	318580	2017-01-30T10:46:17	2017-04-10T08:36:04	2017-03-14T08:31:30	v2.0.8.3	Environmental Concerns	35.2607279	-106.6598171	A black Ford F-250 is parked on the street in front of the residence and discharges several quarts of oil per day on the street. The resident is aware but continues to allow this. Also when the truck drives away every morning it leaves a trail of oil as it spews onto the road. The HOA has been contacted and has attempted to remedy the issue but as renters they do not receive the fines associated and no action has been taken on the part of the home owner. I am concerned for the environmental impact of the oil spillage.	Closed	Xavier Pettes
60	321948	2017-02-12T15:09:24	2017-02-28T11:16:23	2017-02-13T15:40:20	SM-G920V	Environmental Concerns	35.2485331	-106.6584533	The fish in the ponds at the Islands are starting to die. Could someone get them cleaned up before they start to smell. Thank you. Skip Baxman 505.506.0788	Closed	Xavier Pettes
61	321949	2017-02-12T15:10:28	2017-02-28T11:16:23	2017-02-13T15:39:18	SM-G920V	Environmental Concerns	35.2485331	-106.6584533	The fish in the ponds at the Islands are starting to die. Could someone get them cleaned up before they start to smell. Thank you. Skip Baxman 505.506.0788	Closed	Xavier Pettes
62	321952	2017-02-12T15:16:58	2017-02-28T11:16:23	2017-02-20T15:37:06	SM-G920V	Environmental Concerns	35.2485331	-106.6584533	The fish in the ponds at the Islands are starting to die. Could someone get them cleaned up before they start to smell. Thank you. Skip Baxman 505.506.0788	Closed	Cheryll Johns
63	323975	2017-02-19T19:02:56	2017-02-28T11:15:34	2017-02-22T12:50:25	SM-N920V	Environmental Concerns	35.277097	-106.7404168	256 El Camino Loop NW considerable dog excrement on property as reported by next door neighbor's.	Closed	Xavier Pettes
64	330513	2017-03-13T19:37:20	2017-08-21T14:51:25	2017-08-21T14:51:25	SM-N920V	Environmental Concerns	35.2770774	-106.7404201	Please see closed Service Request 327915. The homeowner has taken no action. The problem remains. This is not the first time. Can you do something more substantive to ensure compliance?	Could Not Verify	Xavier Pettes
65	336579	2017-04-01T15:47:33	2017-04-10T08:42:13	2017-04-03T09:00:07	CreateReportV3	Environmental Concerns	35.363918	-106.6867733	i am not able to locate where in Rio Rancho there is a place to dispose of expired pharmaceuticals, OTC medications etc	Closed	Xavier Pettes
66	339333	2017-04-09T09:46:08	2017-08-21T14:46:55	2017-08-21T14:46:54	CreateReportV3	Environmental Concerns	35.3148731	-106.7181475	White "Intrigue" (make unknown) license # 554-TTS. Vehicle is parked in front of this home, leaked radiator fluid or transmission fluid onto road. Car belongs to owner at 3400 Old Mill Rd NE, Rio Rancho, NM 87144, and has been parked there over one month. When they had it in their own driveway, it was blocking the sidewalk and stuck out about 3 feet into the road - and they had one entire side of their driveway empty!!!!!	Closed	Xavier Pettes
67	341208	2017-04-14T13:39:16	2017-04-18T10:08:26		CreateReportV3	Environmental Concerns	35.2452117	-106.7152914	Person dumped furniture in their driveway for the last week	In Process	Bo Bolon
68	344503	2017-04-25T14:46:55	2017-05-04T14:24:25		CreateReportV3	Environmental Concerns	35.2467733	-106.7374521	Back yard is filled with dead timber, trees, wood , weeds and household trash. This I fear provides a significant fire danger.	Received	Aloha Kirk
69	346239	2017-05-01T19:22:20	2017-06-05T17:04:24		v2.1.0.2	Environmental Concerns	35.3196269	-106.5881487	Two vehicles located at this address, an older silver/gray cadillac Lic 386TBM, and a a blue/white 60's Chevy pu, have been parked in front of 7223 Wasilla and 7219 Wasilla, both are leaking large amounts of oil onto the surface of the street. Obviously, with rain this will run into the drains and be hazardous to wildlife. The truck was only parked in front of 7219 for a little more than a week and left a large ring of oil on the street, we have noticed the cadillac leaking for some time. It's not only hazardous, it's unsightly as well.	In Process	Xavier Pettes
70	346781	2017-05-03T07:48:57	2017-08-21T15:16:29	2017-08-21T15:16:28	v2.1.0.3	Environmental Concerns	35.3381941	-106.5988967	Disabled car in driveway, oil has been drained into a container but with recent rain oil has spilled over and flown into easement near the street	Closed	Xavier Pettes
71	351575	2017-05-17T14:28:37	2017-07-03T10:40:06	2017-06-06T08:07:39	SM-N920V	Environmental Concerns	35.2770383	-106.740415	113 El Camino Loop NW... dog excrement in back yard in large quantities plainly visible from 11th Avenue over the wall. Continuing violation	Closed	Xavier Pettes
72	355220	2017-05-28T16:22:26	2017-08-21T14:34:07		SAMSUNG-SM-G900A	Environmental Concerns	35.3196278	-106.5881463	Report address is 7223 Wasilla Dr ne, 87144, please see picture of the street in front of the residence. The silver/gray cadillac owned there is dumping oil on the street heavily, it is an environmental hazard as well as unsightly. Please contact owner to repair, or at least move vehicle into driveway with some type of oil catch under the vehicle. It is becoming progressively worse, thank you.	Received	Xavier Pettes
73	355547	2017-05-30T04:49:23	2017-05-31T12:12:01		v2.1.0.4	Environmental Concerns	35.2439048	-106.7354223	Hypodermic needles found at Atlantic and southern. Uncapped hypodermic needles found at rainbow dog park in parking lot	Referred To Dept	Charles Fernandez
74	356563	2017-06-01T08:33:13	2017-06-09T13:51:59		iPhone 7	Environmental Concerns	35.254532	-106.667397	Very bad sewer smell. Maybe natural gas leak. Possible that it is the pond drying up on old golf course. Making neighbors nauseous. Smells like rotting flesh	In Process	Jimmy Chavez
75	358650	2017-06-06T15:51:40	2017-07-03T10:24:26	2017-06-07T08:29:52	SAMSUNG-SM-G900A	Environmental Concerns	35.3200935	-106.5877191	Thanks for coming out and spreading the absorption agent, however, he is right back to parking that oil leaking car right over the area again, Lic 386TBM. Has he been cited? It's apparent he does not care about the environment or the unsightly mess his vehicle is making, is there anything else I can do, or anyone else I can contact? Thanks, M.Howe.	Closed	Xavier Pettes
76	360324	2017-06-11T15:16:28	2017-07-03T10:23:53	2017-06-12T10:14:48	iPhone 6S	Environmental Concerns	35.287132	-106.604904	Someone dumped a trailer on 528 & Iris	Closed	Xavier Pettes
77	361639	2017-06-14T14:35:16	2017-08-21T14:48:48	2017-08-21T14:48:48	v2.1.0.4	Environmental Concerns	35.2485272	-106.6972768	The solid waste disposal bin behind the Chevron is rarely covered and often overflow so all kinds of solid waste is blown out of the bin and all over the neighborhood. The open bin also invites rodents and other vectors to the area. I've never seen an employee of the story picking up the litter that blows all around.	Closed	Xavier Pettes
78	365268	2017-06-24T18:37:01	2017-08-01T08:32:09	2017-07-19T12:39:16	iPhone 5S (CDMA)	Environmental Concerns	35.241539	-106.693672	Improper use of valve cover	Closed	Xavier Pettes
79	365568	2017-06-26T07:40:59	2017-07-03T10:22:43	2017-06-26T14:49:01	iPhone 5S (CDMA)	Environmental Concerns	35.244316	-106.736221	Nieghbor may need help	Closed	Victoria Garcia

Mid Rio Grande Stormwater Quality Team

www.keeptheriogrand.org

Outcomes Report

for

Fiscal Year 2016-2017

(July 1, 2016 - June 30, 2017)

presented by

Phyllis Baker

CWA Strategic Communications

During the period from July 1, 2016 through June 30, 2017, the Mid Rio Grande Stormwater Quality Team (MRGSQT) continued its educational partnerships with the Bosque Ecosystem Monitoring Program (B.E.M.P.) and RiverXchange. The team continued to post relevant information to its website and Facebook page, and also participated in a number of high-profile community events, including the KOB TV Health & Wellness Fair in January 2017. The team moved its interactive kiosk to Rio Rancho's Loma Colorado Public Library at the beginning of 2017 and held a news conference there in June in conjunction with the onset of the beginning of the monsoon season in July. Several team members were booked on morning radio and TV talk shows to discuss stormwater quality and ways to keep pollutants out of the Rio Grande. The team decided to concentrate on educating contractors and people in the construction field about the new 2017 Construction General Permit changes and additions by creating a presentation and holding an educational breakfast seminar at the end of June.

Team partners and supporters disseminated information on stormwater through municipal water quality reports to stakeholders. Specialty advertising giveaways relating to stormwater quality awareness were ordered/reordered for use at public events. The overall budget spent on these activities, excluding donated hours by team members and RiverXchange and B.E.M.P., was $44,555.98. The contractor, CWA Strategic Communications, donated $3,399.04 in services during the 12-month period. We have summarized the activities below and on the following pages:

WEBSITE (www.keeptheriogrand.org)

New visitors accounted for 77% of the total 1,675 website visitors. A majority of visitors continue to access the website using their desktop computers but mobile access continues to increase: out of 254 sessions, 199 sessions were conducted via mobile devices.

A detailed Google Analytics Report is included as an attachment to this report, labeled Exhibit 1.

Estimated number of individuals reached by this activity: 1,675
Permit Reference(s): General SWP, Construction, Pet Waste, Household Hazardous Waste
Audience(s): Children, Adults

FACEBOOK PAGE

In conjunction with the SQT website, a Facebook page contains posts and updated information at: (https://www.facebook.com/Keeptheriogrand). Total "likes" for the page increased from 134 in the last year to 141 during this year, a 1 percent increase.

A detailed report is included as an attachment to this report, labeled Exhibit 2.

Estimated number of individuals reached by this activity: 141
Permit Reference(s): General SWP, Construction, Pet Waste
Audience(s): Children, Adults

EVENTS

Between July 1, 2016 and June 30, 2017, MRGSQT members and their partner agencies reported participating in a total of 68 community outreach/educational events and reaching 14,084 adults and children. ***Details can be found in Exhibit 3 at the end of this report.***

Estimated number of individuals reached by these community outreach/education events (with duplications): 14,084
Permit Reference(s): General SWP, Construction, Pet Waste, Construction, Household Hazardous Waste, Illicit Discharge and Animal Sources
Audience(s): Children, Adults

GENERAL MATERIALS DISTRIBUTION

As appropriate, team members distribute materials at events. While the MRGSQT is focusing less on printed collateral pieces and more on community outreach through partnerships and participation in community events, we have included inventories of materials on hand as of July 1, 2016 through June 30, 2017.
Total estimated number of people reached by these activities: 6,738
Cost per person reached (may be some duplication): $1.38
Permit Reference(s): General SWP, Pet Waste, Household Hazardous Waste
Audience(s): Children, Adults

EDUCATIONAL ACTIVITIES

Educational Kiosk at the Children's Library at the Main Albuquerque Public Library Albuquerque and Rio Rancho's Main Loma Colorado Library.

STORMWATER QUALITY TEAM Inventory				
Item	**Starting Qty as of 7/1/2016**	**Distributed**	**Ending Quantity as of 6/30/2017**	**Cost of Materials Distributed**
"Keep the Rio Grand" Bumper Stickers	1228	430	798	$167.58
"Reduce Stormwater Pollution at Home" brochure	811	641	170	$224.35
SQT Brochure - "New Dog or Cat"	2740	680	2620	$204.00
Dog-shaped Poop Bag Dispensers	1496	1070	426	$426.00
"Don't Contaminate the River" stickers	3000	1960	1040	$1,040.00
Poo Emoji Squeezies (added 2/14/17)	5000	430	4570	$4,570.00
"Scoop the Poop" Rack Card	244	244	0	$-
"Yard Mess" Brochure	513	513	0	$-
Morphing Fish Bags	957	770	187	$2,664.20
		6,738		**$9,296.13**

On January 2, 2017, the Mid Rio Grande Stormwater Quality Team moved its educational kiosk from the Albuquerque main library to the Loma Colorado Library in Rio Rancho. A news conference was held on June 14, just before the beginning of the area's monsoon season, to introduce the kiosk to the community and educate citizens about stormwater issues. The kiosk features:

- An interactive stormwater system map where children can press various points to learn the roles arroyos and channels play in the stormwater system and how to keep from polluting that system. The system stretches from Bernalillo on the north through Rio Rancho and into Albuquerque.
- A "Scoop the Poop" game that lets children choose one of three dogs and learn how to properly pick up after that dog. This is important, according to the MRGSQT, because pet waste is a major source of E coli contamination in the Rio Grande.
- An educational panel on common types of trash, debris and chemicals that pollute the Rio Grande including appliances and electronics, automotive products such as oil, batteries and gasoline, glass and cement, household cleaners, yard waste, prescription and over-the-counter medicines.
- A touch screen that includes facts about each arroyo and the Rio Grande.

Total number of children and adults viewing the kiosk from January 2 through June 31, 2017 is broken down on the right:

JAN	15,999
FEB	18,181
MAR	17,955
APR	16,509
MAY	16,546
JUN	19,777
TOTAL	**104,967**

STUDENTS AND TEACHERS REACHED THROUGH PARTNER EDUCATIONAL PROGRAMS – RIVERXCHANGE AND BOSQUE ECOSYSTEM MONITORING PROGRAM (B.E.M.P.)

RiverXchange

RiverXchange is an innovative, long-term outreach program that integrates water resource topics with computer technology, student writing, and a hands-on curriculum to meet specific, measurable outcomes.

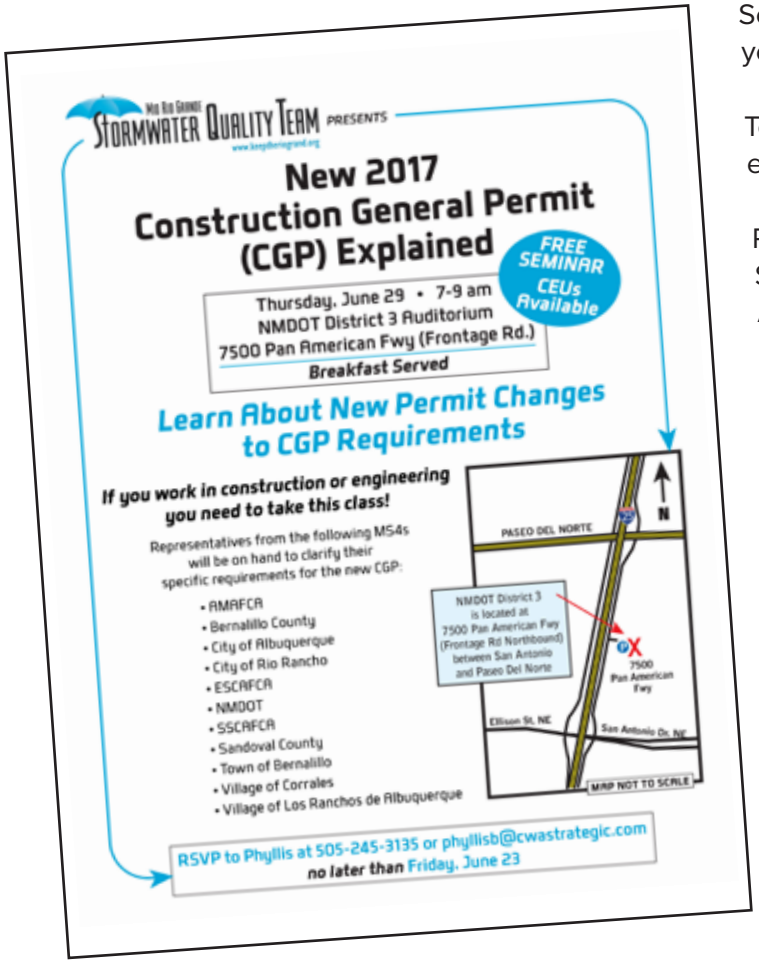
Since 2007, the program has enabled upper elementary classes from New Mexico to become "high tech pen pals" with a class outside the state to share what they learn about the geography, culture, and ecology of their local river and watershed. Including these partner classes, the program has served over 14,000 students. Each student spends about 25 hours engaged with the program over the course of the school year. The curriculum incorporates hands-on activities, multiple classroom presentations by local water resources. During the 2016-2017 season, there were 42 classes in New Mexico, 23 of which were Title I schools. RiverXchange conducted:

- 19 classes in the Albuquerque Public School Sytyem
- 18 classes in the Rio Rancho Public School System
- 5 classes in the Bernalillo Public School System
- 32 "Watershed on Wheels" (WOW) offerings (National Fish and Wildlife Foundation)

For more information, see Exhibit 4, RiverXchange's 2016-2017 report to the Mid Rio Grande Stormwater Quality Team.

B.E.M.P.

The main objective of the *Stormwater Science* outreach education program of the Bosque Ecosystem Monitoring Program (B.E.M.P.) is to teach students that the health of the Rio Grande is directly related to the health of the surrounding watershed. The Stormwater Science program includes a one and one-half hour classroom activity, and a 4-5 hour study trip to the Rio Grande. During the 2016-2017 school year 1,775 students AND teachers participated in *Stormwater Science* activities in their classrooms, in the field or both. The one and one-half hour classroom program was delivered to 1,269 students in 32 classrooms in 19 different schools in Bernalillo, Rio Rancho, Albuquerque, Los Lunas and Belen.



See ***Exhibit 5*** for the BEMP Report on the 2016-2017 school year and its *Stormwater Science* report.

Total estimated number of people reached by these educational activities: 108,011

Permit Reference(s): General SWP, Pet Waste, Animal Sources, Household Hazardous Waste, Illicit Discharges
Audience(s): Children, Adults

Construction General Permit (CGP) Seminar

The Stormwater Team realized the importance of outreach to contractors and construction professionals about the changes and adjustments to the 2017 CGP. They planned a seminar and invited members of those groups to attend. The breakfast seminar was held at the NM Department of Transportation District 3 Auditorium. Fifty-three attendees (16 contractors and 37 government employees) learned about the updates to the 2017 CGP. Response to the seminar was very positive.

Total estimated number of people reached by these educational activities: 53
Permit Reference(s): General SWP, Illicit Discharges
Audience(s): Adults

Kids learn about stormwater

BY GARY HERRON
Assistant Editor



GARY HERRON/Observer
A group of youngsters from The MAC, a short walk from Loma Colorado Main Library, listen to Catherine Conran.

Sure, you can understand that the Southern Sandoval County Arroyo Control Authority (SSCAFCA) has a valid interest in the Rio Grande — what's flowing into it, what's flowing out of it — and the Mid Rio Grande Stormwater Quality Team members showing up at Loma Colorado Main Library on June 14 to talk about facets of stormwater and more.

It turns out we're all in this together.

The MRGSQT, a multi-agency team formed in 2004 to educate individuals and businesses on reducing stormwater pollution by keeping trash, chemicals and other debris out of our stormwater system to protect the Rio Grande, took the lead here. SSCAFCA and the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) are on that team, as are Rio Rancho, Corrales and Bernalillo.

A couple dozen youngsters being entertained at The MAC, a short walk away, sat on the floor and listened as Catherine Conran, the education outreach director, talked about the team's goals.

A few steps away, youngsters could play an interactive — and quite popular, wouldn't you know — game called "Scoop the Poop." Using their fingers on a screen, they could "scoop" doggy do-do into bags, keeping it from ending up in a drain and, ultimately, the Rio Grande.

Hence, "Keep the Rio Grand" is great slogan.

To get thing started, MRGSQT partnered with the Bosque Ecosystem Monitoring Program (BEMP) to monitor four sites on the Rio Grande and to provide educational activities on water quality relating to watershed management in Bernalillo and Sandoval counties. Those monitoring sites are located along the Rio Grande in Bernalillo and Sandoval counties adjacent to existing BEMP site.

Sites included were at the US 550 bridge in Bernalillo, the Alameda and Montano bridges within Albuquerque, and south of Tijeras Arroyo and north of Isleta Pueblo in Albuquerque. Weekly monitoring measured levels of the bacteria known as Escherichia coli (E. coli) in the river.

Although the bacteria occurs naturally in the Rio Grande, levels can also be temporarily elevated after a storm if animal wastes are washed into the river. For example, storm sewers in the Albuquerque and Rio Rancho areas can potentially carry E. coli from rain contact with wastes from domestic animals, wildlife, birds, pets — and even humans — into the Rio Grande.

The area's stormwater system contains approximately 16,100 storm inlets leading to 722 miles of storm pipes leading to the Rio Grande. As the area grows, more waste is created. For example, there are at least 43,000 licensed dogs in Albuquerque alone, creating more than 20 tons of dog waste a day. That waste can end up in the river if it's left in a yard or not disposed of properly in household trash containers.

Conran said analysis of the E. coli's "DNA" revealed 22 percent of it came from dog waste.

Youngsters listening to Conran didn't need to know all that, of course. She said the team takes this approach — having children "teach," or remind — the adults when the time comes. They were more interested in the interactive three-sided kiosk that included games, videos and touch-screen maps to engage and teach them about our area's stormwater drainage system and what they can do to prevent stormwater pollution.

Stormwater, the leading source of pollution in the Rio Grande and that pollution is largely human-caused. There are no filters to keep trash, debris and chemicals dumped into our area's nearly 1,000 miles of stormwater pipelines, lined channels and unlined arroyos from flowing into and polluting the Rio Grande.

There was a lot to be learned in a little time, with the main message being for pet owners to pick up after their dogs.

The kiosk will remain at Loma Colorado Main Library for about six months, then moved — probably to Bernalillo — where its important messages can be repeated.

EARNED MEDIA

• Rio Rancho's local newspaper, *The Observer,* did a story on the kiosk that appeared in the state's largest newspaper the next day.

Total number of estimated readers for article on the kiosk in the *The Observer:* 23,500

Permit Reference(s): General SWP, Pet Waste, Household Hazardous Waste
Audience(s): Adults

• The local CBS-affiliate KRQE also attended the news conference and subsequently ran a story which was also posted on the station's website.

• Stormwater Team members Steve Glass (Ciudad SWCD), Dave Gatterman (SSCAFCA), Fred Marquez (Sandoval County) and Tim McDonough (Village of Los Ranchos) were booked on several morning talk shows (TV and radio) to talk about the SQT and best practices to follow during the upcoming monsoon season:

- **Cumulus Media: Pat Allen's public affairs show:** 4,200 listeners were reached through traditional radio broadcast throughout the local Cumulus media system: (KBZU-FM 96.3 NASH ICON - Country, KKOB-AM 770 News Talk Radio (The Talk Monster), KMGA-FM 99.5 Magic FM (Magic's Best Mix of Yesterday and Today), KBZU-FM 96.3 (Country), KNML-AM 610 (The Sports Animal), KKOB-FM 93.3 KOB-FM (Albuquerque's #1 Hit Music Station), KRST-FM NASH FM 92.3 KRST (Country), and KTBL-AM 1050 (News andTalk).

  There are no specific streaming numbers for Pat Allen's show, but we know that 59,413 people listen to KKOB 770-AM via streaming each month.

- **iheart media: Donnie Chase Show** 10,100 listeners throughout the local

iheart media stations: 100.3 The Peak (Mix and varietry), Big I 107.9 (Country), 94 Rock, The Edge 104.1 (Alternative), 104.7 KABQ (Mix and Variety), 98.1 The Bull (Country), Hot 95.1 (Old School Hip Hop and R&B), AM1350 (News and Talk), and 100.9 The Beat (Hip Hop and R&B).



- **KOB-4: Good Day New Mexico**
  Show has a 1.1-1.3 HH rating and audience averaged about 38,737

- **KRQE-13: This Morning**
  7am --- rtg: 0.6 shr: 8,568
  8am --- rtg: 0.8 shr: 11,424
  9am --- rtg: 0.8 shr: 11,424



A total of 163,166 listeners were reached through these articles and interviews.

PUBLIC EDUCATION CAMPAIGNS ON PROPER DISPOSAL OF FATS, OILS & GREASE

In November and December 2016, the City of Rio Rancho and the Albuquerque Bernalillo County Water Utility Authority (ABCWUA) planned and implemented public education campaigns on how to dispose of cooking grease properly. The campaigns were timed to coincide with the holiday cooking season (Thanksgiving through Christmas). The City of Rio Rancho campaign included:



Print Ads – Quarter Page (4 col. x 8") full-color ad in The Observer, running 2 Sundays in November (11/20 & 11/27) and 2 Sundays in December (12/18 & 12/25), reaching 94,000 readers (with duplication).

Digital Outdoor Boards – 7 digital outdoor boards running in November (11/21-11/27) and 7 boards running in December (12/19-12/25) reaching an estimated audience of 501,897 adults (18 years of age and older) with duplication

Movie Theaters – One 15-second spot running in Rio Rancho's 14-plex Premiere Theater for one week in November and one week in December, reaching approximately 40,000 people with duplications.

Total number of estimated people reached (with duplications): 635,897

In addition, in November and December 2016, the ABCWUA (a Stormwater Team supporter) planned and implemented public education campaigns on how to dispose of cooking grease properly. The campaigns were timed to coincide with the holiday cooking season (Thanksgiving through Christmas). The Water Authority's campaign included:

Digital Outdoor Boards – 7 digital outdoor boards running in November and December (4 in November; 3 in December) reaching an estimated audience of 491,451 adults (18 years of age and older) with duplication



Television – A total of 646 30-second television spots reaching an estimated audience of 2,259,978 with duplications.

Bill inserts – Three bill inserts for Water Authority utility bills reaching an estimated audience of 210,000 with duplication

Movie Theaters – One 30-second spot running in five of the Albuquerque metropolitan area's most popular theaters reaching an estimated 329,036 people with duplications.

Point of Purchase – 53 Johnny Boards (billboards in public restrooms) reaching an estimated 51,638 people with duplications

Total number of estimated people reached (with duplications): 3,342,103

DONATIONS

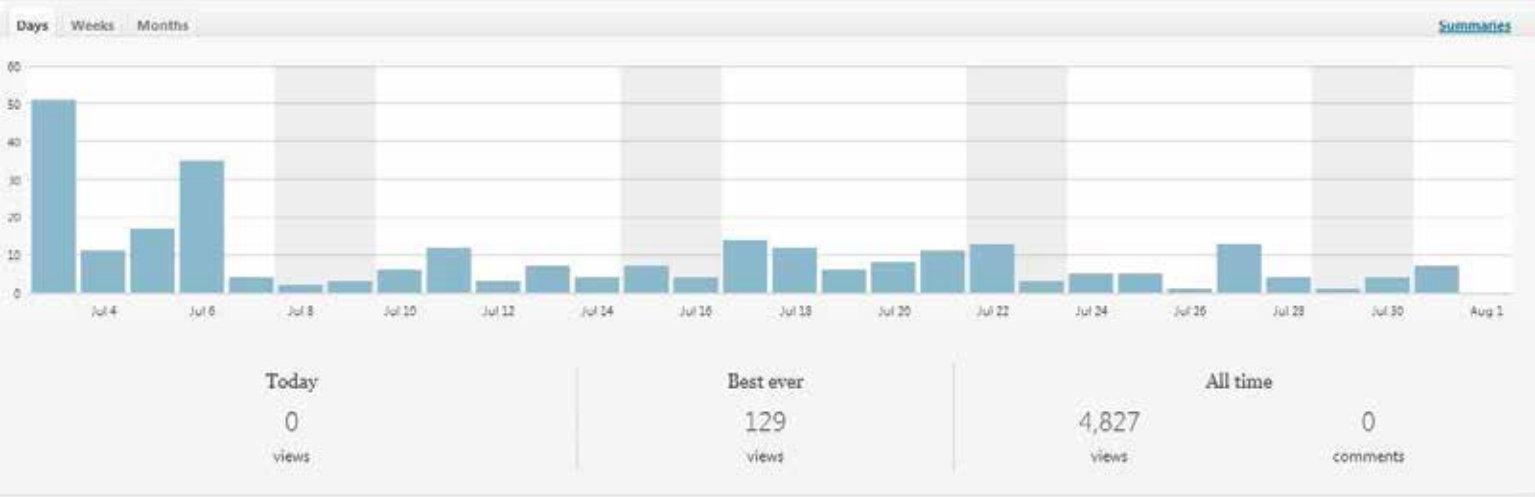
The City Of Albuquerque donated $85,000 to The Nature Conservancy, RiverXchange and EarthForce for additional educational programs that reached 649 people (571 children and 78 adults). ***See Exhibits 5 and 6 for reports from The Nature Conservancy and Earth Force.***

TOTAL NUMBER OF PEOPLE REACHED THROUGH ALL ADVERTISING, EDUCATIONAL AND PUBLIC OUTREACH ACTIVITIES DURING 2016-2017:

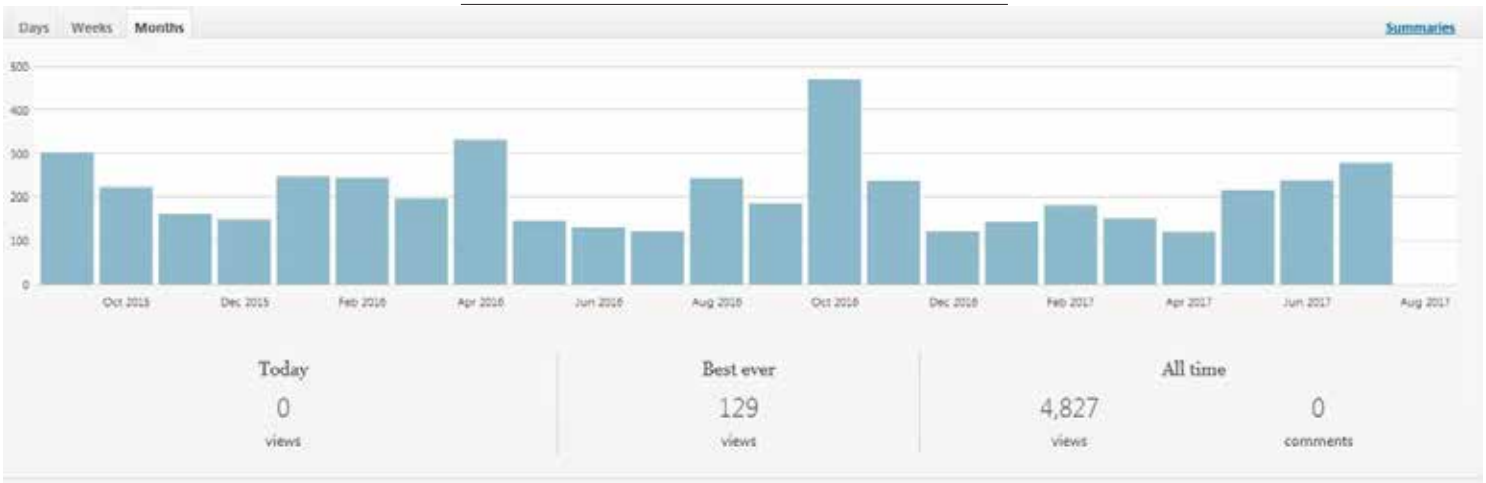
Obviously, some people were reached by more than one activity, but in gross numbers an estimated **4,244,484** people were reached with a stormwater quality/stormwater pollution prevention message during the 2016-2017 fiscal year.

Exhibit 1 - Website Analytics

DAILY Direct Website Traffic



MONTHLY Direct Website Traffic



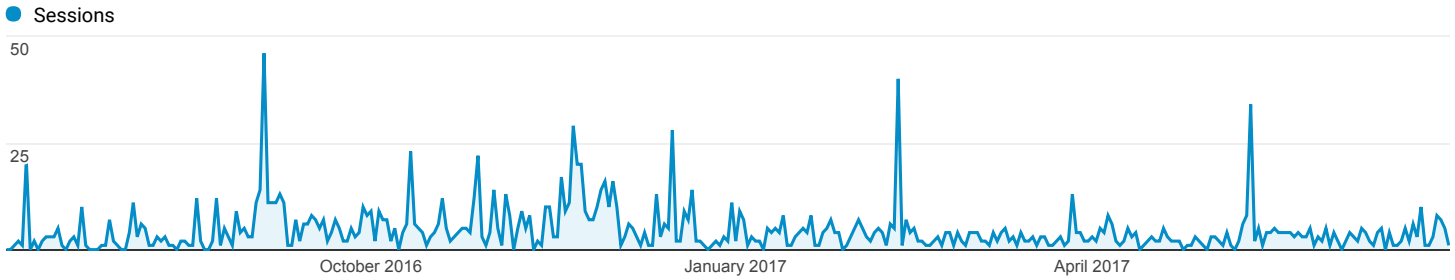
Browser & OS

Jul 1, 2016 - Jun 30, 2017

All Users
100.00% Sessions

Explorer

Summary



Browser	Acquisition			Behavior			Conversions		
	Sessions	% New Sessions	New Users	Bounce Rate	Pages / Session	Avg. Session Duration	Goal Conversion Rate	Goal Completions	Goal Value
	1,675 % of Total: 100.00% (1,675)	76.96% Avg for View: 76.96% (0.00%)	1,289 % of Total: 100.00% (1,289)	49.13% Avg for View: 49.13% (0.00%)	2.12 Avg for View: 2.12 (0.00%)	00:01:44 Avg for View: 00:01:44 (0.00%)	0.00% Avg for View: 0.00% (0.00%)	0 % of Total: 0.00% (0)	$0.00 % of Total: 0.00% ($0.00)
1. Chrome	**883** (52.72%)	91.17%	805 (62.45%)	45.75%	2.10	00:00:48	0.00%	0 (0.00%)	$0.00 (0.00%)
2. Safari	**239** (14.27%)	62.76%	150 (11.64%)	56.07%	1.70	00:02:16	0.00%	0 (0.00%)	$0.00 (0.00%)
3. Internet Explorer	**220** (13.13%)	60.91%	134 (10.40%)	50.91%	2.45	00:02:26	0.00%	0 (0.00%)	$0.00 (0.00%)
4. Firefox	**215** (12.84%)	67.91%	146 (11.33%)	59.07%	2.53	00:03:10	0.00%	0 (0.00%)	$0.00 (0.00%)
5. google.com	**57** (3.40%)	3.51%	2 (0.16%)	3.51%	1.96	00:06:18	0.00%	0 (0.00%)	$0.00 (0.00%)
6. Edge	**27** (1.61%)	74.07%	20 (1.55%)	55.56%	2.26	00:03:06	0.00%	0 (0.00%)	$0.00 (0.00%)
7. Mozilla Compatible Agent	**12** (0.72%)	100.00%	12 (0.93%)	100.00%	1.00	00:00:00	0.00%	0 (0.00%)	$0.00 (0.00%)
8. Mozilla	**6** (0.36%)	100.00%	6 (0.47%)	100.00%	1.00	00:00:00	0.00%	0 (0.00%)	$0.00 (0.00%)
9. Opera	**4** (0.24%)	75.00%	3 (0.23%)	50.00%	1.50	00:00:30	0.00%	0 (0.00%)	$0.00 (0.00%)
10. Safari (in-app)	**4** (0.24%)	100.00%	4 (0.31%)	75.00%	1.25	00:01:04	0.00%	0 (0.00%)	$0.00 (0.00%)

Rows 1 - 10 of 17

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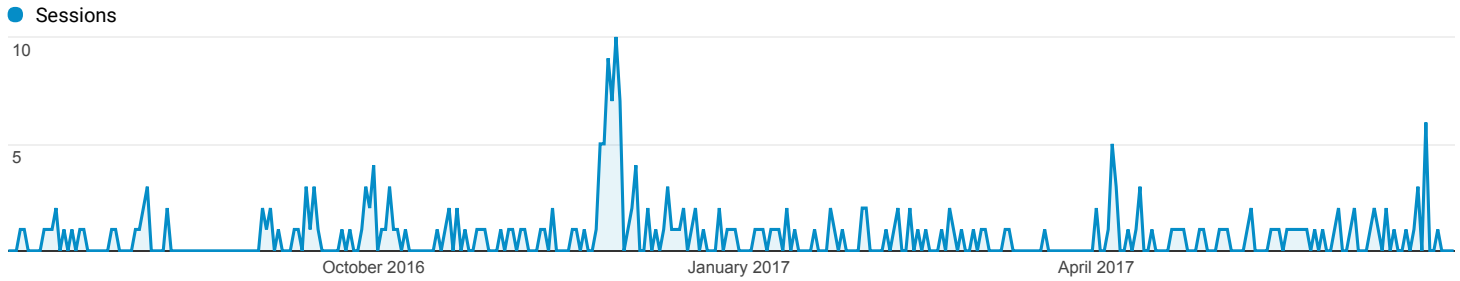
Devices

Jul 1, 2016 - Jun 30, 2017

All Users
15.16% Sessions

Explorer

Summary



Mobile Device Info	Acquisition			Behavior			Conversions		
	Sessions	% New Sessions	New Users	Bounce Rate	Pages / Session	Avg. Session Duration	Goal Conversion Rate	Goal Completions	Goal Value
	254 % of Total: 15.16% (1,675)	72.44% Avg for View: 76.96% (-5.87%)	184 % of Total: 14.27% (1,289)	55.91% Avg for View: 49.13% (13.78%)	1.59 Avg for View: 2.12 (-25.29%)	00:01:38 Avg for View: 00:01:44 (-6.21%)	0.00% Avg for View: 0.00% (0.00%)	0 % of Total: 0.00% (0)	$0.00 % of Total: 0.00% ($0.00)
1. Apple iPhone	**148** **(58.27%)**	57.43%	85 (46.20%)	52.03%	1.53	00:02:17	0.00%	0 (0.00%)	$0.00 (0.00%)
2. Apple iPad	**21** **(8.27%)**	95.24%	20 (10.87%)	61.90%	1.62	00:00:26	0.00%	0 (0.00%)	$0.00 (0.00%)
3. Microsoft Xbox One	**5** **(1.97%)**	80.00%	4 (2.17%)	60.00%	2.00	00:00:48	0.00%	0 (0.00%)	$0.00 (0.00%)
4. LG K330 Tribute 5	**4** **(1.57%)**	75.00%	3 (1.63%)	0.00%	3.25	00:03:49	0.00%	0 (0.00%)	$0.00 (0.00%)
5. Samsung SCH i545 Galaxy S4	**4** **(1.57%)**	100.00%	4 (2.17%)	50.00%	1.75	00:01:36	0.00%	0 (0.00%)	$0.00 (0.00%)
6. Samsung SM-N920V Galaxy Note 5	**4** **(1.57%)**	100.00%	4 (2.17%)	50.00%	1.50	00:00:09	0.00%	0 (0.00%)	$0.00 (0.00%)
7. (not set)	**3** **(1.18%)**	100.00%	3 (1.63%)	33.33%	2.33	00:01:54	0.00%	0 (0.00%)	$0.00 (0.00%)
8. Motorola XT1254 Droid Turbo	**3** **(1.18%)**	66.67%	2 (1.09%)	100.00%	1.00	00:00:00	0.00%	0 (0.00%)	$0.00 (0.00%)
9. Samsung SM-G930T Galaxy S7	**3** **(1.18%)**	100.00%	3 (1.63%)	100.00%	1.00	00:00:00	0.00%	0 (0.00%)	$0.00 (0.00%)
10. Samsung SM-G930V Galaxy S7	**3** **(1.18%)**	100.00%	3 (1.63%)	66.67%	2.67	00:02:08	0.00%	0 (0.00%)	$0.00 (0.00%)

Rows 1 - 10 of 55

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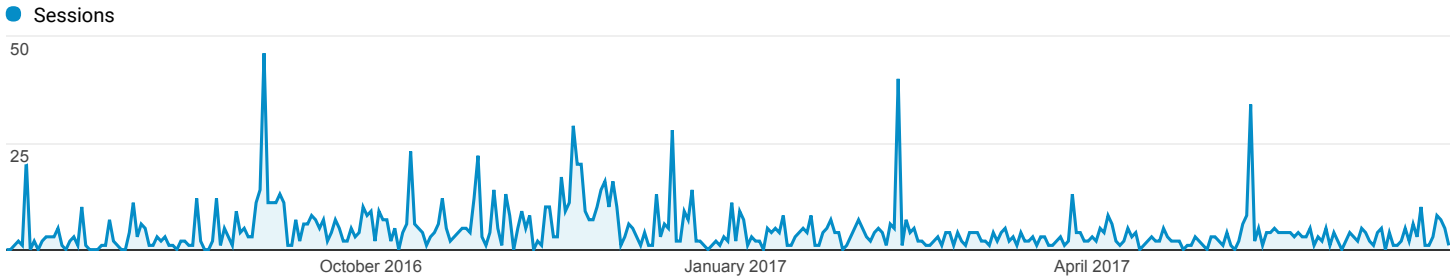
New vs Returning

Jul 1, 2016 - Jun 30, 2017

All Users
100.00% Sessions

Explorer

Summary



User Type	Acquisition			Behavior			Conversions		
	Sessions	% New Sessions	New Users	Bounce Rate	Pages / Session	Avg. Session Duration	Goal Conversion Rate	Goal Completions	Goal Value
	1,675 % of Total: 100.00% (1,675)	76.96% Avg for View: 76.96% (0.00%)	1,289 % of Total: 100.00% (1,289)	49.13% Avg for View: 49.13% (0.00%)	2.12 Avg for View: 2.12 (0.00%)	00:01:44 Avg for View: 00:01:44 (0.00%)	0.00% Avg for View: 0.00% (0.00%)	0 % of Total: 0.00% (0)	$0.00 % of Total: 0.00% ($0.00)
1. New Visitor	**1,289** (76.96%)	100.00%	1,289 (100.00%)	53.92%	1.94	00:00:56	0.00%	0 (0.00%)	$0.00 (0.00%)
2. Returning Visitor	**386** (23.04%)	0.00%	0 (0.00%)	33.16%	2.72	00:04:27	0.00%	0 (0.00%)	$0.00 (0.00%)

Rows 1 - 2 of 2

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Exhibit 2 - Facebook Analytics

Facebook Engagement

Actions on Page
July 3 - July 30

We don't have data to show you this week.

Page Views
July 3 - July 30

2

Total Page Views ▼82%



Page Previews
July 3 - July 30

We don't have data to show you this week.

Page Likes
July 3 - July 30

1

Page Likes ▼67%

Reach
July 3 - July 30

192

People Reached ▼93%



Post Engagements
July 3 - July 30

60

Post Engagement ▼87%



Videos
July 3 - July 30

5

Total Video Views ▲0%



Page Followers
July 3 - July 30

1

Page Followers ▼67%

Facebook Engagement by Posts

07/06/2017 3:00 pm		Last week we came together to discuss how local construction p			174	2 4	Boost Post
07/05/2017 1:26 pm		Our talk show tour continued this week when we sat down with KR			35	1 4	Boost Post
06/30/2017 1:18 pm		A HUGE thank you to Good Day New Mexico for having us on to d			126	7 12	Boost Post
06/15/2017 1:51 pm		Yesterday, we unveiled our intera ctive kiosk that teaches children			171	10 12	Boost Post
06/09/2017 1:43 pm		Join us Wednesday, June 14th a t Rio Rancho's Loma Colorado L			2.5K	36 25	View Results Boosted: **$35.00**
05/17/2017 3:12 pm		This free breakfast/seminar is fo r construction professionals so t			0	0 0	
05/17/2017 3:06 pm		Calling all construction professi onals! If you're wondering how th			100	5 4	Boost Post
11/10/2016 4:41 pm		New post (MRGSQT Doggie Das h & Dawdle Signs) has been pu			16	0 0	Boost Post
11/08/2016 5:13 pm		We had a terrific time at the Dog gie Dash 'N Dawdle! We'd like to			26	14 3	Boost Post
11/04/2016 1:01 pm		Looking for something fun to do t his Sunday? Stop by our booth in			95	0 0	Boost Post
08/10/2016 5:30 pm		Members of the Stormwater Qua lity Team met with EPA Region 6			354	57 15	Boost Post

The success of different post types based on average reach and engagement.

Show All Posts ▾ Reach Post Clicks Reactions, Comments & Shares

Type	Average Reach	Average Engagement
Photo	913	14 11
Link	111	6 9
Status	0	0 0

Exhibit 3 - Event Participation

PROGRAM/EVENT	EVENT DATE	PRESENTER/ REPORTED BY	TYPE OF AUDIENCE	ATTENDEES	TOTAL PARTICIPANTS	PERMIT REFERENCE	NOTES
2016							
Isleta Pueblo Enviromental Fair	7/16/16	Steve Glass, Tom Allen			N/A	PW, SWP	
Tijeras Watershed Education Project (Vista Grande CC)	7/20/16	Jennifer Moss			80	AS, PW, SWP	
Santa Ana Environmental Fair	8/13/16	Steve Glass			N/A	AS, SWP	
Toss No Mas	9/12/16	Catherine Conran	Mixed		280	PW,SWP	
Open Space Visitor's Center	9/17/16	Steve Glass			N/A	AS, SWP	
Valle de Oro NWR 4th Birthday Bash	9/24/16	Steve Glass			N/A	AS, SWP	
East Mountain Celebration (BCOS)	9/25/16	Jennifer Moss			100	PW, SWP	
RR Children's Water Festival	10/24/16	Steve Glass, Jennifer Moss			150	PW, SWP	
RR Children's Water Festival	10/25/16	Steve Glass, Jennifer Moss			150	PW, SWP	
Animal Humane NM Doggie Dash 'n Dawdle	11/2/16	Patti Watson (CWA Strategic)	Adults and Children		290	PW, SWP	Annual event featuring a race and booths for pet lovers and friends. SQT hosted a booth to educate attendees on proper disposal of pet waste. 290 surveys administered; talked w/people about pet waste as a major polluter of the Rio Grande.
20-Year SOILebration	11/12/16	Tom Allen			N/A	PW, SWP	
Rio Rancho and Bernalillo teacher 4th grade packets	11/24/16	Catherine Conran	4th-grade Students		82	PW, SWP	
Children's Water Festival	11/24-11/25 2016	Catherine Conran	4th-grade Students	Classes from Town of Bernalillo and City of Rio Rancho	1,487	PW, SWP	
Bernalillo County Holiday Mercado	12/2/16	Jennifer Moss			100	SWP	
2017							
NMDOT Paving Conference	1/4-1/5 2017	Catherine Conran	Adults	Professionals	100	CO, ID, SWP	
KOB 4 Health & Wellness Fair	1/23-1/24 2017	SQT members	Adults and children	Community Members	8,000	HHW, PW, SWP	Annual event focusing on wellness; handed out giveaways, 290 surveys were filled out
Classroom Presentations (Sandia Vista Elementary)	2/16/17	RMYC	Elementary School Children		60	PW, SWP	
ARID LID preconfer-ence event field trip	2/22/17	Catherine Conran	Adults	Community Members	29	ID, SWP	
Classroom Presentations (Osuna Elementary)	3/2/17	RMYC	Elementary School Children		80	PW, SWP	
Classroom Presentations (Cochiti Elementary)	3/3/17	RMYC	Elementary School Children		65	PW, SWP	

AS: Animal Sources
CON: Construction
HHW: Household Hazardous Waste
ID: Illicit Discharges
PW: Pet Waste
SSS: Septic & Sanitary Sewer Systems
SWP: General Stormwater Pollution Prevention

PROGRAM/EVENT	EVENT DATE	PRESENTER/ REPORTED BY	TYPE OF AUDIENCE	ATTENDEES	TOTAL PARTICIPANTS	PERMIT REFERENCE	NOTES
Classroom Presentations (Rio Rancho Elementary)	3/6/17	RMYC	Elementary School		100	PW, SWP	
Classroom Presentations (Georgia O'Keefe)	3/7/17	RMYC	Elementary School Children		85	PW, SWP	
Classroom Presentations (Zia Elementary)	3/15/17	RMYC	Elementary School Children		50	PW, SWP	
Route 66 Cleanup	3/25/17	City of Albuquerque	Adults and Children	Community Members	20	HHW, SWP	Picked up: 85 bags of trash and 2 tires; 5 bags mixed recycling; 5 5-gal. buckets and 2 bags of broken glass; 4 bags aluminum cans, 1 box spring, 1 shopping cart, variety of large metal objects, variety of lumber, cleaned up at least 6 illegal campsites including tents, sleeping bags and clothing.
Classroom Presentations (Lew Wallace Elementary)	3/28/17	RMYC	Elementary School Children		25	PW, SWP	
Classroom Presentations (Colinas del Norte)	3/30/17	RMYC	Elementary School Children		100	PW, SWP	
Classroom Presentations (Mountain View Elementary)	4/5/17	RMYC	Elementary School Children		60	SWP	
Indian School Cleanup	4/9/17	City of Albuquerque	Adults and Children	Community Members	74	PW, SWP	Picked up: 40 lbs. of dog poop; 7 bags of trash; 3 bags mixed recycling; 7 buckets of broken glass; 1 bucket of aluminum cans.
4 Trail crews performed trail maintenance on approx. 1.7 miles of trail.					20	HHW, PW, SWP	
100s pf cactus cuttings were planted on shortcut trails as a deterrent.					N/A	SWP	
Menaul Cleanup	4/15/17	City of Albuquerque	Adults and Children	Community Members	40	PW, SWP	Picked up: 30 lbs. of dog poop; 3 bags of trash; 3 bags mixed recycling; 1 5-gal. bucket of broken glass; 1/2 bag of aluminum cans.
6 Trail crews performed trail maintenance on several different trails.					30	PW, SWP	
Classroom Presentations (Bandelier Elementary)	4/18/17	RMYC	Elementary School Children		50	PW, SWP	
Science in the Community Day (Wilson Mid School)	4/19/17	Steve Glass, Tom Allen	Elementary School Children		200	AS, SWP	
Earth Day Puesta Del Sol Elementary	4/20/17	Catherine Conran	Children	Elementary School Children	600	PW, SWP	
Rotary Club in Albuquerque	4/20/17	Catherine Conran	Adults		40	SWP	
Earth Day (Manzano Day School)	4/20/17	Steve Glass	Elementary School Children		100	PW, SWP	
CORR tree give away	4/22/17	Catherine Conran	Adults	Community Members	N/A	SWP	

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PROGRAM/EVENT	EVENT DATE	PRESENTER/ REPORTED BY	TYPE OF AUDIENCE	ATTENDEES	TOTAL PARTICIPANTS	PERMIT REFERENCE	NOTES
Earth Day- CORR	4/22/17	Catherine Conran	Adults and Children	Mixed Audience, Mostly Adults	300	SWP	
Great American Cleanup	4/22/17	Catherine Conran	Mixed	Community Members	1200	HHW, SWP	
Great American Cleanup Campus Contests	4/22/17	Catherine Conran	Adults	School-based Clean Up Events for GAC	3384	SWP	
Earth Day Piedra Lisa Cleanup	4/22/17	City of Albuquerque	Adults and Children	Community Members	55	CON, PW, SWP	Picked up: 18 lbs. of dog poop; 3 bags of trash; 2 bags mixed recycling; 2.5 5-gal. bucket of broken glass; 1 5-gal. bucket of rusty metal; 1 bag aluminum cans.
6 Trail crews performed trail maintenance on several different trails.					30	PW, SWP	
Environmental Justice Fair (Valle de Oro NWR)	4/22/17	Jessica Allen			40	HHW, SWP	
NMWC Rio Grande Water Festival (Sawmill Lofts)	4/22/17	Steve Glass			100	AS, SWP	
American Public Works Association New Mexico Spring Conference	4/27/17	Catherine Conran	Adults		30	CON, ID, SWP	
BEMP Student Congess at Bosque School	4/28/17	Steve Glass	Elementary School Children		100	AS, PW, SWP	
Recycled Art Fair at Open Space Visitors Center	4/30/17	Steve Glass			75	AS, SWP	
Rio Grande Report (Tierra Antigua Elementary)	5/5/17	Logan Moss (Jennifer Moss)	Elementary School Children		45	PW, SWP	
Classroom Presentations (Bernalillo Elementary)	5/8/17	Rocky Mountain Youth Corp	Elementary School Children		45	PW, SWP	
River Cleanup	5/13/17	City of Albuquerque	Adults and Children	Community Members	57	PW, SWP	Picked up: 18 lbs. of dog poop; 250 cubic yds. (54 bags of trash and 9 tires); 11 bags mixed recycling; 4 bags of broken glass; 2 bags aluminum cans. Crews hit all 4 corners of Central Bridge, west side or Bridge, west side of Rio Bravo, a remote location on westside, north of Central and Pat Baca Open Space. Also had 2 rafts, 2 canoes and 2 kayaks on River cleaning from Montano to Central.
Ravena Grass Removal	5/13/17	City of Albuquerque	Adults and Children	Community Members	50	SWP	Crew in Tingley area working on Ravena grass removal.
Tree Stewards Trainings	5/14,21,28 2016	Catherine Conran	Adults	Over 2262 Hours Volunteered for Trees	N/A	SWP	
Cielo Azul Elementary School field day presentation	5/18/17	Steve Glass	Elementary School Children		60	AS, PW, SWP	

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PROGRAM/EVENT	EVENT DATE	PRESENTER/ REPORTED BY	TYPE OF AUDIENCE	ATTENDEES	TOTAL PARTICIPANTS	PERMIT REFERENCE	NOTES
Monte Vista Elementary School	5/23/17	Steve Glass			60	AS, PW, SWP	
Albuquerque Country Club Summer Program	6/20/17	Astrid Hueglin			24	HHW, SWP	
Moms Group at Tijeras Creek Restoration Project	7/11/17	Steve Glass, Connie Crandall, Jennifer Moss, Melissa McLamb			20	AS, SWP	
Isleta Pueblo Enviromental Fair	7/15/17	Steve Glass, Amelia Symonds			50	AS, SWP	
Water Day at Railyards Market	7/16/17	Tom Allen, TTYL				SWP	
Copper Cleanup		City of Albuquerque	Adults and Children	Community Members	35	PW, SWP	Picked up: 60 lbs. of dog poop; 2 bags of trash; 1 bags mixed recycling; 1/2 bucket of broken glass; 1/2 bag of aluminum cans.
3 Trail crews performed trail maintenance on approx. 1.7 miles of trail.					15	PW, SWP	
Arid LID Conference	2/23-2/24/2017	Catherine Conran	Adults	Community Members, Students, University Students and Industry	189	ID, SWP	
Elementary School Students Achieve For Excellence (S.A.F.E.) program	2016-2017	Catherine Conran	1st-5th-grade Students	Mixed Grades and Size of Program Ranged from 50 to 100 Students	250	PW, SWP	
Bosque Ecosystem Monitoring Project (BEMP)-MRGSWQT	2016-2017	Catherine Conran	Elementary School Children	472 Students in 18 Classes w/18 Teachers and 1-day Event for "Dia Del Rio" 17 Classes	492	AS, PW, SWP	
Bosque Ecosystem Monitoring Project (BEMP)-MRGSWQT	2016-2017	Catherine Conran	Mid-high School	610 with 25 Teachers	635	PW, SWP	
RiverXchange	2016-2017	Catherine Conran	5th-grade Students	1,200 Students and 53 Teachers	1253	PW, SWP	
SSCAFCA's Arroyo Classroom Program	2016-2017	Catherine Conran	3rd-grade Students	700 Students 28 Teachers	728	PW, SWP	
CORR animal control educational materials Scoop the poop	As needed	Catherine Conran	Adults and Children	Mixed Audience, Mostly Adults	100	PW	
NMDOT Paving Conference	1/7/16	Catherine Conran	Adults		100	CON, ID	
Rio Rancho Recycles Day		Catherine Conran	Mixed		200	SWP	
Tree Stewards Program	2016-2017	Catherine Conran	Adults	42 Trees Planted, 64 Plantings, 2 Edible Gardens	N/A	SWP	
Watermelon Ranch Educational Materials Scoop the Poop	As needed	Catherine Conran	Adults and Children	Mixed Audience, Mostly Adults	100	PW, SWP	

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Donations

MEMBER	AMOUNT DONATED	RECIPIENT	PURPOSE
City of Albuquerque	$20,000	The Nature Conservancy	For Education and Outreach
“	$45,000	RiverXchange	For Education and Outreach
“	$20,000	Earth Force	For Education and Outreach

Exhibit 4 - RiverXchange 2016-17

RIVERXchange™

2016-2017

Presented by: Melissa McLamb

CIUDAD SOIL & WATER CONSERVATION DISTRICT

What is RiverXchange?

- A year-long program connecting students around the world to learn about water resources
- Hands-on, multidisciplinary curriculum
  - Lessons incorporate science, social studies, and math to teach about major water issues
  - Informational texts and writing/communication projects help teachers teach Common Core Language Arts Standards
- Each New Mexico 5th grade class receives:
  - Teacher workshop
  - 4 guest speakers – local water management professionals
  - Service-learning field trip to the Rio Grande
  - Partnership matching and private web sharing platform
  - Support throughout the school year

RIVERXchange™

Why RiverXchange?

- Students gain a broad understanding of how our community's water issues fit together
- Long-term engagement with the topic reinforces learning
- Writing to a real audience reinforces learning, and helps teachers meet their goals (Common Core Standards)
- There are many resources available, but often teachers don't take advantage of them – RiverXchange provides a framework and a purpose.
- **Each student spends ~25 hours engaged with the program throughout the school year!**

RIVERXchange™

Multidisciplinary Curriculum

Through classroom activities, guest speakers and field trips, students study and explore the following themes throughout the year:

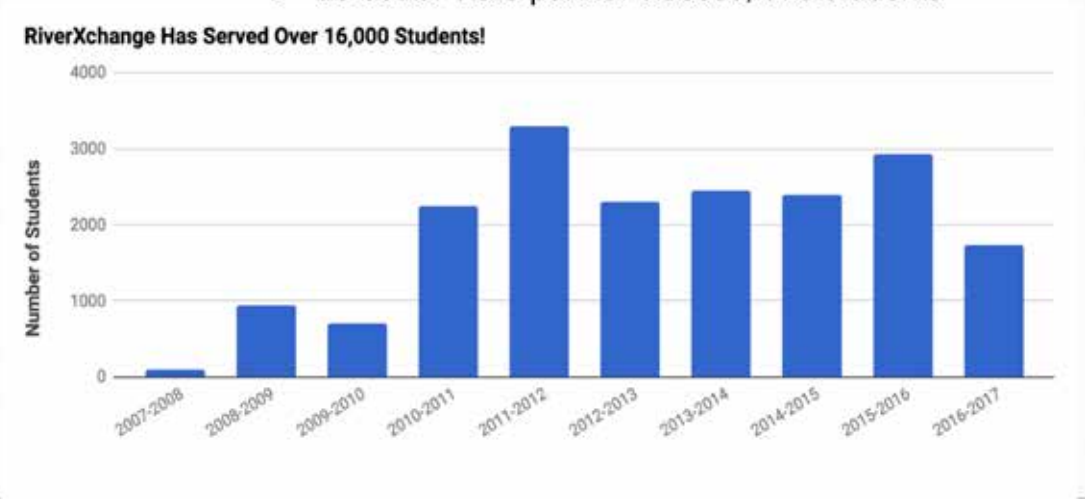
1. Understanding a Watershed
2. Water in Our Society
3. The River Ecosystem



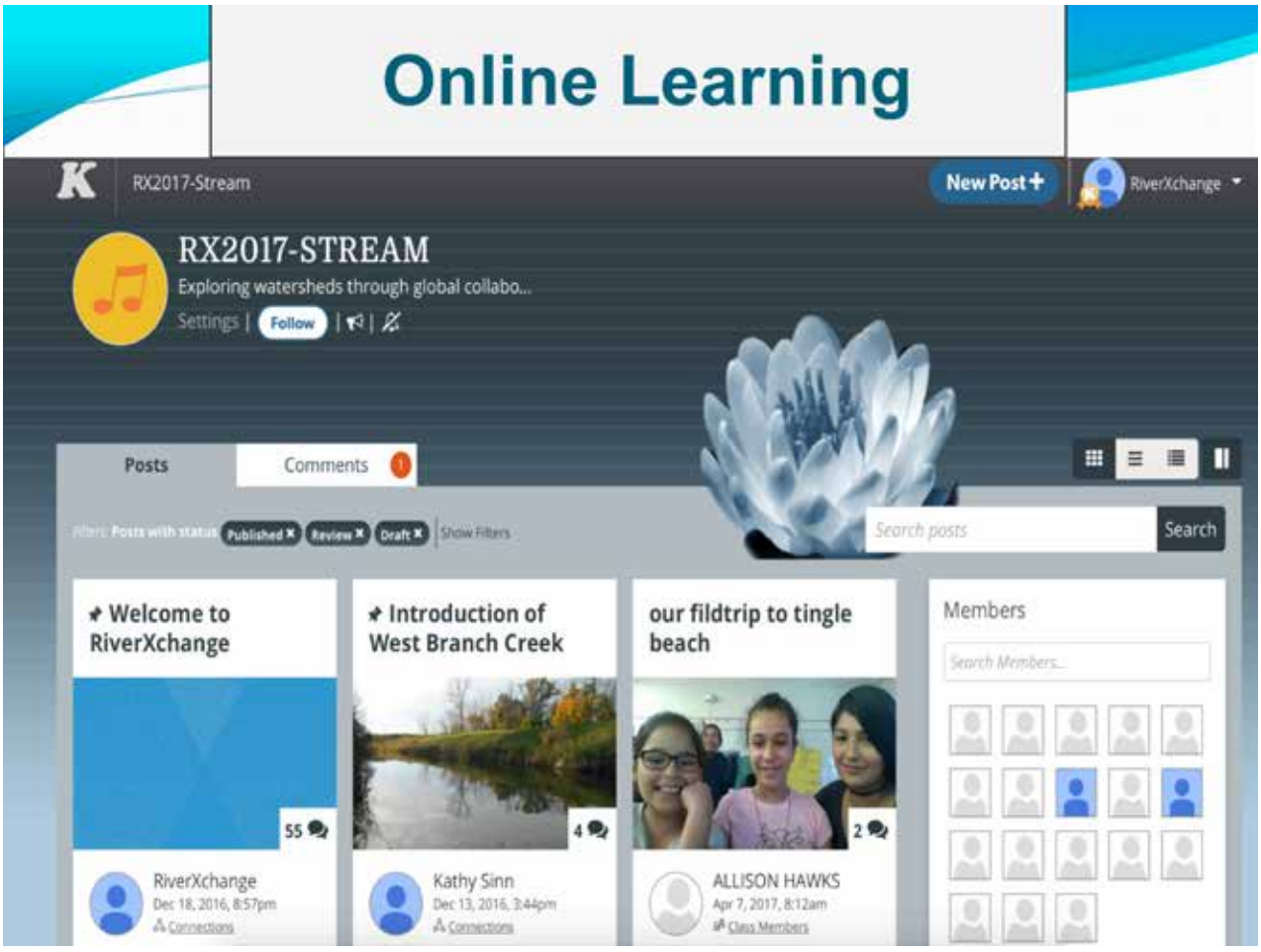
RIVERXchange™

2016-2017 Totals

- 42 New Mexico classes
- 19 classes Albuquerque Public Schools
- 18 classes Rio Rancho Public Schools
- 5 classes Bernalillo Public Schools
- 1,058 total New Mexico students
- 32 WOW offerings (NFWF)
- 23 classes (55%) are Title I schools
- 25 out-of-state partner classes, 675 students



Online Learning



Why Blogging Partnerships?

- Writing solidifies concepts in students' minds
- Learning about other rivers gives students perspective on their local situation and enhances understanding of larger water related issues
- Reflection groups and multi-class partner matching provides an authentic audience that motivates students to write and promotes collaboration both within and between classes
- Creative sharing develops 21st Century Skills!
- Private website provides a safe environment to teach internet safety skills

Students Talk!



Hello, we are The Rodriguez tutus, again and we have tested the water quality of our stream to show you. Water quality is the condition of the water, like the amount of pollution in it. It is important because without clean water, all life would perish and no animals, plants, or people can live. Earth would be lifeless. We tested for water pH and reasearched that a common pH for streams is between 6.5 to 8.5 in order for aquatic life to take place, and our stream has a pH of 8. Since our pH is of 8 it can sopport aquatic life and can be used for plant irrigation, to bath, sports and enjoyment. --Rodriguez (El Rio de Bayamón ,Puerto Rico)



As part of a local conservation effort, our class is raising native Rio Grande fish from January through May. It is our responsibility to keep the fish happy and healthy. In May, we will return the fish to the Rio Grande river. There are a large number of factors that we have to consider when raising our fish. -OlsonErosion, NM

I think that it is very neat that you guys raised fish and planned to return them to the Rio Grande River. We also raised mosquito fish and snails in our Eco-columns...part terrarium and part aquarium. They were a closed system where we could observe not only energy transfer within a food chain but also the water cycle...-OverbyEroison, NC





A creek with a very similar ecosystem as Beaver Creek in Alaska.

Hi! Thank you for responding to our post! We live in Homer Alaska and go to McNeil Canyon elementary. It sounds like your river is HUGE compared to our tiny creek. We have many types of animals, birds and fish. Is it sunny in Connecticut or is it rainy, snowy and cold? Does your river have a beach or rocks that slope into your water. Do you have wild boars in Connecticut around your river? Our creek has small rocks, pebbles and some small boulders that make a small slope into our river. Do you have a gigantic mountain that has a water flow that goes into your river? Where does your river originate from? How long is your river? Our creek flows from Bald Mountain and flows into the anchor river and then eventually into the Pacific ocean. Thank you for being amazing buddies! Sincerely: GreenWaterOtters, AK

Guest Speakers

Students learn from local resource professionals



RIVERXchange

Agriculture

Irrigation can be wasteful and helpful. There are different kinds of irrigation, the one you probably know most about is sprinkling and, as you guessed, it uses sprinklers, its not the most efficient way of irrigation but, it also isn't most inefficient way of irrigation.
The most inefficient way of irrigation is probably surface irrigation. Surface irrigation is basically near flooding plants in water, there are many disadvantages that come with surface irrigation such as: seeds washing away, plants getting over-watered and dying, and losing soil. Yet, surface irrigation is the most popular way of irrigation. Last but not least, the most efficient way of irrigation is drip irrigation...Drip irrigation...is a form of irrigation that lets water drip slowly into the roots of plants, it conserves water and soil. ... ~Elizabeth, MirabalOnline,NM

Drinking Water

Hello we are the Torres Owls and we are going to tell you about what happens when you have a leaky faucet. A leaky faucet is a faucet that drips even when the water is fully turned off. Over 3,000 gallons of water are wasted from one leaky faucet a year. That is a lot of water that is being wasted! A leaky faucet should be fixed by a plumber as soon as possible or a lot of water is wasted. Thank you for reading, I hope you enjoyed.
-TorresOwls, NM

Stormwater

How can we protect our local water? Don't throw plastic bags or let them fly away into the river. Pick up your dog's ecoli.

Get your car fixed so it won't leak oil everywhere. When you're camping don't throw your trash in the river. - AckermanStormwater,NM



"Storm water is water from rain,snow,hail,and sleet. After storm water falls and melts, it runs into the gutters, then it goes into the river. The water doesn't get cleaned. The water can have fertilizer,pesticides,trash,and animal waste. It then can harm animals. People can reduce pollution by not littering,being careful when using fertilizer and pesticides,and picking up after your animals. What is your storm water like? " -TorresRivulet, NM



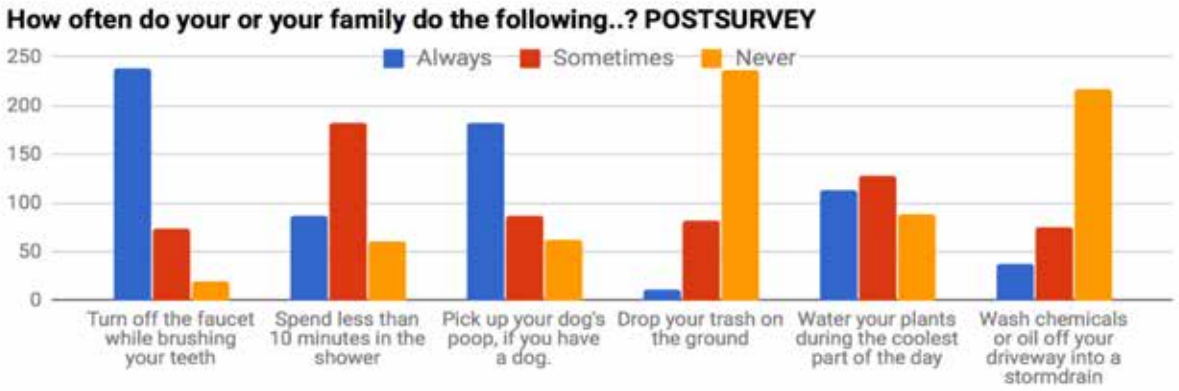
Wastewater

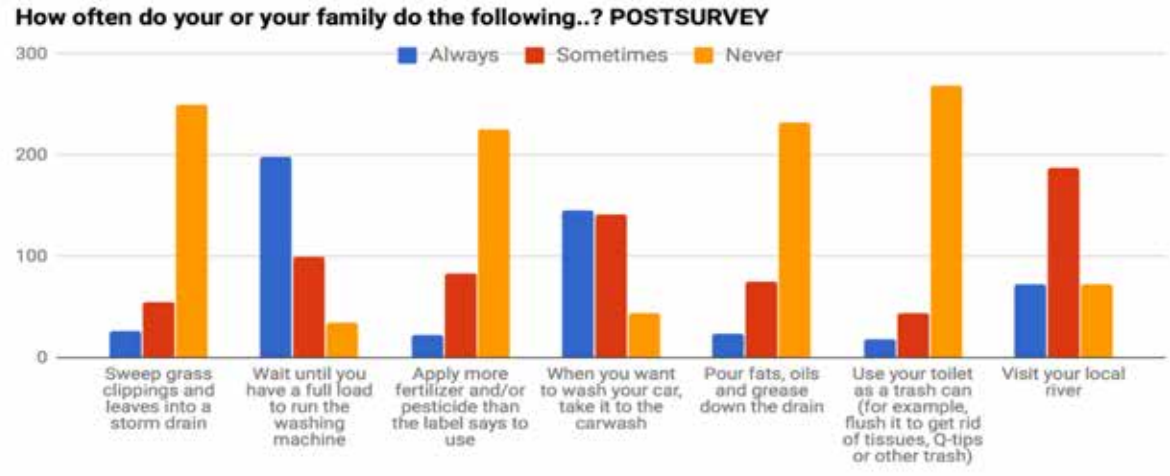
"I learned that wastewater can be recycled into drinking water. I also learned that all the sludge goes into public parks. I learned that the things that should go in the toilet are: poop, pee, vomit and toilet paper. I was surprised that waster water turned into drinking water. Whenever wipes say "flushable" they are really not flushable. "-ShaferRainforest, NM



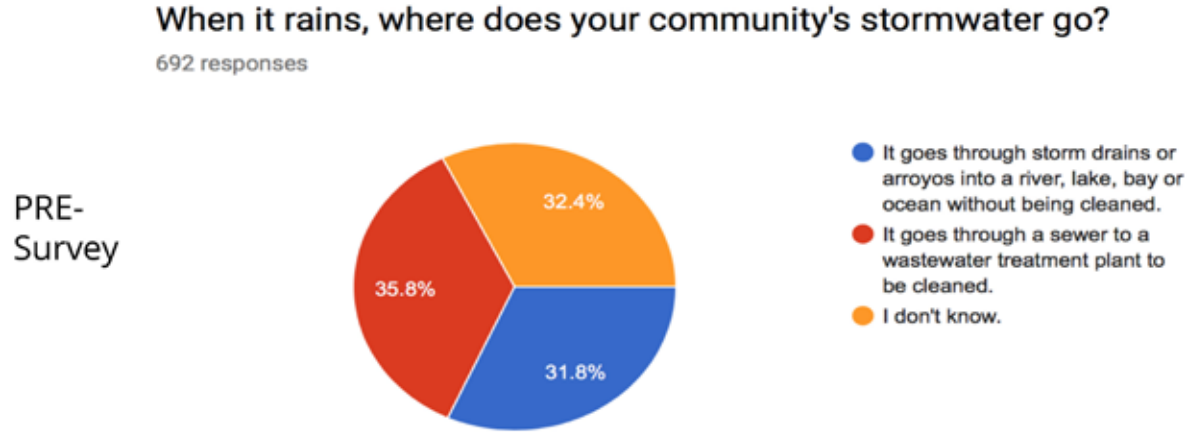
"...We learned what happens when you flush something down the toilet that is not meant to be flushed like, plastic soldiers, phones, glass, and garbage. These are some ways that water can be wasted, taking more than 5 minute showers, running the water while brushing your teeth, and flushing the toilet more than is necessary. ...we learned how much water we waste in a year or a day..." - MallettBrook, NM

Our class visited one of the three water treatment plants in our city, Winston-Salem, NC and learned how water taken from the Yadkin River is made safe for us to drink. -OverbyRiparian

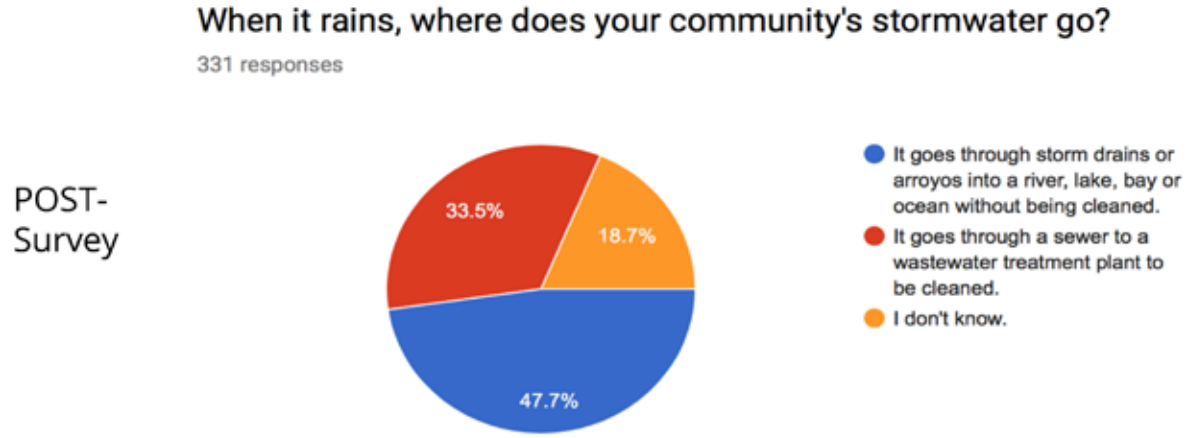


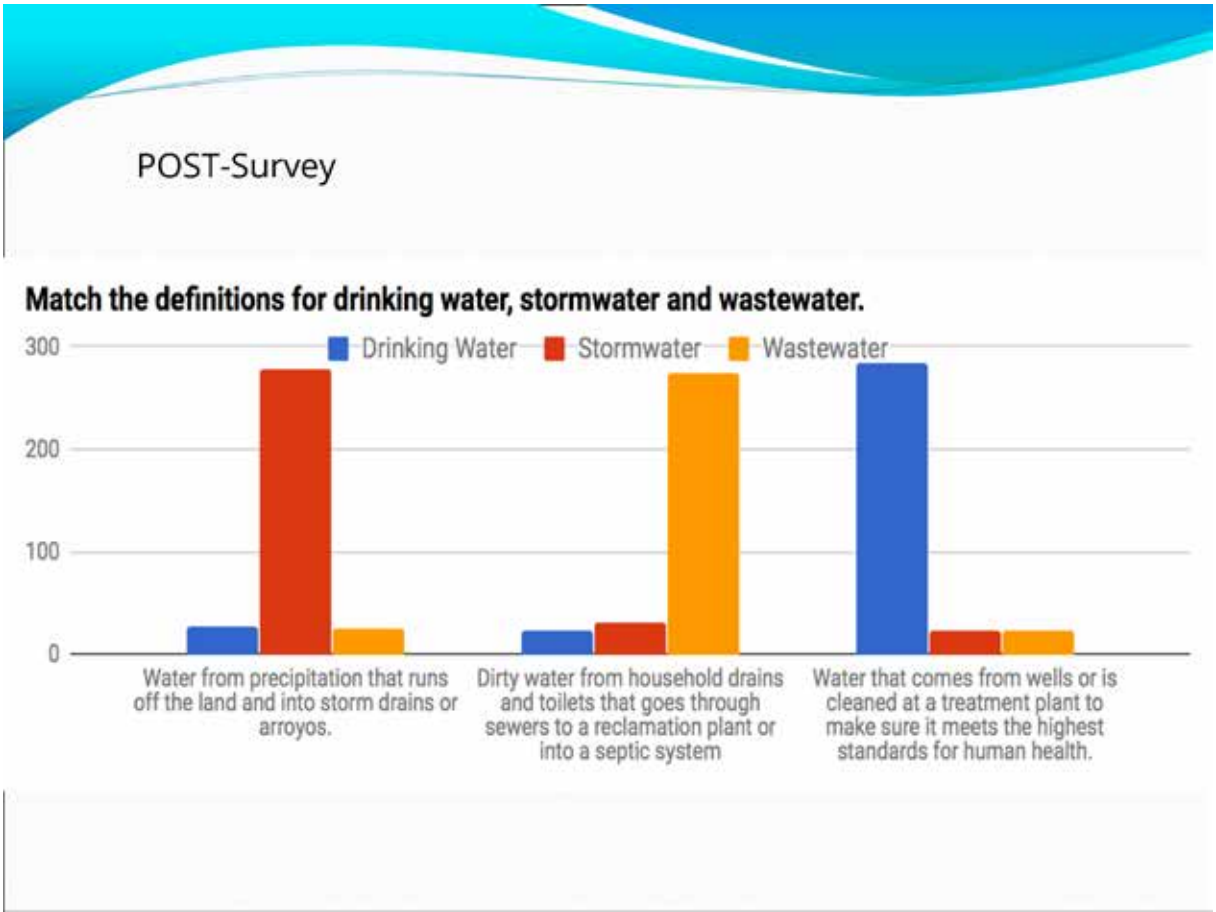


PRE-Survey



POST-Survey

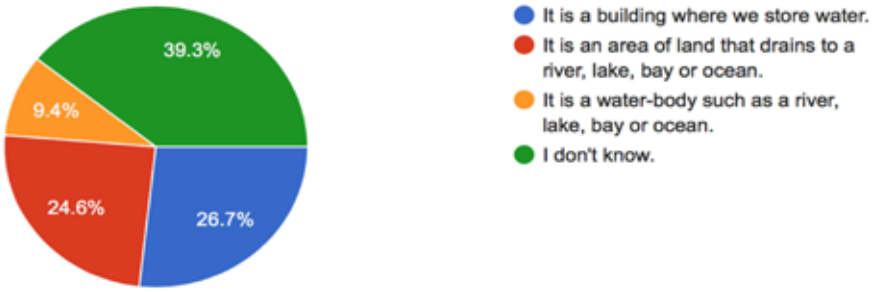




What is a Watershed (also known as a catchment or drainage basin)?

692 responses

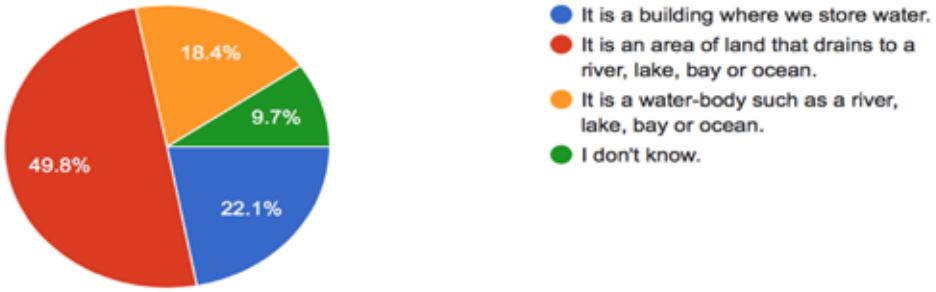
PRE-Survey



What is a Watershed (also known as a catchment or drainage basin)?

331 responses

POST-Survey



Tree Planting Field Trips



This year, RiverXchange students helped restore 4 acres of riparian habitat!

With the help of participating parents and teachers, we planted 245 cottonwood trees, 16 black willows, 191 willow whips and 26 baccharis shrubs!





What we learned about the Rio Grande is that we have not taken care of the river. It is impacting the Cottonwood trees in the area by giving them a worse chance to survive. Some common invasive species can be humans, tumbleweed, and Russian Olives. The invasive species impact the Bosque by littering and taking away water for the plants . Now let's talk about the process of planting trees. First you dig a hole with an auger , then you put the tree in the hole and push it down until it can't go any further. After you do that, you need to start putting dirt in the hole and pack it down until dirt fills the top. Then you do the happy dance because you are done. We plant trees in the winter because they are dormant, which means the tree is asleep. **After this field trip we do understand and see the Bosque differently by helping it maintain itself. We can apply what we learned on this field trip to use less water at home and at school.**

SandiaStreamers5 -Arroyo









Water Testing Field Trips

Students conduct water testing of the Rio Grande and Tingley Wetlands. Outcomes help teach about:

- The importance of water quality
- Consequences of human actions and development
- Identifying causes of pollutants and imbalances in water quality
- Finding solutions to prevent pollution and improve existing conditions



What are the greatest learning outcomes for your class as participants in RiverXchange?

What Teachers Have to Say

RiverXchange is a great program that gives students from our Title 1 school the opportunity to learn about the river and environments that are near the Rio Grande. The guest speakers and field trip expand their minds and understanding of the world that is around them and not just simply in their back yard or neighborhood. They simply cannot afford or simply don't know what is our there. ...Educating them about their relationship with it (the river) will help open their minds to how they are connected with many people, places, and things that they might not even imagine .- Cindy Shafer, RRPS (returning teacher)

I have been working with RiverXchange since it was in the pilot program stage. I love the way it gives students an authentic audience to connect with about their learning. -Lara Overby, NC (10th year participating)

This is a wonderful program and it teaches students so many different aspects about water and the many ways we here in New Mexico can learn to be better with how we use and treat water.- Andrew Vigil, APS (3rd year participating)

This program has been a pleasure and learning experience for all and I am truly amazed by how much students learn about their own environment. - Debbie Beer, APS (7th year participating)

How RiverXchange serves MRGSQT

- **Total cost of program this year: $42,065.89**
  -with 1,058 participating students, that's $39.76/student
- **In Kind Match to date - $179,953.92, meaning $170.09 was invested in each student.**
  -In Kind Match promised for FY2017 - $26,571.89
- 55% of our participating schools are Title I
- Strong learning outcomes for participants
- Collaborative work in our community benefits our watershed
- This year we met together with BEMP and NM Water Collaborative to develop coordination between programs to create a long term educational experience around watershed health and stormwater pollution prevention..

MRGSQT Programs:
Pet Waste, Household Hazardous Waste, General SWP, Septic, Illicit Discharges, Construction
Our educational presentations and curriculum excel at meeting most of these funding goals!

Our RiverXchange Vision for 2017-2018

With your continued support, we strive to help create a new generation of citizen scientists and stewards who are invested in the health of their local watershed here in the Middle Rio Grande Valley.

- Provide regular blog announcements and notices of excellent work with all teachers to encourage blog entries and responsiveness to partners
- Encourage classes to implement creative projects and/or create an end-of-year Storm Water Quality project to be presented to a broader audience, including MRGSQT
- Offer an additional Storm Water Quality field trip as a class incentive (Sanchez Farm, Valle de Oro)
- Provide technology incentives to returning classes who excel in their RiverXchange related writing and work

RIVERXchange™

Thanks So Much to Our Sponsors!



NFWF

Mid Rio Grande Stormwater Quality Team
www.keeptheriogrand.org

City of Albuquerque New Mexico 1706

Southern Sandoval County Arroyo Flood Control Authority

Funding Request for 2017-2018

The cost, per class, to continue improving our program, and to better-serve your permit requirements is $1,500.

We hope you can continue to support our efforts for 2017-2018!

Thank you!

RIVERXchange

Exhibit 4 - B.E.M.P. 2016-17

The University of New Mexico
Department of Biology
MSC03 2020
Albuquerque, NM 87131
505.277.0758

BEMP
Bosque Ecosystem Monitoring Program

BOSQUE SCHOOL
scholarship • community • integrity
BEMP Education Office
4000 Bosque School Road NW
Albuquerque, NM 87120
505.898.6388

Bosque Ecosystem Monitoring Program (BEMP)
2016-2017 Stormwater Science Education Overview

The main objective of the *Stormwater Science* outreach education program is to teach students that the health of the Rio Grande is directly related to the health of the surrounding watershed. The *Stormwater Science* program includes a one and one-half hour classroom activity, a four to five hour study trip to the Rio Grande and a water chemistry lab. **During the 2016-2017 school-year 1775 students participated in *Stormwater Science*** activities in their classrooms, in the field or both. The one and one-half hour classroom program was delivered to **1269 students** in **32 classrooms** at **19 different schools** in **Bernalillo, Rio Rancho, Albuquerque, Los Lunas, and Belen.**

During the 2016-2017 school-year Stormwater Science programing was focused on middle school and high school students emphasizing reaching students in multiple formats. BEMP has observed that it is often difficult for middle and high school teachers to take students into the field because they are only able to take a subset of their students out at a time. In an effort to simplify BEMP's practice of reaching students in multiple ways, we piloted a water chemistry lab class with middle school students this year. Teachers were given the choice to follow up their classroom lesson with either a study trip to the river or a water chemistry lab. Four hundred twenty six **(426)** students took part in a lab or study trip, which more than doubles the number of students who took part in study trips this year, as compared to last year. Both the study trip and water chemistry lab build upon the themes of the classroom presentation and provide a hands-on experience in water quality testing.

The classroom portion of the program demonstrates that runoff carries contamination to the Rio Grande. Students construct a model of the Rio Grande Watershed (see Page 6). The model watershed has five different communities along the river: a cattle ranch, up-and-downstream eco-friendly towns, an urban city, and agricultural fields. Students add different 'runoff cards' to the river downstream of the community where the runoff constituents originate. Some of the runoff is naturally occurring (turbidity), and others are human caused (pesticides, oil, etc.). The model runs through two different scenarios: (1) a *before-the-storm* and (2) an *after-the-storm* river. These two versions of a watershed demonstrate the harmful effects storm water contamination can have on aquatic organisms and downstream communities.

The classroom program then encourages students to observe their daily behavior and think about ways they can help to keep their watershed clean in alignment with the MRGSQT educational messaging. BEMP used the matrix provided by MRGSQT as a guideline to crafting the Stormwater Science messaging. Educators provide opportunities for students to come up with

their own suggestions for improving watershed health and provide a few suggestions students can do individually. The handout to accompany this activity is available to students in both English and Spanish; the classroom handout is included on Page 3 of this document.

The field portion of the program is a four to five hour trip to the Rio Grande during which students investigate how stormwater moves through the city. Students also collect and interpret water quality data. The program starts with a trail/arroyo survey which examines and categorizes the amount of visible pollutants (plastics, paper, dog poop, animal scat, etc.) in the San Antonio arroyo in Albuquerque which empties into the bosque. In the arroyo students survey for several types of litter and test water quality using a LaMotte water quality monitoring kit (see Page 6). When the students arrive at the bank of the Rio Grande, they do additional water quality testing and search for macro-invertebrates. Students then collectively share their results, compare them to results gathered by students in the past and to the data they gathered in the arroyo, and discuss what the data could mean in terms of river health.

During the water chemistry lab, students are in their own classroom and they perform water quality tests on river water, tap water, and water from school fish tanks or ponds (if available). Students learn what factors affect water quality, discuss the differences between the water in the river and the water they drink, and understand what makes a good freshwater habitat vs. what makes good drinking water. If time permits, students go outside their school to look for the paths stormwater takes when it falls on their school's campus.

In the 2016-2017 proposal, we proposed to develop a new Stormwater Science program to be delivered at BEMP monitoring sites along the bosque during BEMP's monthly monitoring/data collection for students in grades 2-12. Some activities were piloted during monthly monitoring this year with 2nd graders from Rio Grande Elementary at the Belen site and 4th graders from The International School at Mesa del Sol near Valle de Oro National Wildlife Refuge. Work on the monthly monitoring curriculum continues and BEMP educators plan to refine stormwater science activities during monthly monitoring field trips for elementary, middle and high school students to be delivered in the Spring of 2018.

Hundreds of students also took part in *Stormwater Science* related field activities at two BEMP events this year. The BEMP Student Congresses (~300 students, ~55 teachers/chaperones), was where BEMP students had the chance to share their research and experiences in the bosque, including watershed health observations, and BEMP's Otter Day (~125 students, ~25 teachers/chaperones), an event for first graders, hosted by high school students to teach about endangered animals in New Mexico (see Page 7).

During BEMP's monthly water chemistry testing for the MRGSQRT, which commenced in January 2017, BEMP scientists provide in-depth explanations of E. coli testing and abiotic parameter testing to a select group of high school and college students who assist with this dataset.

Classroom Handout – Mid/High School

Hydrologist: _____ Date: _____

Stormwater Science

What 2 sources can New Mexicans get their drinking water from?

1. _____

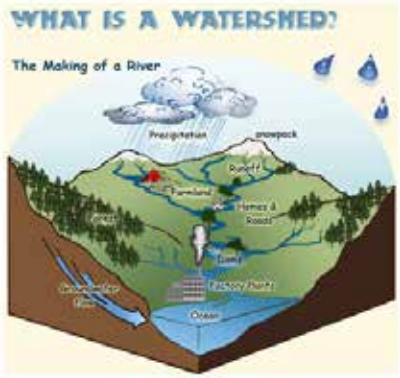
2. _____

Where does water go after we use it?

_____

A *watershed* is an area of land where all of the water that falls on it, or that is under it, drains to the lowest point.

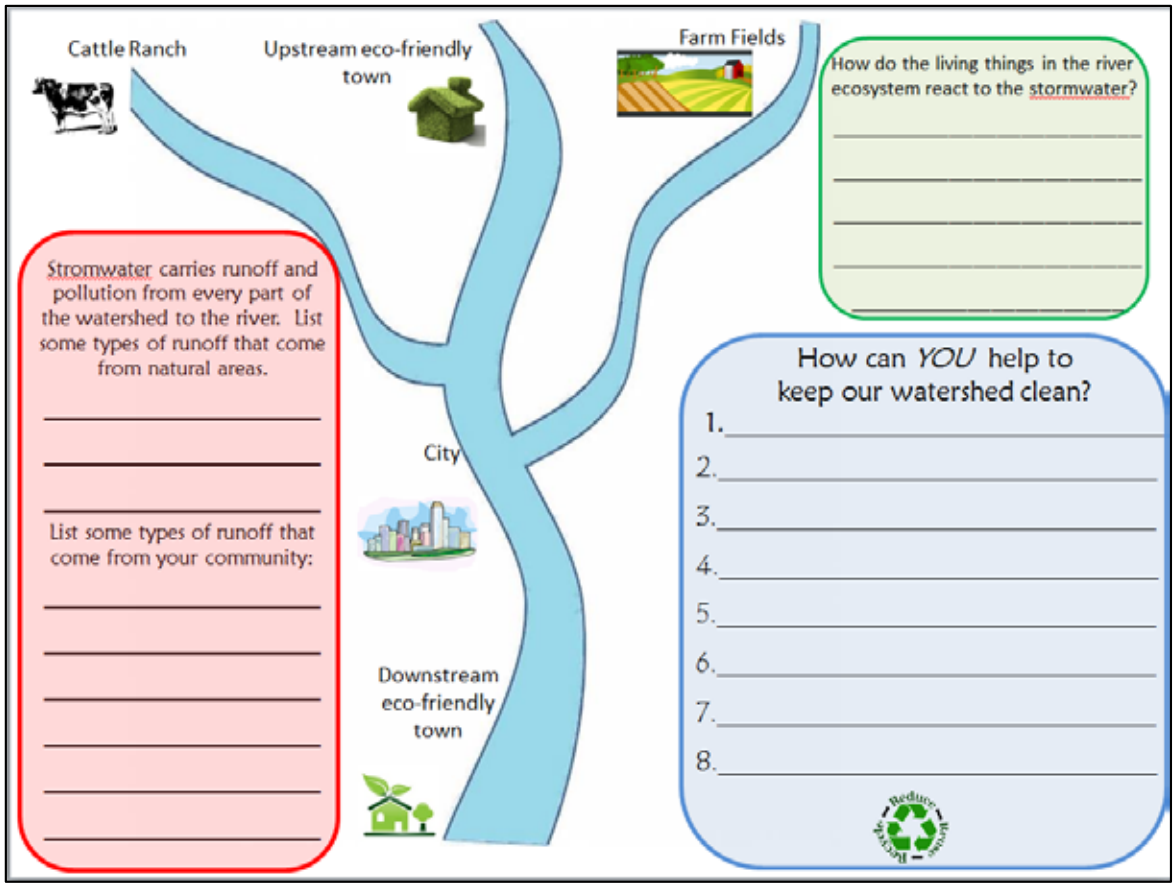




Draw a line from the word to its definition

Turbidity	♦ A stream or arroyo that brings water to the main channel of the river
Nonpoint source pollution	♦ Types of nutrients found in fertilizers that can lead to excess algae growth
E. coli	♦ A single location where pollution is being leaked into the environment
Point source pollution	♦ A type of *bacteria* found in warm blooded animal's intestines that can make people sick
Nitrates and phosphates	♦ Tiny 'water bugs' whose species are an indication of water quality
Tributary	♦ *Any* type of pollution that comes from *many different* sources
Macro-invertebrates	♦ A measure of water clarity based on the amount of suspended solids

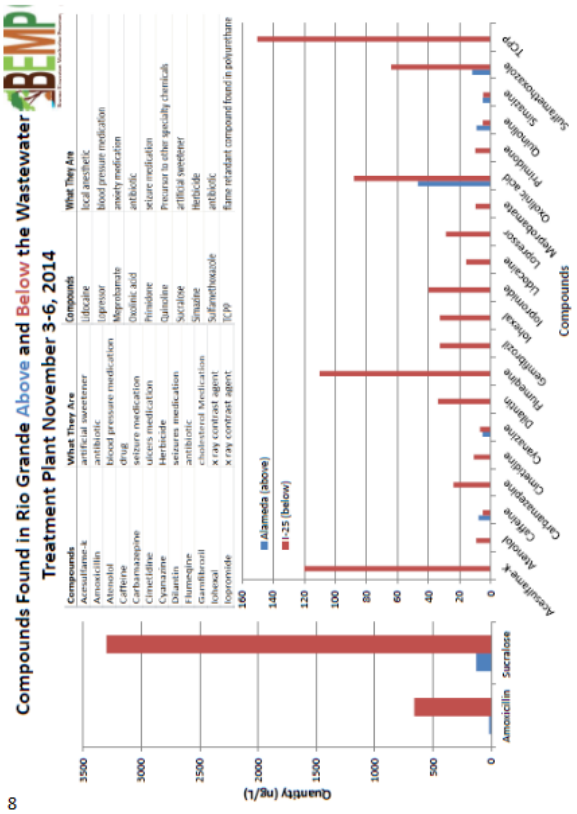
Page 1



Page 2

Field Journal for outdoor study trips

Do you use any of these compounds?



8

Name:_____

Date:_____

Stormwater Science

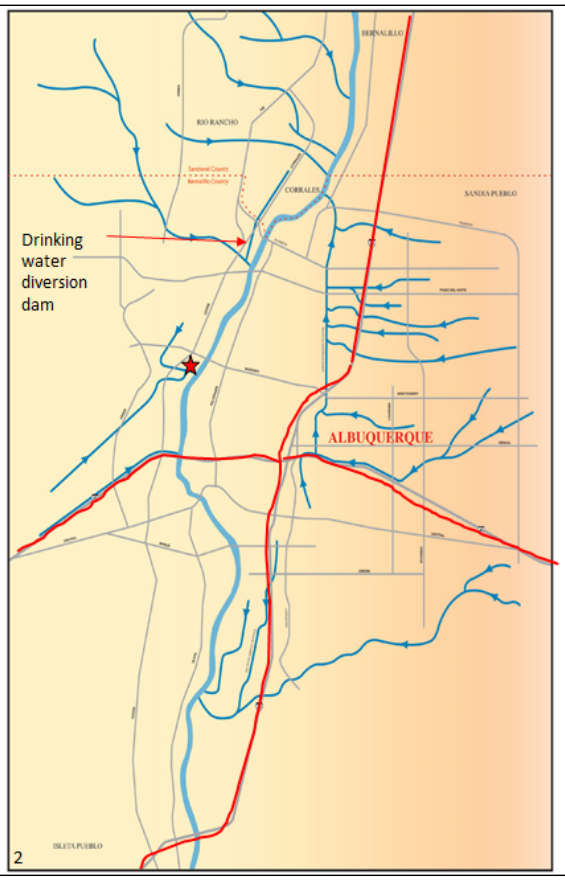
Field Journal

Bosque Ecosystem Monitoring Program



www.bemp.org

Page 1



2

Water Chemistry

	Arroyo	River
Temperature	°F / °C	°F / °C
Turbidity	JTU	JTU
Nitrate	ppm	ppm
Phosphate	ppm	ppm
pH		
Dissolved oxygen	ppm %	ppm %
E. coli	Present / Absent	Present / Absent

Temperature
8-12 °C- good
13-15 °C- fair
>15 °C- poor

Turbidity
Sources: erosion, fire
1-39 JTU- good
4--100 JTU- fair
>100 JTU- poor

Nitrates
Sources: plants, soil, fertilizer
1-4 ppm- good
5- 20 ppm- fair
>20 ppm- poor

Phosphates
Sources: plants, fertilizer, plastic
1 ppm- good
2 ppm- fair
4ppm- poor

pH
1-strong acid- poor
6-week acid- fair
7-neutral- good
8-week base-fair
14-strong base-poor

Dissolved Oxygen
1 ppm or 60-100% -good
4 ppm or 40-60%- fair
8 ppm or 0-40%- poor

E. coli
Sources: animal waste
E.coli will always be present in small amounts. Large amounts are harmful to humans and animals

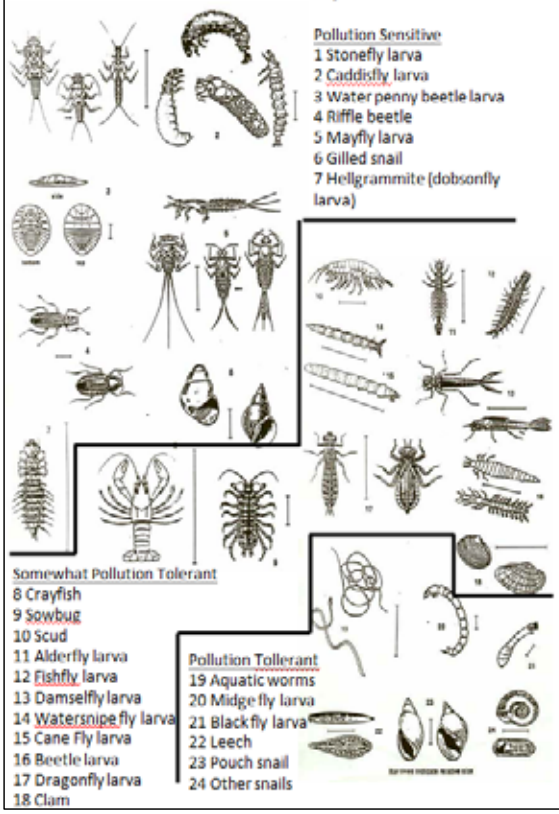
Overall river health: (circle one)

Good Fair Poor

7

Page 2

Macro-invertebrates: Ecosystem Indicators



Pollution Sensitive
1 Stonefly larva
2 Caddisfly larva
3 Water penny beetle larva
4 Riffle beetle
5 Mayfly larva
6 Gilled snail
7 Hellgrammite (dobsonfly larva)

Somewhat Pollution Tolerant
8 Crayfish
9 Sowbug
10 Scud
11 Alderfly larva
12 Fishfly larva
13 Damselfly larva
14 Watersnipe fly larva
15 Cane Fly larva
16 Beetle larva
17 Dragonfly larva
18 Clam

Pollution Tollerant
19 Aquatic worms
20 Midge fly larva
21 Black fly larva
22 Leech
23 Pouch snail
24 Other snails

Litter Survey

The San Antonio Arroyo collects runoff from all over the west side of Albuquerque, anything on the streets can end up in the arroyo. Record the litter you find throughout the day here.

Litter type	Arroyo	Bosque
Plastic		
Paper		
Glass		
Metal		
Cigarette butts		
Dog poop		
Animal scat		
Evidence of chemicals		
Other trash		

Who is responsible?

Point source pollution- comes from a specific place

Non-point source pollution- comes from many places and people

3

Page 3

How long will it take?

Every piece of trash has a face... where and WHO did it come from? It takes just a moment for an item to be carelessly discarded where it can be washed into a river or blown in by wind, but it can take many, many years for it to completely decompose. Test your knowledge about decomposition times below by drawing a line from the item to its decomposition time.

Banana peel	1 million years
Cigarette butt	600 years
Fishing line	450 years
Styrofoam cup	200 years
Milk carton	50 years
Plastic bottle	20 years
Aluminum can	5 years
Glass bottle	3 months
Plastic bag	4 weeks

Which of these things can be reused or recycled?

_____

_____

_____

4

Weather Report

1. Time: _____ am or pm
2. Today's Weather:
3. Cloud Cover: _____ %
4. Wind: Speed: _____ Direction: N W E S
   km/hr OR mph
5. Humidity: _____ %
6. Temp: It feels like: _____ °F It actually is.... _____ °F

Journal Space

5

Page 4

Middle school students at Harrison Middle School (right) and Albuquerque Institute of Math and Science (below) discuss runoff while they build a watershed model.







Jimmy Carter Middle School students test for dissolved oxygen in water in the San Antonio Arroyo



1st grade students build a puzzle to discover the "secret message" telling them how to keep the river clean and protect wildlife habitat during Otter Day 2017.

BEMP staff and students collecting water quality data in Jan. 2017



Exhibit 5 - Nature Conservancy 2016-17

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Protecting nature. Preserving life.™

New Mexico
212 East Marcy, Suite 200
Santa Fe, New Mexico 87501

Tel (505) 988-3867 nature.org/new mexico
Fax (505) 988-4095

The Nature Conservancy in New Mexico
Rio Grande Watershed Educational Programs
Final Report to the City of Albuquerque: June 2017

Education Programs:
Between April and May 2017, The Nature Conservancy and project partners conducted a three-part series for 8 classes of 4th and 5th graders from Duranes and Whittier Elementary Schools. Approximately 160 students participated in hands-on activities exploring watershed health, forest health, and surface to groundwater interactions. There were also 67 adults that participated in the field trips to the top of the Sandias, providing a unique experience for underserved children and some of their family members. Topics included storm water management, water quality, watershed connections, the importance of forests and mountains as water towers, drinking water sources, impacts of drought, and ecological consequences of river management.

Part I: The In-Class Watershed Model Activity
Students received background information about the Rio Grande rift, the uplift of the Sandia Mountains, and how rocks from a 300 million-year-old ocean are up on top of Sandia Peak. Working with a model of the watershed made of wood, foil, nails for tree trunks and cotton balls for trees, the students watched where the water flows when it rains or snow melts from the mountain top. They then saw what happens if people add dog poop (chocolate sprinkles), trash (cut up straws), oil spots from cars (olive oil), fertilizer (green food coloring), and pesticides (red food coloring). Students then took off the cotton ball trees to represent a too-hot fire in an unhealthy forest habitat, and replaced the trees with chocolate powder to represent ashes. They learned about the Jemez fire and how it impacted the Rio Grande ecosystem and our ability to use river water for three months following the fire.



This river has been polluted with trash, dog poop, oil, fertilizer and pesticides.



This river has been choked with ashes from a fire that burned too because the forest was unhealthy.

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Part II: Ride to See the Rio Grande Watershed

The Tram Field Trip was connected to Next Gen Science Standards stating that four earth systems work together: Hydrosphere, Geosphere, Atmosphere, and Biosphere (we considered only plants). Students predicted what they would observe at the initial in-class meeting. Students were divided into small groups of 3 – 4 students and used the following materials to make observations. A notebook was provided with maps and information, as well as their lab sheet to collect observations.



A notebook was provided with maps and information, as well as their lab sheet to collect observations.

1. a soil sifter that separated soil into rocks, gravel, sand, clay, and silt and magnets to collect iron
2. a tree density gauge to measure how many big trees on top and bottom of mountain
3. a soil-water gauge
4. a water bottle to measure effects of air density

Students compared the amounts of soil types at school, the tram dock, and the crest. They found more rocks at the top, more gravel at the tram dock, and more sand at their school. Magnets at the tram dock collected

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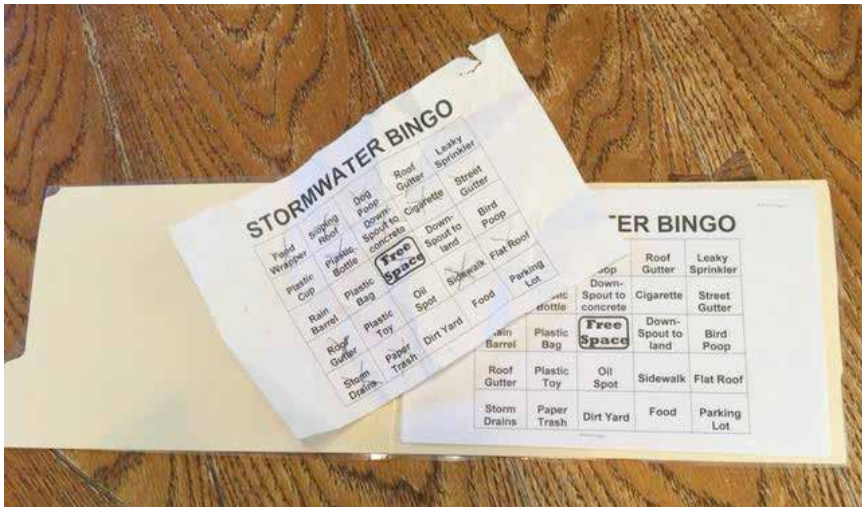
TONS of iron whereas the dirt at the top had very little. They learned that this is because water weathers and erodes rock, shaping the watershed and the soil in it.

Students compared the number of big trees at the tram dock and mountaintop. They learned that there are more big trees on top of the mountain and more cactus at the bottom tram dock. Students compared water in the soil and learned that there is more water in the soil at the top of the mountain. They also learned that the crest gets about 100 inches of snow each year compared to 7.8 inches of snow in town.

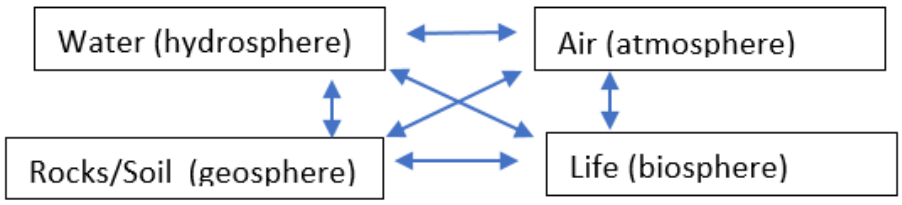
Students heard the air escape from the water bottle when air from the tram dock was brought to the top. They saw how the bottle became squashed by denser surrounding it when air from the top was brought down to the tram dock. They learned that rock, the mountain, effects the air density and the weather.

Part III - The Storm Water Bingo Walk and Art Project Wrap Up

Students went on a walk in the neighborhood or around their school campus to look for evidence of the storm water system and some of the bad things that get washed into the river. Bingo seems to be a VERY popular activity. They learned how hard surfaces shed the water into the storm drains that run into the river taking with it all the trash and dog poop that we leave behind.



Students discussed the connections between the four earth systems.



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Afterwards, students returned to the classroom to write haikus and make pictures that completed the sentence: "I am from the Rio Grande Watershed where . . ."





Students and teachers enjoyed this program. They learned about the watershed, storm water and had the opportunity to see the enormity of the Rio Grande watershed. From Mt. Taylor and Santa Fe, it looks immense from the crest, and it is only a small part of the Rio Grande Watershed. Students could feel connected to the watershed and see how water connects us all.

Partnering organizations for the program included: Sandia Mountain Natural History Center and the Cibola National Forest.

Marketing Services:
During the time of the Conservancy's contract with the city, we disseminated a media advisory about water fund educational outreach activities, which was pitched to regional media outlets. Two local news stations, KQRE and KOAT filmed the student's visit to the Sandias including the tram ride, but only KQRE aired the film. As well, all media coverage and releases are highlighted on the Conservancy's website and Facebook page. These educational programs will also be featured in the Rio Grande Water Fund Annual Report, which will be published in the fall 2017.

Exhibit 6 - Earth Force 2016-17

1. What are the goals you hoped to achieve and how did you meet the stated goals?
    a. The goal of this project was to leverage an urgent community need - stormwater management - to give young people a hands-on STEM experience. Participating classes collected water quality data, conducted a stormwater assessment and learned how Albuquerque manages stormwater. Students then developed a project that improves stormwater management at both the point of origin (their school) and at the point where it re-enters the natural environment (the refuge). Earth Force supported 11 educators in the Community Action & Problem-Solving Process, helping the educators gain the skills needed to implement the project-based learning approach. These educators guided students to create 7 projects.
2. What activities have occurred to date as a result of the City of Albuquerque contribution? Are there activities yet to get underway?
    a. 411 students participated in the six-step Community Action & Problem-Solving Process and developed 7 total projects that addressed stormwater in the Middle Rio Grande.
    b. Eighty students shared their environmental projects with peers and stakeholders from the community at the Youth Summit on May 12, 2017.All of the students created and shared presentations about their projects, including a remarkable presentation from students at the Native American Community Academy who made their presentations in at three different native languages. Their projects focussed around pollinator gardens and pollinator water ecosystems. Emerson Elementary School investigated their school's drinking water, as it was coming out of the faucets and drinking fountains brown. They tested their water and brought their results to the principle to fix the issue. Truman Middle School created a rain garden and mural at the Valle de Oro National Wildlife Refuge. The space will be utilized as an outdoor education space.
3. How many youth were impacted by Lockheed Martin/Sandia National Laboratories funding this request?
    a. # youth: 411
    b. # adults: 11
4. If your program is educational, how is it addressing the community's need for a future workforce and what is it doing to encourage students to achieve their highest potential?
    a. Young people in Earth Force programs design and implement projects that reflect issues they care about and their desire to address a local environmental issue, gaining hands-on experience by applying what they have learned in the classroom to real-world situations. Our program focuses on civic engagement, which helps students to become active participants in their communities by conducting balanced research, building strong community partnerships, and making decisions as a democratic group. These skills are vital for lifelong environmental citizenry and workforce development. Earth Force uses its Community Action & Problem-Solving Process, which helps students to gain workplace STEM skills such as using scientific tools to generate data, using data to problem-solve, and developing policies through the application of data.

Middle Rio Grande Stormwater Quality Team
Annual Member
Cooperative Funding Agreement

This Cooperative Funding Agreement is made and entered into this 21st day of July, 2014, by and among the County of Bernalillo, the City of Albuquerque ("COA"), the Albuquerque Metropolitan Arroyo Flood Control Authority ("AMAFCA"), the New Mexico Department of Transportation ("NMDOT"), and the Southern Sandoval County Arroyo Flood Control Authority ("SSCAFCA"), all political subdivisions of the State of New Mexico (hereinafter collectively referred to as the "Storm Water Team"), and City of Rio Rancho (hereinafter referred to as "Annual Member").

WHEREAS, the Intergovernmental Agreement Regarding the Operation, Function, and Funding of the Storm Water Team, as amended by the First Amendment thereto dated January 22. 2014 ("Intergovernmental Agreement"), provides that potentially eligible MS4s may be added to the Team at any time on an annual basis as additional voting members, provided all requirements for membership have been fulfilled, including providing payment for the expected contribution; and

WHEREAS, the Storm Water Team wishes to add the Annual Member as an additional voting member to the Team on an annual basis; and

WHEREAS, the Annual Member wishes to be added to the Team as an additional voting member on an annual basis; and

WHEREAS, the Annual Member agrees to fulfill all requirements for membership, including providing payment for its expected annual contribution; and

NOW, THEREFORE, in consideration of the covenants and promises set forth herein, the Annual Member agrees as follows:

1. The Annual Member will be invoiced by the Storm Water Team for its annual contribution for Fiscal Year 2015 as tabulated below. The Annual Member agrees to pay the annual contribution to the Storm Water Team's fiscal agent within forty-five (45) days of the date of invoice. Failure to provide payment prior to the deadline will result in the Annual Member's membership being suspended as provided for in the Intergovernmental Agreement.

2. Upon payment of the annual contribution and fulfillment of any other requirements of membership, the Storm Water Team will update Attachment A, Contribution Schedule, and Attachment B, Annual Roster, to include the Annual Member.

3. The Annual Member agrees that by executing this Agreement it is subject to the requirements of the Intergovernmental Agreement as it may be amended from time to time, which is hereby incorporated by reference as if fully set forth herein. The Annual Member agrees to abide by the terms and conditions of the Intergovernmental Agreement as it may be amended from time to time.

4. This Agreement, including Annual Member's membership on the Team, shall be effective for the 2015 fiscal year. This Agreement may be extended beyond the initial fiscal year for additional one (1) year periods running concurrently with the fiscal year. Any extension must be completed in writing at the initiative of and authorization of AMAFCA, as the fiscal agent of the Storm Water Team, with concurrence of the Annual Member. All extensions are subject to the terms set forth herein, provided however, that the annual contribution for any subsequent years shall be established by the Storm Water Team in the Contribution Schedule, which shall be incorporated fully as if set forth herein.

5. The Annual Member's contact, designated voting member, and billing information is as follows:

Annual Member Entity:	City of Rio Rancho
Designated Voting Member:	Eugene Pettes 3200 Civic Center Circle NE Rio Rancho, NM 87144 505-891-5045 xpettes@rio-rancho.nm.us
Billing Instructions:	check
Expected Contribution:	$10,000.00

The Annual Member agrees to immediately notify the Storm Water Team and its fiscal agent in the event of any changes to the information listed herein.

Middle Rio Grande Stormwater Quality Team
Annual Member
Cooperative Funding Agreement

Date: 11/4/14

City of Rio Rancho

[Name, Title]

Keith Riesberg
City Manager

RioRancho
City of Vision

City of Rio Rancho

3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144-4501
(505) 981-5005 • FAX (505) 891-0986

June 20, 2016

US EPA, Region 6
Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN-WC)
1445 Ross Avenue
Dallas, Texas 75202-2733

RE: Albuquerque Metropolitan Area Municipal Separate Storm Sewer System (MS4) Wet Weather Monitoring Site Certification, Permit No. NMR04A000

Per Table 10, Wet Weather Monitoring Program Implementation Schedules, enclosed as Attachment 2 in the letter from EPA Region 6 dated February 10, 2016, the City of Rio Rancho submits certification that the wet weather monitoring sites in the Middle Rio Grande are operational and ready for sampling. As a member of the Middle Rio Grande Stormwater MS4 Compliance Monitoring Cooperative, the City of Rio Rancho meets the criteria for a permittee with a cooperative program and qualifies for the cooperative deadline of June 21, 2016. Copies of the Intergovernmental Agreement and Cooperative Monitoring Plan are attached. Please contact Xavier Pettes by phone at 505-891-5045 or by email at xpettes@rrnm.gov if you have any questions regarding the agreement or plan.

CERTIFICATION STATEMENT

I, the undersigned, certify under penalty of law that this document, the Intergovernmental Agreement that creates the Middle Rio Grande Stormwater MS4 Compliance Monitoring Cooperative, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

David Serrano, P.E.
Engineering Division Manager

6/20/2016
Date

Middle Rio Grande Stormwater MS4 Compliance Monitoring Cooperative

INTERGOVERNMENTAL AGREEMENT

AN INTERGOVERNMENTAL AGREEMENT, CREATING THE MIDDLE RIO GRANDE MS4 COMPLIANCE MONITORING COOPERATIVE, IN SUPPORT OF COMPLIANCE EFFORTS FOR A STORMWATER DISCHARGE PERMITTING SYSTEM FOR THE MIDDLE RIO GRANDE VALLEY IN ACCORDANCE WITH THE FEDERAL CLEAN WATER ACT.

RECITALS

WHEREAS, the United States Environmental Protection Agency (EPA), Region 6 regulates the discharge of stormwater from municipal separate storm sewer systems (MS4s) in central New Mexico through the issuance of an MS4 permit for the Middle Rio Grande valley urbanized area, under the authority of the National Pollutant Discharge Elimination System (NPDES) regulations (40CFR122); and

WHEREAS, the Middle Rio Grande valley urbanized area is comprised of many diverse local, state, federal and tribal entities, each with separate and distinct authority and responsibilities; and

WHEREAS, the Middle Rio Grande valley urbanized area entities that are eligible for authorization under NPDES General Permit No. NMR04A000 (hereinafter "MS4 Permit"), and therefore eligible to enter into this Intergovernmental Agreement (hereinafter "Agreement") in furtherance of the requirements of the MS4 Permit, are the City of Albuquerque, Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA), University of New Mexico, New Mexico Department of Transportation District 3, Bernalillo County, Sandoval County, Village of Corrales, City of Rio Rancho, Village of Los Ranchos de Albuquerque, Kirtland Air Force Base, Town of Bernalillo, State Fairgrounds/Expo New Mexico, Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA), Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA), Sandia National Laboratories/Department of Energy, Pueblo of Sandia, Pueblo of Isleta, and Pueblo of Santa Ana (collectively "Co-permittees"); and

WHEREAS, the proposed MS4 Permit requires each Co-permittee to obtain and report stormwater compliance monitoring results in their MS4 Annual Report; and

WHEREAS, the proposed MS4 Permit encourages cooperative efforts among the Co-permittees, including compliance monitoring activities, to reduce the amount of pollutants discharged with stormwater into the Rio Grande; and

WHEREAS, cooperation among the Co-permittees in the MS4 Permit through the Middle Rio Grande Compliance Monitoring Cooperative ("CMC"), with regard to monitoring requirements, offers the opportunity to reduce each individual Co-permittee's monitoring costs by cooperatively developing, funding, and executing a common monitoring plan without reducing the effectiveness of the monitoring plan.

NOW, THEREFORE, BE IT AGREED THAT:

1. **PURPOSE.** The CMC will serve as the focal point for the development, execution, and, as needed, the amendment of the Monitoring Plan required as part of the MS4 Permit. The intent of the CMC is to attain and demonstrate permit compliance for member Co-permittees with respect to the provisions of the MS4 Permit. The Monitoring Plan will be developed cooperatively among the member Co-permittees of the CMC.

2. **ELIGIBILITY.** All Co-permittees specifically identified in the MS4 Permit are eligible to be members of the CMC.

3. **MEMBERSHIP.** The CMC will include as members all Co-permittees that have signed this Intergovernmental Agreement ("Members"). Members are expected to provide funding for the ongoing operations of the CMC and to contribute financially or materially to the benefit of the CMC, either from their own assets or through the securing of contributions from others. The Members shall elect a Chairman of the CMC. The Chairman shall be elected by a majority vote of the members.

4. **VOTING.** The CMC will be made up of one voting Member from each Co-permittee in good standing, which is defined as having paid their expected contribution, as defined in the Contribution Schedule included as Attachment 1. Attachment 1 shall be updated annually by the Fiscal Agent (See Paragraph 7) to reflect Members in good standing. Each Member will designate a staff person to represent the Member's interest on the CMC and to vote on that Member's behalf. Designation of a representative may be completed at any time and under any circumstances. Other/outside agencies may participate on the CMC by attending meetings and giving input; however, only the Members in good standing may vote on CMC decisions. Decisions of the CMC will be decided by majority vote of the Members in good standing. The CMC may take action during a meeting, by telephone, or by e-mail.

5. **TERM.** The term of this Agreement shall run from the date the MS4 Permit is issued by the EPA until the date the MS4 Permit is terminated or expires, whichever occurs first. This Agreement may be terminated in its entirety at any time upon the mutual agreement of all of the then-existing Members to this Agreement.

6. **FISCAL MATTERS.** In the first Calendar Year of this Agreement, the CMC will meet to develop a budget based on the costs for implementing the Monitoring Plan for MS4 Permit compliance. To ensure sufficient funding is available to carry out the Monitoring Plan, the budget shall equal 110% of the estimated costs associated with the Monitoring Plan, including estimated contingencies. In subsequent years, the budget will be based on the actual expenditures from the prior year's monitoring activities plus any reasonable increases identified by the CMC. Each Member shall commit funding to the CMC based on the Contribution Schedule established for that year, which Contribution Schedule shall be in a total amount of not less than the budgeted costs. In-kind contributions shall be permitted in lieu of all or a portion of a Members cash contribution,

provided however, that participation in the CMC shall not be considered in-kind contributions. The value of in-kind contributions will be determined by the membership of the CMC by equating the value of the service to the cost that would be paid by the membership of the CMC to have the in-kind service performed by a third party (non-CMC member) contractor. The Contribution Schedule is located in Attachment 1 to this Agreement. This Contribution Schedule may be modified by the CMC annually without requiring modification to this agreement, provided however, that it shall be adopted by unanimous vote of the Members. Any funds remaining at the end of the Agreement Year will be carried into the next Calendar Year of this agreement. In such event, the CMC may either elect to retain the excess funds from the prior Calendar Year as a contingency fund, or may lower the annual contribution schedules for that year for all Members in equal proportion, based on the total amount carried forward. In the event a Member does not have the resources to provide full payment for any funds required by the Contribution Schedule, the remaining Members may agree, by unanimous vote, amend the Contribution Schedule if it is in the best interest of the CMC. Each Member's obligations under this Agreement are contingent upon sufficient appropriations being made therefor by such Member's governing body sufficient to fulfill such Member's said obligations. If such appropriations are insufficient to such Member's obligations hereunder, such Member's shall promptly notify the other Members, and this Agreement shall terminate forthwith with respect to such Member.

7. **FISCAL AGENT.** The Members shall select one (1) Co-permittee to act as Fiscal Agent for the CMC for the purposes of this Agreement. The Fiscal Agent shall act as the custodian of the CMC's funds, securities, and property. All funds will be held in a separate bank account for the purposes of this Agreement. All CMC funds shall be deposited promptly by the Fiscal Agent to the credit of the CMC. The CMC shall adhere to the Fiscal Agent's accounting and procurement procedures, provided such procedures comply with law. The Fiscal Agent shall make available to any interested Member, all records, receipts, and other documentation with respect to all matters concerning this agreement and shall have this account included in its annual audit. The Fiscal Agent shall maintain funds in accordance with all applicable state and Federal statutes. The Fiscal Agent shall be authorized on the CMC's behalf to sign checks, drafts, or other instruments for payment of money, acceptances, notes, or other evidences of indebtedness, to enter into contracts, or to execute and deliver other documents and instruments. This authority to enter into any contract or negotiated agreement shall be subject to approval by the CMC and subject to any limitations as set forth in this Agreement. Subject to the provisions of this Agreement, no loans shall be contracted on behalf of the CMC and no evidence of indebtedness shall be issued in its name unless authorized by a unanimous vote of the CMC Members. In consideration of the in-kind contributions anticipated from the Fiscal Agent, the total financial contribution requirements of the Fiscal Agent's Member agency, under any applicable agreement, shall be credited by the sum of one thousand dollars ($1,000.00) for the term of the permit in which that Member serves as the Fiscal Agent.

8. **PAYMENTS.** The Fiscal Agent will invoice each Member for their respective participation, minus the values of any CMC approved in-kind contributions at the start of each member entity's Fiscal Year. Each Member will pay such invoices to the Fiscal Agent within one hundred twenty (120) days of the date of the invoice. Failure to pay invoices within 120 days of

the date of the invoice shall deem the Member not in good standing status until payment is made in full. Invoices will be sent to CMC Member entities listed in Attachment 1.

9. **PARTICIPATION.** It is intended that the CMC's operation and function described in this Agreement are ongoing, subject to continued support and authorized funding by each of the Members. Each Member has the option to not participate in this Agreement in the future by sending written notice to all the other participating Members twelve (12) months prior to the Member's proposed withdrawal. This time requirement is made so that all Member Co-permittees will have the opportunity to update their Storm Water Management Plans (SWMP) to reflect the change in status of the cooperative sampling effort and obtain EPA's concurrence on the amended SWMP. In such an event, the terminating Member shall not be entitled to return of any contribution(s) made under this Agreement, and this Agreement shall remain in full force and effect by and among the remaining Members.

10. **OUTSIDE CONTRIBUTIONS.** The CMC may accept contributions from outside funding sources, to be used to support the CMC's mission. Such contributions shall not establish any voting privileges on the CMC, which privileges are reserved exclusively to eligible Members. Outside contributions shall be supplementary to the Contribution Schedule, and no Member's contribution shall be reduced based on receipt of any outside contributions except upon adoption of an amended Contribution Schedule by the Members.

11. **CONTRACTING.** Each Member agrees that a variety of contractors (e.g. sample collection, laboratory, sample results interpretation, geotechnical, etc.) may need to be hired in accordance with the State Procurement Code, in advance of any contractor taking any actions on behalf of the CMC. No contractor shall be an employee of either the Fiscal Agent or any Member of this Agreement. Responsibilities of the contractor shall be included in any resulting contract and the contractor shall only be authorized to provide approved services determined to help Member Co-permittees comply with the provisions of the MS4 permit. For procurement purposes, the CMC will form a Selection Advisory Committee ("SAC"), composed of representatives from Members in good standing. Each Member in good standing will have one representative on the SAC for the RFP process. The SAC will rank proposals and recommend the top three respondents to the Fiscal Agent for selection through the Fiscal Agent's existing procurement selection process. Upon approval, the Fiscal Agent will negotiate an agreement with the selected contractor. The CMC will provide input on scope and fees; however, final negotiations and approval will be the Fiscal Agent's responsibility. If contractor services are obtained using the procurement process set forth in this paragraph, then, with concurrence of the other members of the CMC, funds collected as part of the CMC group may be used to pay that contractor directly for services associated with execution of the monitoring plan. Contractors will be agents of the Member issuing the contract. Other Members of the CMC shall not be bound by the terms of the contract but shall be deemed third party beneficiary hereunder.

12. **ALTERNATIVE CONTRACTING.** As an alternative contracting process, and in order to leverage existing and future contracts between Contractors and Members in good standing of the CMC, contracts may be used, with concurrence from all Members of the CMC,

that have been issued by Members to perform elements of the monitoring program. If a contractor is used that has been procured by a Member in good standing of the CMC instead of the Fiscal Agent, then, with concurrence of the other Members of the CMC, an entity that is not the Fiscal Agent for the CMC may contract to have the services performed and upon successful completion of the services, submit an invoice, with no mark-up, to the Fiscal Agent for reimbursement. Reimbursement shall only be authorized for reasonable and necessary costs. All contractor's utilized for the purposes identified in this Agreement shall be procured in accordance with the State Procurement Code. Contractors will be agents of the Member issuing the contract. Other Members of the CMC shall not be bound by the terms of the contract.

13. **EVALUATION.** The Members agree that the Stormwater Monitoring contract is an ongoing program. The effectiveness of the Stormwater Monitoring contract, with regard to permit compliance, will be evaluated by the CMC prior to annual renewal(s) or request for proposals.

14. **LIMITATION ON SAMPLING ACTIVITIES.** The contractor's scope of services will be limited to the CMC-developed and EPA approved sampling plan and associated reporting. If, in the event of an exceedence during routine monitoring events, additional investigation is required by the EPA to identify the source of a potential contaminant, the CMC may expand monitoring activities to the degree necessary to locate the likely entry point of the potential contaminants. Once the likely entry point is identified, further investigation into the source of the potential contaminant will become the responsibility of the specific Co-permittee(s) having jurisdiction at the location where the likely entry occurred. The CMC shall have no responsibility, fiscal or otherwise, to investigate potential sources of contamination outside of the river or its affiliated Middle Rio Grande Conservancy District-owned water conveyances.

15. **PARTICIPATION AFFECTED.** If any situation arises which adversely affects any Member's participation in this Agreement, said Member will immediately, and in writing, notify the other Members. Any circumstance that materially affects this Agreement will be promptly and equitably resolved by all Members and if necessary, an amendment to this Agreement shall be executed.

16. **COMPLIANCE WITH GOVERNING LAWS.** The obligations of each Member under this Agreement shall be performed in compliance with all applicable laws, statues, and ordinances. Nothing herein is intended to constitute any agreement for the Members to perform any activity in violation of the Constitution or Laws of the State of New Mexico or the Ordinances of any Co-permittee that is a Member of this Agreement.

17. **SEVERABILITY.** If any clause or provision of this Agreement is illegal, invalid or unenforceable, under present or future laws effective during the term of this Agreement, then and in that event, it is the intention of the Members hereto that the remainder of this Agreement shall not be affected thereby.

18. **NO RIGHTS CREATED.** It is specifically agreed among the Members that this Agreement does not, and is not intended to, create in the public, or any member thereof, any rights whatsoever, such as but not limited to, the rights of a third Party beneficiary, and does not authorize anyone not a Member of this Agreement to maintain a suit for wrongful death or any other claim whatsoever.

19. **LIABILITY.** As among the Members, each shall be solely responsible for any and all liability from personal injury, including death, or damage to property, arising from any negligent or intentional act or failure to act of the respective Member, its officials, agents, contractors or employees pursuant to this Agreement. Liabilities of each Member shall be subject to the immunities and limitation of the New Mexico Tort Claims Act, §§41-4-1, et seq., NMSA, 1978, and any amendments thereto. By entering into this Agreement, all public agencies and its "public employees" as defined in the New Mexico Tort Claims Act, do not waive sovereign immunity, do not waive any defense and/or do not waive any limitation of liability pursuant to law. No provision in this Agreement modifies and/or waives any provision of the New Mexico Tort Claims Act.

20. **AMENDMENT.** This Agreement may only be altered or amended upon written approval by a majority of the CMC Members.

21. **DATE OF EFFECTIVENESS.** Regardless of the date when this Agreement is signed by each Permittee, this agreement shall not become effective for each Permittee until that Permittee has received official notification from the Environmental Protection Agency that they have received coverage under NPDES General Permit No. NMR04A000.

City of Rio Rancho

Keith Riesberg
City Manager

5/27/16
Date

Approved as to Form:

Jennifer Vega-Brown
City Attorney

Date: 5/26/16

Date for of beginning of Fiscal Year: July 1

ATTACHMENT I

CONTRIBUTION SCHEDULE

ATTACHMENT 1

Sampling Cooperative Cost Allocation Determination (CAD) Tool

28-Apr-16

Number	Participant			$ 132,000.00	ENTITY PAYMENT	FISCAL AGENT CREDIT ($1k)
1	City of Albuquerque		1.38	$ 45,574.50	$45,600.00	
2	AMAFCA		0.43	$ 14,319.39	$14,400.00	$ (1,000.00)
3	UNM		0.41	$ 13,553.53	$13,600.00	
4	NMDOT		0.12	$ 3,865.56	$3,900.00	
5	Bernalillo County		0.59	$ 19,549.95	$19,600.00	
6	Sandoval County		0.46	$ 15,094.20	$15,100.00	
7	Village of Corrales		0.04	$ 1,393.20	$1,400.00	
8	City of Rio Rancho		0.42	$ 13,997.46	$14,000.00	
9	Los Ranchos de Albuquerque		0.02	$ 705.79	$1,000.00	
10	Town of Bernalillo		0.03	$ 903.81	$1,000.00	
11	ESCAFCA		0.01	$ 338.88	$500.00	
12	SSCAFCA		0.08	$ 2,703.72	$2,900.00	
	Ratio Check (Sum = Weighting Factor)		4.00		$132,000.00	

Middle Rio Grande Stormwater MS4 Technical Advisory Group

MEMORANDUM OF AGREEMENT

A COOPERATIVE AGREEMENT, CREATING THE MIDDLE RIO GRANDE MS4 TECHNICAL ADVISORY GROUP, IN SUPPORT OF COMPLIANCE EFFORTS FOR A STORMWATER DISCHARGE PERMITTING SYSTEM FOR THE MIDDLE RIO GRANDE VALLEY IN ACCORDANCE WITH THE FEDERAL CLEAN WATER ACT.

WHEREAS, the United States Environmental Protection Agency (EPA), Region 6 regulates the discharge of stormwater from municipal separate storm sewer systems (MS4s) in New Mexico through the issuance of an MS4 permit for the Middle Rio Grande valley urbanized area under the authority of the National Pollutant Discharge Elimination System (NPDES) regulations (40CFR122); and

WHEREAS, the Middle Rio Grande area is comprised of many diverse local, state, federal and tribal entities, each with separate and distinct authority and responsibilities; and

WHEREAS, the Middle Rio Grande area entities potentially eligible for authorization under the proposed NPDES General Permit No. NMR04A000 (hereinafter "MS4 Permit") and therefore are eligible to enter into this Agreement (hereinafter "Agreement") in furtherance of the requirements of the MS4 Permit are the City of Albuquerque, Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA), University of New Mexico, New Mexico Department of Transportation District 3, Bernalillo County, Sandoval County, Village of Corrales, City of Rio Rancho, Los Ranchos de Albuquerque, Kirtland Air Force Base, Town of Bernalillo, State Fairgrounds/Expo New Mexico, the Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA), the Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA), Sandia National Laboratories/Department of Energy, Pueblo of Sandia, Pueblo of Isleta, and Pueblo of Santa Ana (collectively "Stormwater Management Entities"); and

WHEREAS, the proposed MS4 Permit encourages cooperative efforts among separate local, state, federal and Tribal governments to reduce the amount of pollutants discharged with stormwater from the Middle Rio Grande urbanized area MS4s; and

WHEREAS, continued cooperation among the Stormwater Management Entities in the MS4 Permit offers an enhanced opportunity each entity to remain aware of the requirements in the MS4 Permit and facilitating compliance with conditions of the permit;

NOW, THEREFORE, BE IT AGREED THAT:

1. The signatories to this Agreement (hereinafter collectively referred to as "Parties" and individually referred to as "Party") support and encourage a cooperative commitment to assist one another with technical issues regarding compliance with the MS4 Permit and agree to form the Middle Rio Grande MS4 Technical Advisory Group (MS4TAG).

2. The purpose of the MS4TAG will be to exchange technical information regarding compliance with the MS4 Permit, exchange ideas among Parties regarding compliance efforts, and exchange information regarding illicit discharges detected within each Party's jurisdiction. The MS4TAG shall have no binding financial authority and shall be strictly advisory in nature.

3. Nothing in this Agreement shall be construed as obligating a Party to this agreement to expend funds for any purpose, and no Party shall be required to contribute any funds in order to participate in this Agreement. In the event the Parties determine that any expenditure of funds becomes necessary in order to comply with the requirements of the MS4 Permit, a separate agreement shall be entered into between the affected Parties regarding any and all such expenditures at that time.

4. The term of this Agreement shall run from the date the MS4 Permit is issued by the EPA until the date the MS4 Permit is terminated or expires, whichever occurs first. This Agreement may be terminated in its entirety at any time upon the mutual agreement of all of the then-existing Parties to this Agreement. In the event any Party wishes to withdraw from this Agreement without terminating the other Parties' interests in this Agreement, withdrawal shall become effective upon ninety (90) days prior written notice to the other Parties. Withdrawal shall fully and completely terminate that Party's interest in and obligations under this Agreement. Following any Party's withdrawal, this Agreement shall continue in full force and effect as to all remaining Parties to the extent possible.

5. This Agreement does not address the "Public Education and Outreach: or "Cooperative Sampling" sections of the MS4 Permit. Any MS4TAG efforts regarding either of these sections of the MS4 Permit under this Agreement shall be strictly in furtherance of the spirit of cooperation intended among the Parties. Each Party acknowledges its obligations under the "Public Education and Outreach" and "Cooperative Sampling" sections of the MS4 Permit are separate and apart from its activities under this Agreement, and a separate agreement will be required for any collaboration among the Parties with respect to those permit requirements.

6. The Parties will appoint two (2) Co-Coordinators from among the Parties, one of which must be from a Party located within the Bernalillo County geographical area and one of which must be from a Party located within the Sandoval County geographical area. Appointment of a Co-Coordinator shall be by majority vote of the voting Parties, with only those Parties located in the county of Bernalillo voting on the Co-Coordinator from that area, and only those Parties located in the county of Sandoval voting on the Co-Coordinator from that area. Co-Coordinators must be appointed annually in each subsequent permit year, or earlier if the position becomes vacant for any reason. For the New Mexico Department of Transportation District 3, which operates stormwater management facilities in both counties, for the purposes of this section, they shall select one county affiliation in year one of the agreement and alternate affiliations is subsequent years of this Agreement. The Co-Coordinators will be expected to coordinate the Parties' efforts under this Agreement, including facilitating meetings of the MS4TAG at least monthly for the first year of the MS4 Permit. In years two through five of the permit, the frequency of meetings may be reduced to quarterly with additional meetings called as necessary to discuss issues regarding MS4 Permit compliance.

7. Each Party shall be entitled to one (1) vote on any action items.

8. This Agreement creates no obligations on behalf of any Party to any other Party to this Agreement, including for any requirements imposed or determinations made by EPA. The Parties acknowledge and agree that each shall at all times remain individually liable for full compliance with the requirements of the MS4 Permit, including EPA's determination regarding the implementation schedule.

9. This Agreement may be modified in writing at any time upon the mutual agreement of the Parties.

10. Parties can be added at any time during the life of this Agreement. A potential future Party's submittal of a signature page to the Co-Coordinators and approval by the Co-Coordinators shall add the Party to the Agreement.

.

NOTE: Each approving entity would have a separate signature page

City of Rio Rancho

Approved as to Form:

City Attorney

Date: 10/1/13

Recommended By:

Dolores Wood, Director

Date: 11.4.13

Approved By:

Keith Riesberg, City Manager

Date: 11/1/13

City of Rio Rancho
3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144-4501
(505) 981-5005 • FAX (505) 981-5203

December 19, 2015

SENT VIA EMAIL

Ms. Nelly Smith
Municipal Stormwater Coordinator
EPA Region 6
Permits and Technical Assistance Section
1445 Ross Ave., Suite 1200
Dallas, TX 75202

Re: NPDES General Permit No. NMR04A000 - Proposed Monitoring Plan

Dear Ms. Smith,

Please consider the attached document as City of Rio Rancho's formal submittal of our proposed monitoring plan for NPDES General Permit No. NMR04A000. This submittal is being made in response to Part III.A.1.b., Cooperative Monitoring. The proposed cooperative monitoring agreement includes the following entities:

1. City of Albuquerque
2. City of Rio Rancho
3. Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)
4. Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA)
5. Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA)
6. New Mexico Department of Transportation (NMDOT)
7. University of New Mexico (UNM)
8. Village of Corrales
9. Village of Los Ranchos de Albuquerque
10. Town of Bernalillo
11. Bernalillo County
12. Sandoval County

The above listed entities are currently negotiating the Cooperative Agreement for cost sharing. Upon completion of the Cooperative Agreement, the final membership of the agreement will be reported to the EPA and New Mexico Environment Department.

Should you require any further information, please feel free to contact Xavier Pettes at xpettes@rrnm.gov or at 505-891-5045.

Sincerely,

David Serrano, PE
Engineering Division Manager

Enclosure: Cooperative Monitoring Plan
Sampling Location Map

Cc: Sarah Holcomb, New Mexico Environment Department

City of Rio Rancho
Cooperative Monitoring Plan – MS4 Watershed-based permit
December 17, 2015

Sampling must be conducted at a minimum of seven (7) events per sampling location during the permit term with at least three (3) events in the wet season and two (2) events in the dry season. Seasonal monitoring periods are the Wet Season: July 1 – October 31 and Dry Season: November 1 – June 30. Monitoring methodology for both seasons will consist of collecting a minimum of four grab samples spaced at a minimum interval of 15 minutes each. Individual grab samples for each sampling location, will be preserved and combined into a single composite sample at the laboratory.

Qualifying Storm Event

Due to the nature of rainfall in the middle Rio Grande Valley, the MS4s are proposing that a qualifying event be defined as a 0.25-inch or greater storm anywhere in the watershed that creates a discharge to the Rio Grande. Additionally, no antecedent dry period will be required in order to ensure that a sufficient number of qualifying events are available for sampling.

In order to determine whether or not a qualifying storm event has occurred, the MS4s may use a variety of different data sources for representative locations within the watershed to identify the qualifying storm event. Sources for determining a qualifying storm event may include, CoCoRahs, wundermap.com data, calibrated National Weather Service radar, and/or USGS weather data based on rainfall measurements taken within the watershed.

Wet Weather Monitoring (Wet Season: July 1 – October 31/Dry Season: November 1 – June 30)

Wet weather monitoring gathers information on the response from the receiving waters to wet weather discharges. The following parameters must be sampled: TSS, TDS, COD, BOD5, DO, TPH/oil, E.coli, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, ammonia plus organic nitrogen, phosphorus, PCBs and gross alpha. DO, pH, conductivity, and temperature must be analyzed in the field within 15 minutes of sample collection.

Sampling Locations

Rio Grande (NORTH)- In stream sampling within the Rio Grande will be performed upstream of the Angostura Diversion Dam at the north end of the water shed (upstream or background)..

Rio Grande (SOUTH) – In stream sampling within the Rio Grande will be performed at the Isleta Bridge at the south end of the watershed and downstream of all inputs from the Urban Area to the river to provide the downstream water conditions.

These locations have been identified and are proposed to meet the permit requirements as identified in Part III.A. These up and down stream sample locations capture all inputs to the river within the Urbanized Area. See Attachment 1 for a map of sampling locations.

Sample Collection

The greatest difficulty the MS4s will have in sample collection are the logistics for collecting the sample(s) and getting them to the laboratory within the required holding time limitations for each sample type, particularly E.coli. In order to expedite this process, the MS4s are proposing the following actions:

1. On days where rainfall in excess of the qualifying storm event are predicted to take place within a timeframe where an in-stream sample can be collected and delivered to the laboratory in time to meet holding time requirements, the upstream sample (Angostura Diversion Dam) will be collected by noon (12:00 PM) on the day of the predicted event.
2. After collection of the upstream samples, the e-coli sample will be submitted to the laboratory for analysis and the remaining samples will be preserved as required and held until the determination can be made regarding whether or not there is a Qualifying Storm Event.
3. When a Qualifying Storm Event is anticipated within the watershed, a river staging timing methodology will be used to identify the proper time for the sample to be taken from the downstream location(s) per Table 1. For example, if it typically takes one hour for water from the North Diversion Channel to reach the Isleta Bridge sampling location, then the sample will be taken one hour after the discharge from the NDC has occurred.
4. Upon collection of the downstream sample(s) from the Isleta Bridge location, the e-coli sample(s) will be taken to a laboratory for analysis and the balance of the samples will be preserved, as required, and held until the determination can be made regarding whether or not there is a Qualifying Storm Event.
5. In the event that a Qualifying Storm Event is NOT recorded, all non-e-coli samples will be dumped and not analyzed. In the event a Qualifying Storm Event is recorded, samples (upstream and downstream) will be submitted to a laboratory for analysis.

During sample collection, the sampler shall maintain a log book recording the site conditions at the time of sampling, actions taken to collect the samples, and any other pertinent information that may be relevant to the sample event. All collected samples shall have a chain-of-custody form associated with each sample container. This chain-of-custody form shall be maintained by the sampler until the sample is delivered to the laboratory for analysis. Greater detail will be contained in the Quality Assurance Program Plan (QAPP) that will be developed for this plan.

Example CoCoRaHS Rain Gages and Assumed Travel Times for Sampling Stormwater Events in Watershed						
Zonal Segments of River (north to south travel times)		Western Side of Watershed (west to east travel times)		Rio Grande	Eastern Side of Watershed (east to west travel times)	
		3 hours -->	1.5 hours -->	<-- <-- <-- <-- <--	<-- 20 min.	<-- 40 min.
7.4 hours	Rio Grande at Angostura to Rio Grande at Alameda	NM-SN-59	NM-SN-70		N/A	N/A
4.4 hours	Rio Grande at Alameda to Rio Grande at Central	NM-BR-113	NM-BR-144		NM-BR-71	NM-BR-162
5.2 hours	Rio Grande at Central to Rio Grande at Isleta 147 Bridge	NM-BR-159	NM-BR-104		NM-BR-150	NM-BR-41

TABLE 1 – HYDROGRAPH TIMING FOR RAIN EVENTS TO SOUTHERN SAMPLING POINT

Rainfall information associated with the above Station Numbers can be obtained from the Community Collaborative Rain, Hail and Snow Network website (www.cocorahs.org). The Station Numbers provided in the table are for representative purposes only. The actual CoCoRaHS rainfall data utilized to confirm a Qualifying Event will be from the appropriate zone in the watershed but may not be from the exact Station Number listed in the table.

Response to Monitoring Results

In the event of an exceedance, the MS4 Sampling cooperative will examine all meteorological and stream gauge data available and correlate rainfall event/timing with sampling timing to determine the most likely source location and discharge point to the river. Once the most likely source location has been determined, MS4s will cooperatively develop a pollutant-specific response plan whose elements may include a review of land use for potential sources of the specific pollutant exceeded or enhanced public outreach and education to specific user or industry groups.

In the event of rainfall in the same distribution as the storm event associated with the exceedance, additional sampling may be conducted to monitor for potential sources, if appropriate. Only the constituent(s) identified in the exceedance will be analyzed.

Sample Collector Training Requirements

Any person collecting samples for compliance purposes shall be trained in the proper technique for collecting stormwater samples. Experience in the collection of stormwater samples may be

considered in lieu of receiving formal training in sampling requirements. Greater detail will be contained in the QAPP that will be developed for this plan.

Sample Analysis

After a sample collection event has been performed, the validity of the qualifying storm event must be determined before the samples can be counted as an official sample event. However, since the holding time for the E.coli is so short, the MS4s are proposing analyzing the E.coli samples prior to determining the validity of the storm event as a qualifying storm event. The balance of the samples will be held until the determination of the storm event as qualifying can be made. In the event that the storm event is deemed qualifying, the remaining samples will be run for the required parameters. If an event is deemed by an analysis of rainfall data to be non-qualifying, the results from the E.coli samples will be kept but not reported as part of the official sampling event for permit compliance and the preserved samples will be appropriately discarded without analysis.

Field obtained results (D.O., pH, and temperature) will be handled in a similar fashion as E.coli sampling results. In the event the storm is deemed qualifying during the review of rainfall data, the results from these field obtained measurements will be reported with the balance of the sample results. If the storm event is deemed non-qualifying, these results will be kept but not reported for permit compliance.

QAPP

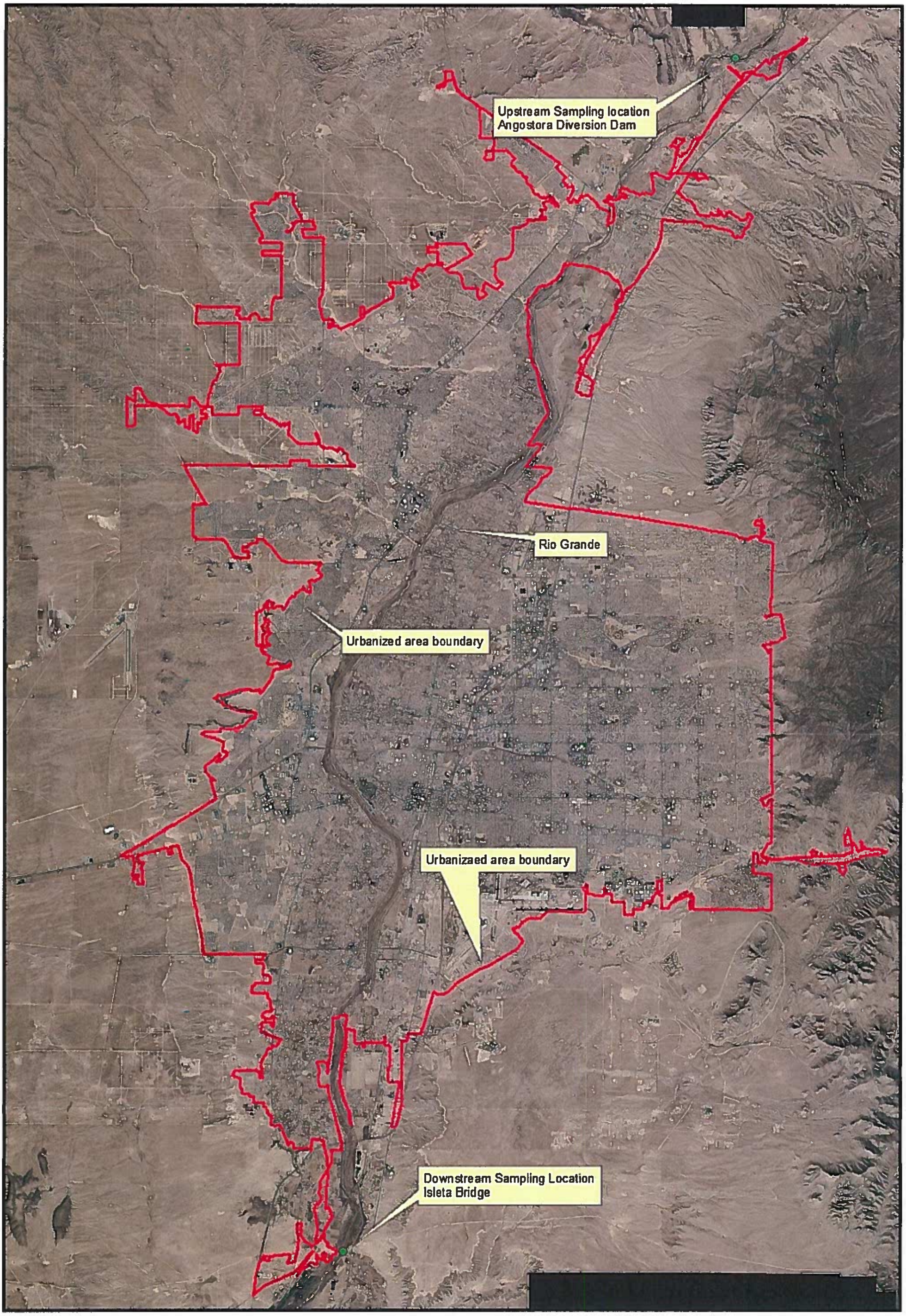
All sampling collection and analysis shall conform to the QAPP to be developed for the sampling program in accordance with Part III.A.5.b and III.Q. of the permit and the methods specified at 40 CRF §136.

Monitoring Records

A QAPP will be developed, conforming to Part III.P requirements.

Permittees Cooperating in Monitoring Program

City of Albuquerque
Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)
University of New Mexico (UNM)
New Mexico Department of Transportation (NMDOT)
Bernalillo County
Sandoval County
Village of Corrales
City of Rio Rancho
Los Ranchos de Albuquerque
Town of Bernalillo
Eastern Sandoval County Arroyo Flood Control Authority
Southern Sandoval County Arroyo Flood Control Authority



1 inch = 2.367424 miles

Miles
0 1 2

N

WSB MS4 Sampling Locations

Southern Sandoval County
Arroyo Flood Control Authority

Date: November 13, 2015

Attachment 1

Path: Q:\Environmental_Services\MS4\Sampling\Sampling map 11-13-15 - whole area.mxd

City of Rio Rancho
3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144-4501
(505) 981-5002 • FAX (505) 981-7274

August 15, 2017

Mr. Jerry Lovato, Executive Engineer
Albuquerque Metropolitan Arroyo Flood Control Authority
2600 Prospect Ave NE
Albuquerque, NM 87107

RE: Memorandum of Understanding for Delegation of Authority for Data Entry into NetDMR System

Dear Mr. Lovato,

As you are aware, twelve permittees covered under the Middle Rio Grande Watershed Based Municipal Separate Storm Sewer System (MS4) General Permit (NPDES No. NMR04A000) have entered into a cooperative agreement for the performance of permit-mandated water quality monitoring. Currently, results from the samples taken during monitoring events are shared among the twelve members of the Compliance Monitoring Cooperative (CMC) and must be entered by each entity into the Network Discharge Monitoring Report (NetDMR) database individually, creating twelve identical (barring typos or other data entry error) records. This is clearly inefficient, at best.

Following discussions between the CMC and the Environmental Protection Agency (EPA), EPA has approved a methodology whereby one member of the CMC will enter data in NetDMR on behalf of any other CMC-member entity. Each CMC-member entity that wishes to participate will delegate authority to the data entry CMC-member entity or their designed contractor, for this purpose. We appreciate Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) volunteering to be the data entry CMC entity on behalf of the CMC.

Therefore, the City of Rio Rancho, Permit Tracking No. NMR04A007, hereby delegates authority for data entry and approval of sampling results into NetDMR to AMAFCA for the purposes of compliance with MS4 General Permit requirements. Please provide us notification, via email, of the completion of data entry for our records.

In the event that AMAFCA becomes unable to perform this function on behalf of the City of Rio Rancho, please notify me a minimum of 60 days prior to the deadline, or by December 1st, for data entry in order to perform this function internally.

Please contact Xavier Pettes via email at xpettes@rrnm.gov or phone at (505)891-5045 if you have questions or concerns regarding this memorandum. Thank you again for your willingness to perform this function on behalf of the membership of the CMC.

Requested
Keith Riesberg
City Manager, City of Rio Rancho

Acknowledged and Accepted
Jerry Lovato, P.E.
Executive Director, AMAFCA

6. Public Review and Comment Summary:

Public Notice was given on Sunday October 8, 2017, see below. No public comment was received by the City.



RIO RANCHO OBSERVER

VOL. 44 NO. 41 — SUNDAY, OCTOBER 8, 2017 — SERVING THE CITY OF VISION SINCE 1973 — rrobserver.com

Community says goodbye to one of the good guys

BY STEPHEN MONTOYA
Assistant editor

You don't have to go far in order to find out what type of person Rio Rancheon Paul Barabe was.

That's why the news of his passing sent shock waves a great deal of those who worked with and around Barabe for many years.

A letter from the Rio Rancho Regional Chamber of Commerce, said Barabe passed away Sept. 30 in the presence of his wife, Joni, and their family.

Barabe, 70, worked at the chamber for 14 years, until his retirement in May.

"Paul was an integral part of the chamber for all of those years and very active in the Rio Rancho community," said Susan Sheridan, projects and event coordinator for the chamber. "His exceptional leadership within the chamber helped the community and businesses grow and develop."

Barabe was also a Vietnam veteran, a graduate of the Police Academy and an employee of Alaska Airlines for many years. But it was his presence around the community and his many years at the chamber that made Barabe a noticeable citizen in Rio Rancho.

Jerry Schalow, RRRCC CEO, said Barabe loved his work with the chamber and after his retirement, his shoes were very hard to fill.

"He was a man of faith who loved his family very much," Schalow said. "Someone like Paul is an outstanding individual and I am privileged to say that I got to know him really well. He will be deeply missed."

Rio Rancho Mayor Gregg Hull said he was deeply saddened to learn of Barabe's passing.

"I knew Paul for three years and, in that time, he made a significant mark on my life," Hull said. "Paul was extremely personable and outgoing. His willingness to assist with events and welcoming new businesses to the community was unmatched by anybody else. We lost a great member of the Rio Rancho community and he will forever be missed."

Schalow's predecessor, Debbi Moore, who worked alongside Barabe for 12 years, said she felt that she and Barabe made a great team in the workplace.

See GOOD GUY / A2

PAUL BARABE

A colorful peek into 'Picasso'

Poles here 'purpled' to bring awareness to domestic violence

Haven House fundraiser is Saturday at Haynes Park

BY GARY HERRON
Editor

Lately, it seems a lot of Americans have been seeing red.

Here in the City of Vision, it's hard not to see purple.

Close to five dozen volunteers showed up at Jalene Berger's Allstate Insurance office last Saturday to "purple the poles," tying large purple ribbons on the light poles along NM 528 and Southern Boulevard as a way to keep folks focused on Domestic Violence Awareness Month, which began Oct. 1.

"We've been fundraising and doing financial workshops with victims for about three years now," Jalene Berger said. "The reason I do it is it empowers women and most of the abuse is not

Please leave message on cell (919) 638-0349. Thank you.

GOV'T LEGALS

RR Rio Rancho — City of Vision

CITY OF RIO RANCHO PUBLIC NOTICE

The draft of City of Rio Rancho's FY 2017 MS4 Annual Report for the Stormwater Management Program is available on the internet for public review.The draft of the report has been posted on the City of Rio Rancho's website at **www.rrnm.gov/2184NPDES-Stormwater-Program**. The public can review this report online until November 30, 2017 and submit comment in writing, along with your name and address to: Development Service ATTN: Stormwater Program 3200 Civic Center Circle NE Suite 130 Rio Rancho, NM 87144. The draft report is also available for review at Rio Rancho City Hall 3200 Civic Center Circle NE Suite 130 Rio Rancho, NM 87144.

City of Rio Rancho, NM
Pub Date(s): 10/08/2017

RR Rio Rancho — City of Vision

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Pub Date(s): 10/08/2017

RioRancho
City of Vision

City of Rio Rancho

3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144
(505) 981-5005 • FAX (505) 981-0986

"Director"
US EPA Region 6
1445 Ross Ave., Suite 1200 (6EN-WT)
Dallas, TX 75202-2733

NPDES Permit No. NMR04A000
Delegating an "Authorized Representative" for the City of Rio Rancho

Dear Director:

This letter serves to designate either a person or specifically described position as an authorized person for signing reports, storm water pollution prevention plans, certifications or other information requested by the Director of required by the permit. This authorization cannot be used for signing an NPDES permit application (e.g. Notice of Intent (NOI)) in accordance with 40 CFR 122.22. The following person or position is herby authorized to sign reports, storm water pollution prevention plans or certifications other than the NOI application:

Name: David Serrano, P.E. Position: Engineering Division Manager

By signing this authorization, I confirm that I meet the following requirements to make such a designation as set forth in Part IV.H.1-4 of the Municipal Separate Storm Sewer System Permit [79 Fed Reg 76328].

> *For a municipality, State, Federal or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. Regional Administrators of EPA).*

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

Keith Riesberg	City Manager	6/18/15
	Title	Date