Southern Sandoval County Arroyo Flood Control Authority

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EXECUTIVE ENGINEER
Charles Thomas, P.E.

August 7, 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 of the permittees under NPDES Permit No. NMR04A000 (Permit) 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 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 EPA, the 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 Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA), permit number NMR04A001, hereby delegates authority for data entry and approval of sampling results into netDMR to AMAFCA for the purposes of compliance with Permit requirements. Please provide us notification of the completion of data entry via email for our records.

In the event that AMAFCA becomes unable to perform this function on behalf of SSCAFCA, please notify me a minimum of 60 days prior to the deadline for date entry so that we may arrange to perform this function internally.

If you have any questions or need any clarification regarding this letter, please feel free to contact me at cthomas@sscafca.com or at 505-892-7246. Thank you again for your willingness to perform this operation on behalf of the membership of the CMC.

Requested
Charles Thomas, P.E.
Executive Engineer, SSCAFCA

Acknowledged and Accepted
Jerry Lovato, P.E.
Executive Director, AMAFCA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202-2733

RECEIVED APR 25 2017

APR 10 2017

CERTIFIED MAIL – RETURN RECEIPT REQUESTED: 7014 0150 0000 2454 3244

Mr. Dave Gatterman, P.E.
Southern Sandoval County
Arroyo Flood Control Authority
1041 Commercial Dr. S.E.
Rio Rancho, NM 87124

Re: Request for Delegation of Entering Data

Mr. Gatterman:

Thank you for your email of February 8, 2017, requesting that the Middle Rio Grande member for entering monitoring events data into NetDMR on behalf of the other members. It is our understanding that Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) will be the member who will be inputing the data. EPA approves CMC's request for the delegation because it is efficient and not duplicative. While we approve the CMC's request for the delegation, EPA would like to emphasize a few items.

EPA's NPDES Permits and TMDLs Branch has pointed out that AMAFCA has certain obligations:

- If AMAFCA agrees to enter monitoring events data on the permittees' (CMC member entities) behalf, this should be memorialized in a Memorandum of Agreement (MOA) or its equivalent. AMAFCA must maintain this obligation as part of their SWMP description and it should also be incorporated into the AMAFCA's SWMP.

- The CMC's SWMPs should also indicate that AMAFCA is responsible for implementing this action.

EPA's Water Enforcement Branch would also like to highlight Part I D.3.b of the Middle Rio Grande MS4 Permit requirements regarding Shared Responsibility and cooperative Programs, and Part IV.A of the MS4 Permit regarding Standard Permit Conditions and Duty to Comply.

- **Part I D.3.b** states that Implementation of the SWMP may be achieved through participation with other permittees, public agencies, or private entities in cooperative efforts to satisfy the requirements of Part I. D in lieu of creating duplicate program elements for each individual permittee, only if:

-

> "(c) The permittee remains responsible for compliance with the permit obligations if the other entity fails to implement the control measure component."

- **Part IV A** states that the permittee(s) must comply with all conditions of this permit insofar as those conditions are applicable to each permittee, either individually or jointly. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action.

As stated above, please note that each permittee is responsible for meeting its own permit obligations. If you have any questions, please contact Robert Houston, Special Projects Section Chief, at (214) 665-8565.

Sincerely,

Cheryl T. Seager
Division Director
Compliance Assurance and
Enforcement Division

Bohannan Huston

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M E M O R A N D U M

DATE: February 20, 2018

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

FROM: Craig Hoover, PE
Sarah Ganley, PE
Evan Burn, PE

SUBJECT: **CMC Wet Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and Reporting FY 2018 Wet Season (July 1, 2017, to October 31, 2017) Task 28 Reissued Memo**

Notification of In-Stream Water Quality Exceedances

For downstream notification purposes, the following parameters for in-stream samples taken in the Rio Grande for the FY 2018 wet season had results that exceeded applicable water quality standards for one or more samples: E. coli, Polychlorinated Biphenyls (PCBs), and Gross Alpha. Table 1 summarizes the samples with exceedances and the applicable water quality standard (WQS) that was exceeded. Additional details on the sampling results are provided in this memo.

Table 1: Parameters Detected Above Applicable Water Quality Standards CMC FY 2018 Wet Season Monitoring

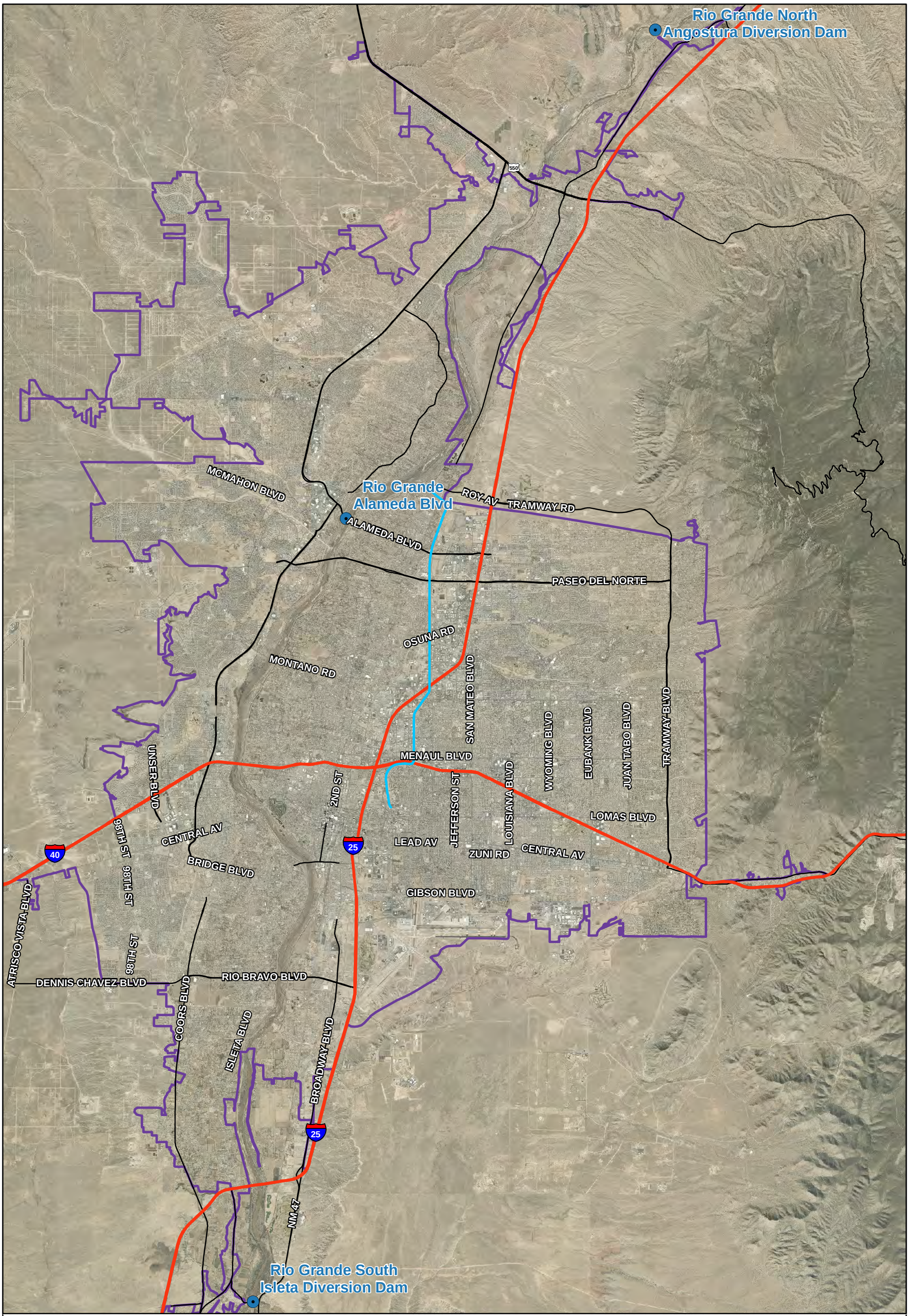
Sampling Date Location	Parameters, Applicable Water Quality Standard (WQS), and Results Exceeding Applicable WQS		
	E. coli	**PCBs**	**Gross Alpha**
	WQS: 88 CFU/100 ml Pueblo of Isleta Primary Contact Ceremonial & Recreational	**WQS: 0.00017 ug/L** Pueblo of Isleta Human Health Criteria (based on fish consumption only)	**WQS: 15 pCi/L** Pueblo of Isleta (General Standards) and NM domestic water supply and livestock watering
7/28/17 Rio Grande South Isleta Diversion Dam	236 CFU/100ml	0.000215 ug/L	No Exceedance
9/27/17 Rio Grande North Angostura Diversion Dam	733 CFU/100ml	0.00021 ug/L	No Exceedance
9/28/17 Rio Grande South Isleta Diversion Dam	6,131 CFU/100ml	0.00104 ug/L	20.9 pCi/L

Overview of Stormwater Monitoring Activity

Bohannan Huston, Inc. (BHI) has been tasked to perform water quality services for the Compliance Monitoring Cooperative (CMC) Stormwater Data Verification, Database, and Reporting for the Wet Weather Stormwater Quality Monitoring Program for Fiscal Year (FY) 2018 (July 1, 2017, to June 30, 2018). The scope of work for this task includes data verification of the stormwater laboratory analysis results, compiling the analysis results into a database, and calculating the E. coli loading to compare with the Waste Load Allocation (WLA) for the qualifying storm events. The stormwater compliance monitoring is being conducted separately by Daniel B. Stephens & Associates, Inc. (DBS&A) and is not a part of this 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 a minimum of seven (7) storm events be sampled at both the Rio Grande North and Rio Grande South locations (refer to Figure 1, page 3). Four (4) samples were collected in FY 2017 toward the WSB MS4 Permit requirements. This task assumes the remaining three (3) storm events, weather permitting, will be sampled in FY 2018 (July 1, 2017, to June 30, 2018) at both the Rio Grande North and Rio Grande South locations identified in the CMC Monitoring Plan. In addition, a mid-point E. coli sample may be obtained in the Rio Grande at Alameda Blvd. for each of these events.

Of these three (3) remaining storm events, two (2) samples were collected during the FY 2018 wet season (July 1, 2017, to October 31, 2017). The CMC collected one FY 2018 wet season sample on July 27-28, 2017, and one on September 27-28, 2017.



AMAFCA

Bohannan Huston
www.bhinc.com 800.877.5332

Legend

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

N W E S

0 0.5 1 2

Miles

CMC Monitoring

Figure 1
Monitoring Locations

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

The CMC Excel based database (created under Task 20) will be updated with the FY 2018 wet weather monitoring data as results are received. The database contains sample location, sample date, analyses conducted, methods used, applicable surface water quality standards (WQS), WSB MS4 Permit required Minimum Qualification Levels (MQL) and results. Any unusable data will be identified.

Summary of the CMC Sampling Plan

Sampling Parameters:

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

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

Hardness (as CaCO3) was added to the parameter list to allow dissolved metal results to be compared to the applicable WQSs. DO, pH, conductivity, and temperature are required by the WSB MS4 Permit to be analyzed in the field during sample collection, which was conducted by DBS&A, within 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 3.

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

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

During this FY 2018 wet season, an E. coli only sampling point was added within the Rio Grande at Alameda Blvd. This is the location of the NMED defined stream segment divide. This sample point was added after discussion with NMED in February 2017 regarding potential refinements to E. coli loading calculations.

Sample Collection:

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

DBS&A provided BHI with their field notes and field sample data (temperature, DO, specific conductivity, and pH) for the FY 2018 wet season sampling. AMAFCA provided BHI the completed laboratory analysis reports from Hall Environmental Analysis Laboratory (HEAL) for this monitoring season.

Quality Assurance Project Plan (QAPP):

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

Monitoring Activity & Lab Analysis Summary

The list below provides a summary of the CMC comprehensive monitoring program activities completed for the FY 2018 wet season from July 2017 through October 2017. Two (2) qualifying storm events were sampled and analyzed during the FY 2018 wet season.

- **July 27-28, 2017 – Qualifying Storm Event – Full Analysis of Samples.** A sample was collected at the Rio Grande North location beginning at 12:30 p.m. on July 27 and sent to the laboratory for an E. coli only test. The CMC determined that the storm event beginning July 27 was a qualifying storm event. A sample in the Rio Grande at Alameda Blvd. was obtained at 10:30 p.m. and tested for E. coli at the Bernalillo Waste Water Treatment Plant (WWTP). A Rio Grande South sample was collected beginning at 8:45 a.m. on July 28; the samples from the North (from July 27) and South locations were taken to the HEAL laboratory for full parameter testing.
- **September 27-28, 2017 – Qualifying Storm Event – Full Analysis of Samples.** A sample was collected at the Rio Grande North location beginning at 12:00 p.m. on September 27 and sent to the laboratory for an E. coli only test. The CMC determined the storm event beginning September 27 was a qualifying storm event. A sample in the Rio Grande at Alameda Blvd. was obtained at 10:00 p.m. and tested for E. coli at the Bernalillo WWTP. A Rio Grande South sample was collected beginning at 1:40 p.m. on September 28; the samples from the North (from September 27) and South locations were taken to the laboratory for full parameter testing.

Stormwater Quality Database for CMC

As stated previously, there were two (2) qualifying storm events during the FY 2018 wet season, wet weather monitoring which occurred July 27-28 and September 27-28. DBS&A's field notes containing DO, pH, conductivity, and temperature measurements, as well as sampling comments have been received, and field results have been added to the database. Additionally, the HEAL and Bernalillo WWTP lab reports for the corresponding time period have been received, added to the database, and are provided with this memo (Attachment 1). The laboratory reports attached to this memo have BHI added comments including the field parameter measurements and other relevant notes related to the laboratory report.

Database Data Entry:

The CMC Excel database was updated with the FY 2018 wet season, wet weather monitoring data. The database contains sample locations, sample date, analyses conducted, methods used, applicable surface water quality standards (WQS), WSB MS4 Permit required Minimum Quantification Levels (MQL), and analysis results. The database was updated under this Task to include the Rio Grande at Alameda sample location. Applicable surface WQS found in New Mexico Administrative Code (NMAC) 20.6.4 as well as the Pueblo of Isleta WQSs are entered in the Excel database for comparison purposes with testing results. There is an indicator in the database to show if the monitoring results exceed the applicable surface WQS. An exceedance is not a violation of the WSB MS4 Permit, as the Permit does not have numeric discharge limitations. These ">WQ Standard" flags simply and quickly show the CMC members where the results of the lab data exceed the applicable WQS.

Upon receipt of the 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 only samples from the Rio Grande Alameda location were also entered into the database.

Data Verification and Validation:

The HEAL laboratory analysis reports were provided to BHI by AMAFCA. The lab reports also contain the Chain of Custody for the submitted samples. Field data was requested by and provided to BHI by DBS&A. Data verification and validation (V&V) was conducted by BHI on all field notes, lab reports, and Chain of Custody documents in accordance with the CMC Water Quality Standard Operating Procedure (SOP) #2, which is part of the existing CMC QAPP, Draft June 14, 2016. These procedures are based on EPA Guidance for Environmental Data Verification and Validation (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 all field notes were complete. BHI handled field parameter questions directly with DBS&A. Chemical data verification began as soon as the lab reports were received, checking that all parameters were tested and looking for any obvious exceedances of WQS. Other steps listed on the *Data Verification and Validation Worksheet* were completed after all data from the laboratory was received and entered into the database. Sample blank results were reviewed to identify potential contamination during field processing or transport. Replica/duplicate samples were evaluated based on relative percent difference (as described in more detail in the QAPP) to determine the variability of the samples.

There were not any CMC FY 2018 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 2018 Wet Season Assessment and Evaluation of Monitoring Results

The EPA approved WSB MS4 CMC Monitoring Plan, May 5, 2016, has thirty-three (33) parameters to monitor at the Rio Grande North and Rio Grande South monitoring locations. Of these thirty-three (33) parameters, thirteen (13) parameters were not detected in either of the FY 2018 wet season samples at either the Rio Grande North or South locations. Refer to Table 2 for a list of the parameters that were not detected.

Table 2: Parameters Not Detected
CMC FY 2018 Wet Season Monitoring

Parameters Not Detected	
Tetrahydrofuran	Dieldren
Benzo(a)pyrene	Pentachlorophenol
Benzo(b)fluoranthene (3, 4 Benzofluoranthene)	Benzidine
Benzo(k)fluoranthene	Benzo(a)anthracene
Chrysene	Dibenzofuran
Indeno(1,2,3-cd)Pyrene	Dibenzo(a,h)anthracene
Chromium VI (Hexavalent)	

For the remaining twenty (20) parameters on the CMC monitoring parameter list, only three parameters (E. coli, PCBs, and gross alpha) had exceedances of the applicable surface WQS found in New Mexico Administrative Code (NMAC) 20.6.4 and the Pueblo of Isleta WQS during the FY 2018 wet season. These exceedances are summarized on Table 1, page 1 and discussed below in further detail.

E. coli:

The E. coli results collected during the FY 2018 wet season are summarized in Table 3.

Table 3: E. coli Results
CMC FY 2018 Wet Season Monitoring

Date – Rio Grande Location	E. coli Results (CFU/100 ml)
July 27, 2017 – North	20
July 27, 2017 – Alameda	52
July 28, 2017 – South	236
Sept. 27, 2017 – North	733
Sept. 27, 2017 – Alameda	Result not usable
Sept. 28, 2017 – South	6,131

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 one (1) of the samples, the September 27-28, 2017 sample, had results that exceeded the primary contact-single sample Pueblo of Isleta and Pueblo of Sandia WQS (88 CFU/100 mL) as well as the primary contact-single sample NMAC WQS (410 CFU/100 ml). At the Rio Grande South location (downstream of the MS4 UA), two (2) samples were collected and tested for E. coli, and both of these samples had results that exceeded the Pueblo of Isleta and Pueblo of Sandia WQS (88 CFU/100 mL) and one (1) of the samples, the September 27-28, 2017 sample, also exceeded the primary contact-single sample NMAC WQS (410 CFU/100 ml).

In addition, the CMC added an E. coli sample point in the Rio Grande at Alameda. This added analysis point was based on discussions with NMED in February 2017 on collecting actual data at

the stream segment divide verses using an area percentage (as defined in the TMDL) for E. coli loading calculations. For both FY 2018 wet season storm events, a sample was collected during each storm event at the Alameda location, and this sample was tested by the Bernalillo WWTP. However, the September 27-28, 2017, storm event sample result was not usable for CMC E. coli loading calculations, as the lab reported the result as too numerous to count.

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

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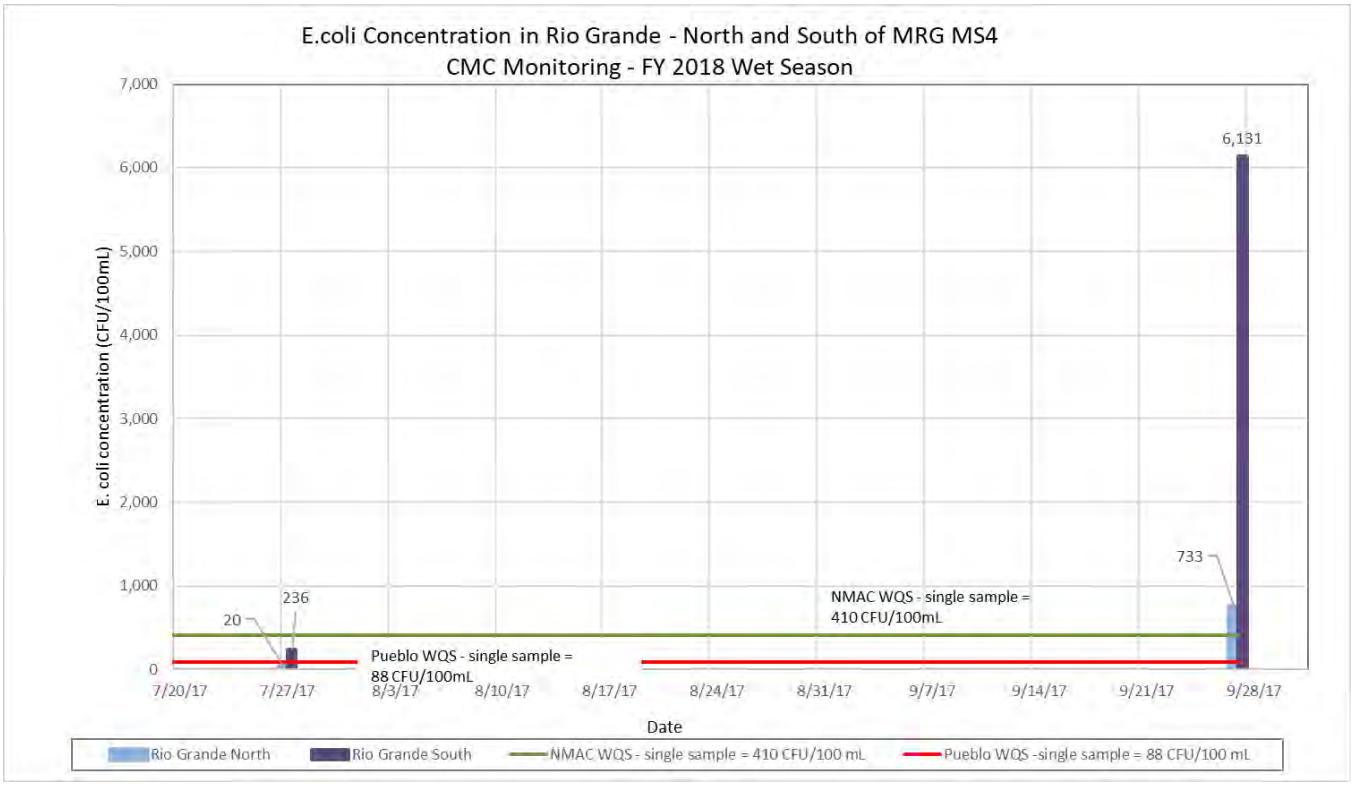


Figure 2: E. coli Results
CMC Monitoring – FY 2018 Wet Season

PCBs:

There are multiple surface water quality standard values listed for PCBs in both the Pueblo of Isleta and the State of New Mexico standards for the various designated uses. The PCBs measured in samples collected from the Rio Grande during the FY 2018 wet season stormwater events were all below the minimum quantification level (MQL) established in U.S. Environmental

Protection Agency (USEPA) standards for MS4 NPDES Permit (Appendix F, 0.2 ug/L for PCBs). The PCB results were also below the New Mexico Surface WQSs and Pueblo of Isleta Surface WQSs for designated uses including drinking water, wildlife habitat, acute aquatic life, and chronic aquatic life. However, three CMC samples from the Rio Grande were above the Pueblo of Isleta human health criteria (based on fish consumption only) WQS for surface waters, and one of these was also above the New Mexico human health-organism only (fish consumption only) WQS. The human health-organism only criterion is based upon human consumption of fish and other aquatic life that bioaccumulate contaminants over time. The FY 2018 wet season PCB results are shown in Figure 3 relative to various WQSs for PCBs.

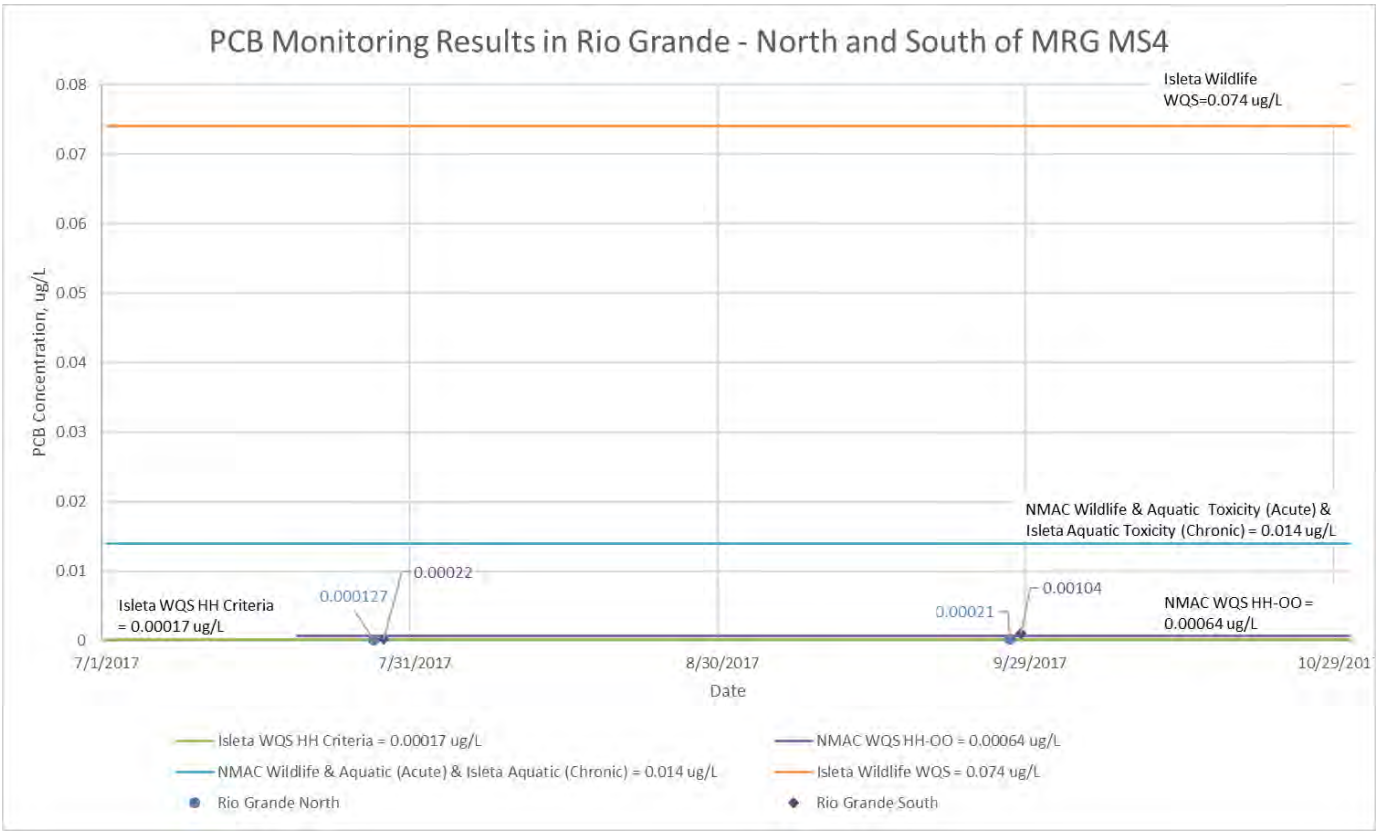


Figure 3: PCB Results
CMC Monitoring – FY 2018 Wet Season

Gross Alpha:

The September 27-28, 2017, Rio Grande South sample results exceeded the New Mexico and Pueblo of Isleta WQS for gross alpha. The WQS for Gross Alpha is the same value for both the NMAC 20.6.4 Water Quality Criterion and Pueblo of Isleta; the WQS of 15 pCi/L ("pCi/L" means picocuries per liter) is a general standard for the Pueblo of Isleta, and for New Mexico it is based on Domestic Water Supply and Livestock Watering designated uses. Once lab results were obtained and reviewed, the CMC was made aware of this exceedance on December 7, 2017. Sampling collection discussions with DBS&A did not note any variances from typical sampling procedures that would have impacted the analytical results for gross alpha (refer to Attachment 3

for additional documentation). In surface water, the gross alpha analyses may be affected by a high content of suspended load, particularly where sediment sources may be derived from granitic terrain; gross alpha results may reflect the radioactivity of the natural elements in the sediment more than the surface water.

The September 27-28, 2017, Rio Grande South Gross Alpha analytical results are detailed below; the units are in picocuries per liter (abbreviated as pCi/L):

- Rio Grande South CMC sample result = 20.9 pCi/L
- WQS at the Rio Grande South (Isleta Diversion Dam) location = 15 pCi/L (NMAC 20.6.4 Water Quality Criterion for livestock watering and domestic water supply designated uses and general standard for Pueblo of Isleta)

This is the first time the analytical results from a CMC sample has had an exceedance in gross alpha. The CMC will continue to closely evaluate this parameter in future samples. If additional exceedances occur, the CMC will discuss the results further and may consult NMED for further guidance.

Dissolved Oxygen and Temperature:

Two of the water quality parameters are specifically worth mentioning in this memo because they are listed in the WSB MS4 Permit, Part I.C.1 – Special Conditions: dissolved oxygen and temperature. These two parameters did not have any surface water quality exceedances during the FY 2018 wet season sampling.

Dissolved oxygen is a water quality concern in the Rio Grande if it is below 5 mg/L. None of the samples taken from the Rio Grande during the FY 2018 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 2018 wet season. Refer to Figure 4 for dissolved oxygen results and comparison to applicable WQS.

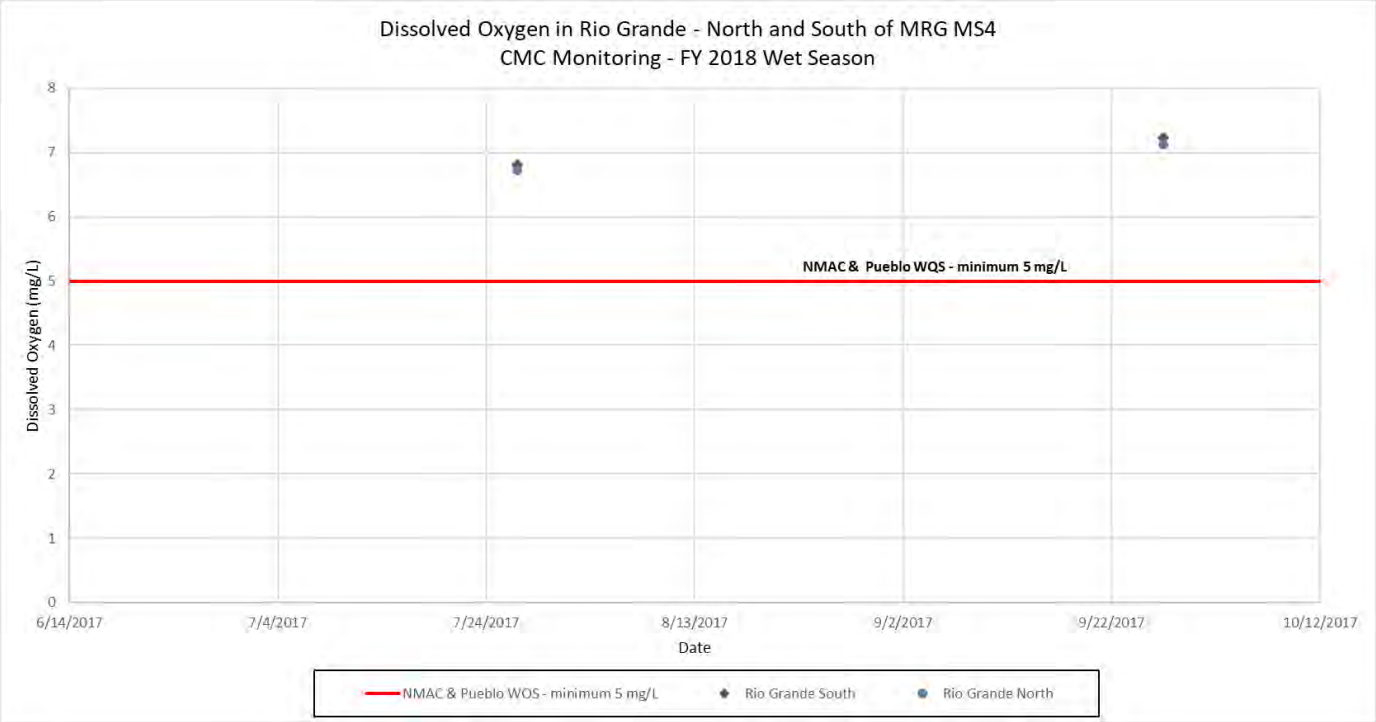


Figure 4: Dissolved Oxygen Results for Rio Grande
CMC Monitoring – FY 2018 Wet Season

Temperature is listed in the WSB MS4 Permit as a special condition (currently only applicable to the City of Albuquerque and AMAFCA). Past data submitted to EPA and NMED has proven that stormwater discharges into the Rio Grande are not raising the Rio Grande temperature above the WQS. The data collected during this FY 2018 wet season monitoring supports this conclusion. All the temperature field readings taken in the Rio Grande during the CMC FY 2018 wet season were below 32.2°C (90 °F) - the WQS for the State of New Mexico and for the Isleta and Sandia Pueblos. Refer to Figure 5 for temperature results and comparison to applicable WQS.

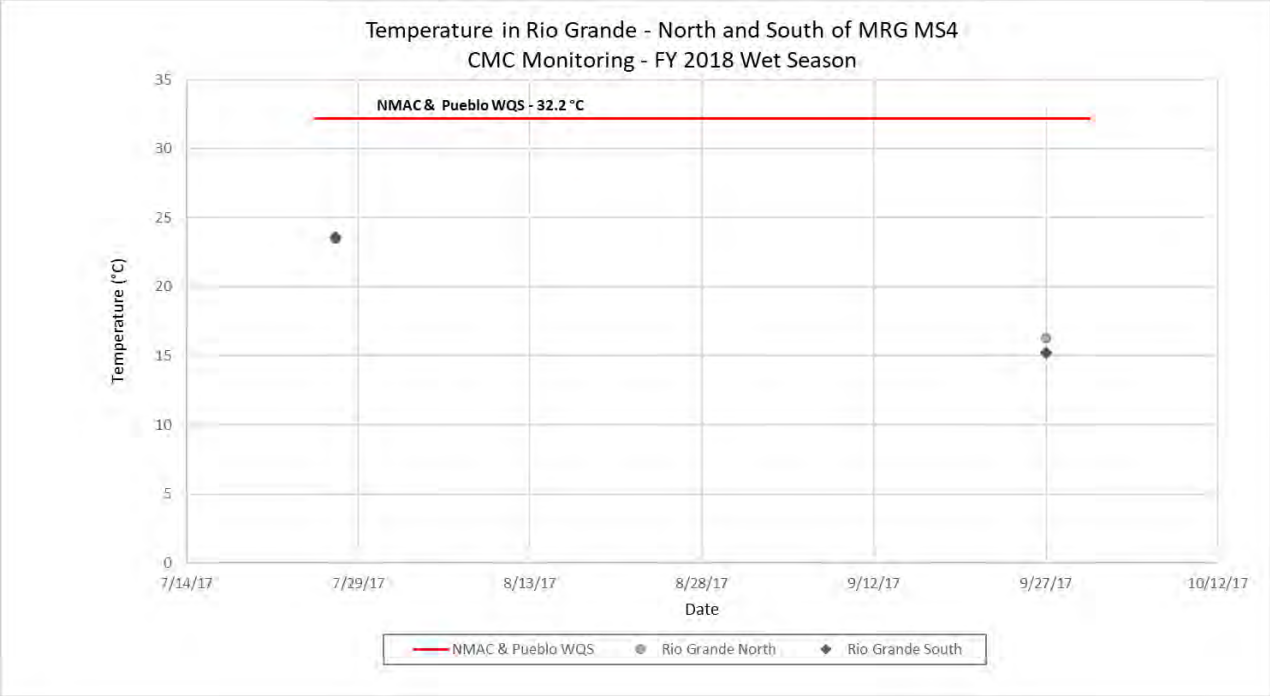


Figure 5: Temperature Monitoring Results in Rio Grande
CMC Monitoring – FY 2018 Wet Season

CMC FY 2018 Wet Season E. coli Loading Calculations and Waste Load Allocation (WLA)

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

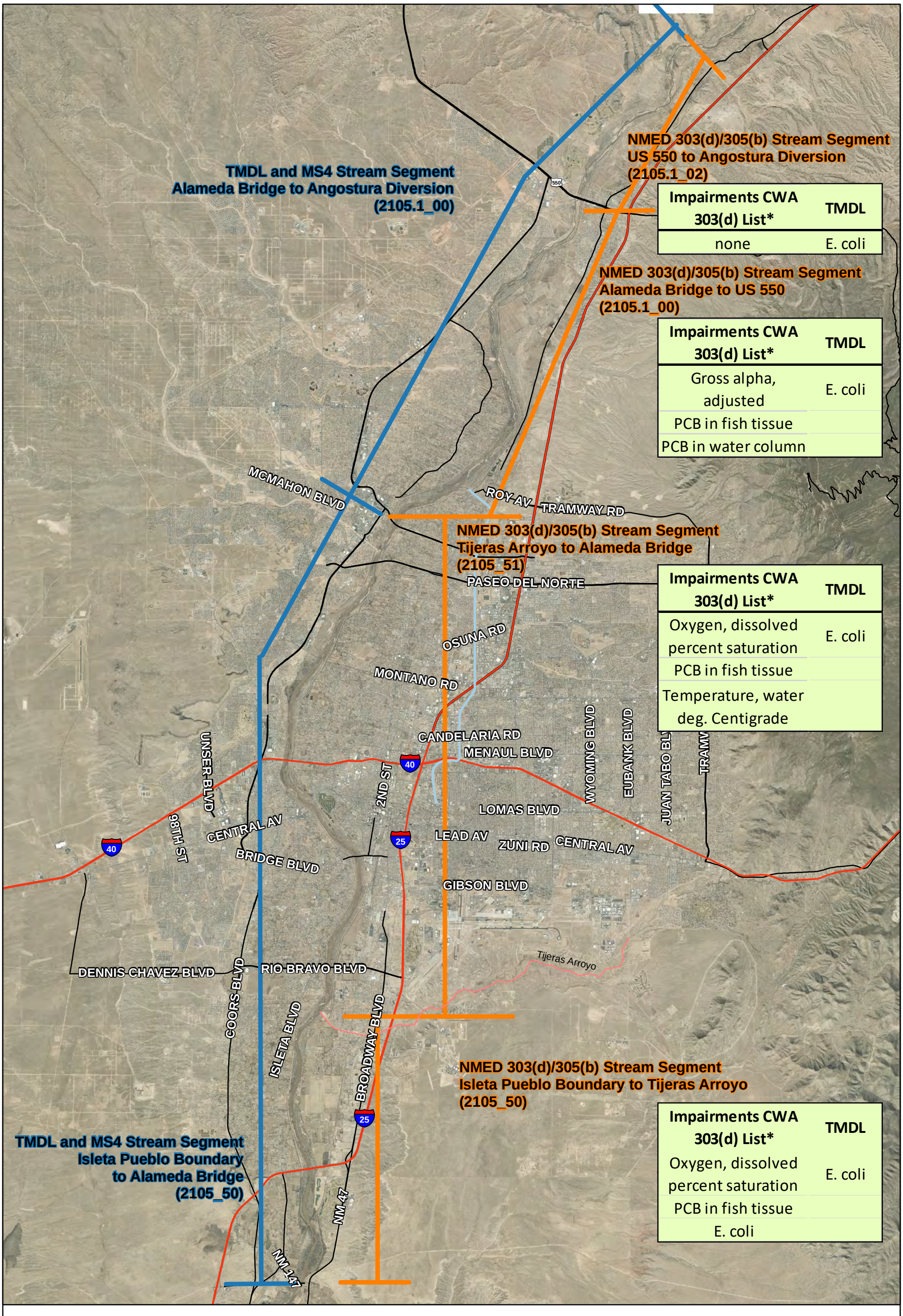
E. coli loading calculations and comparison to the WLA follows the WSB MS4 Permit requirements in "Discharges to Water Quality Impaired Water Bodies with an Approved TMDL," Part I.C.2.b.(i).(c).B, Appendix B-Total Maximum Daily Loads (TMDLs) Tables of the WSB MS4 Permit, and the NMED guidance provided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

There are two (2) stream segments defined in the WSB MS4 Permit (Appendix B): Isleta Pueblo Boundary to Alameda Street Bridge (Stream Segment 2105_50) and Non-Pueblo Alameda Bridge to Angostura Diversion (Stream Segment 2105.1_00). These stream segments differ from NMED's current stream segments defined in "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 6, page 15.

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 two (2) qualifying event wet season storm events—July 27-28 and September 27-28, 2017. For the July 27-28, 2017 event, the CMC obtained an E. coli sample in the Rio Grande at Alameda and used this to calculate the E. coli loading for the two river segments. Refer to Table 4 for a summary of the WLA comparison results. A spreadsheet is attached to this memo that provides the detailed calculations.



Legend

- TMDL/MS4 Stream Segments
- NMED Stream Segments
- North Diversion Channel
- Interstate Highway
- U.S. Highway
- State Highway

* Final 2016-2018 State of NM Clean Water Act Section 303(d)/Section 305(b) Integrated Report

AMAFCA

Bohannan Huston
www.bhinc.com 800.877.5332

N W E S

0 0.5 1 2
Miles

CMC Monitoring

Figure 6
Rio Grande
NMED and MS4 Permit
Stream Segments

P:\20180302\WR\Reports\Preliminary & Draft\Figures\MXDs\Figure7-TMDLStreamSegments.mxd
Author: mbaltazar

Table 4: Summary of CMC E. Coli Loading Compared to WLA for the CMC

Date / Stream Segment	Daily Mean Flow (cfs)	Flow Conditions (cfs) *range defined by NMED*	CMC Daily E. coli Load-ing (CFU/day)	NMED WLA for CMC for Stream Segment and Flow Conditions	Loading Compared to WLA Potential Exceedance or Acceptable
July 27-28, 2017 – Rio Grande North E. coli concentration = 20 CFU/100 mL, Rio Grande at Alameda E. coli concentration = 52 CFU/100 mL Rio Grande South E. coli Concentration = 236 CFU/100 mL					
Alameda to Angostura	545	Dry	2.50E+10	3.24E+10	WLA Acceptable
Isleta to Alameda	470	Dry	8.63E+10	1.57E+10	WLA Potential Exceedance
September 27-28, 2017 – Rio Grande North E. coli concentration = 733 CFU/100 mL and Rio Grande South E. coli Concentration = 6,131 CFU/100 mL					
Alameda to Angostura	983	Moist	7.34E+12	9.09E+10	WLA Potential Exceedance
Isleta to Alameda	1,190	Moist	2.18E+12	6.29E+10	WLA Potential Exceedance

As Table 4 illustrates, the E. coli loading for the July 27-28, 2017, storm event for the northern segment (Alameda to Angostura) was below the WLA for the CMC MS4s. This analysis used the mid-point E. coli sample result obtained in the Rio Grande at Alameda. The E. coli loading for the southern segment for the July 27-28, 2017, and both segments for the Sept. 27-28, 2017, event 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 CMC members are working toward understanding the WLA. In addition, the CMC members began implementing a refinement to the sampling plan discussed with NMED by obtaining an E. coli sample in the Rio Grande at Alameda during the FY 2018 wet season. This demonstrates that the CMC is continuing to investigate the potential exceedances and make improvements to monitor E. coli in the Rio Grande.

Data Entry for Discharge Monitoring Reports

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. For this Task, BHI has not completed any data entry related to the EPA DMRs for the FY 2018 wet season. DMRs with this data are due to EPA on December 1, 2018, and these forms will be completed as directed by AMAFCA, as the delegated data entry member for the CMC.

Conclusions and Planning

During the FY 2018 wet season (July 1 to October 31, 2017), two (2) 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 CMC Excel database. The lab data entered is marked in the spreadsheet as "V" (verified), and data V&V has been completed (refer to Attachment 2).

To summarize, monitoring results and E. coli loading calculations for the FY 2018 wet season show that:

- With the two FY 2018 wet season samples, six (6) of the seven (7) required samples in the WSB MS4 Permit Wet Weather Monitoring section have been obtained. 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 three (3) events during the wet season.
- 13 of the 33 parameters tested were not detected in any of the Rio Grande North or South samples.
- Several key parameters all met the applicable WQSs as they have for all the CMC samples to date:
    - All dissolved oxygen results were greater than 5 mg/L (minimum WQS).
    - All temperature results were less than 32.2 °C (maximum WQS).
- The PCB results were also below the New Mexico Surface WQSs and Pueblo of Isleta Surface WQSs for designated uses including drinking water, wildlife habitat, acute aquatic life, and chronic aquatic life. However, three CMC samples from the Rio Grande were above the Pueblo of Isleta human health criteria (based on fish consumption only) WQS for surface waters and one of these was also above the New Mexico human health-organism only (fish consumption only) WQS.
- The September 27-28, 2017, Rio Grande South sample results exceeded the WQS for gross alpha. This is the first time the analytical results from a CMC sample has had an exceedance in gross alpha. The CMC will continue to closely evaluate this parameter in future samples.
- The calculated E. coli loading for the July 27-28, 2017, storm event for the northern segment (Alameda to Angostura) was below the WLA for the CMC MS4s. This analysis used the mid-point E. coli sample result obtained in the Rio Grande at Alameda. The E. coli loading for the southern segment for the July 27-28, 2017, and both segments for the September 27-28, 2017, event all potentially exceeded the CMC allocated WLA.

- Sources for the E. coli loading measured in the river are not solely attributable to the CMC MS4 members; the E. coli loading calculations serve to provide a reasonable estimate of the CMC contribution to the measured E. coli loading.
- This sampling and calculation approach is only an estimate of the CMC contribution to the E. coli loading which is why the term “potential exceedance” is used.
- The in-stream data does not provide the concentration of E. coli contributed by only the CMC MS4s or any of the other potential sources. By using this percentage calculation approach, if other contributors are in exceedance of the WLA, then the CMC will likely also be in exceedance since this approach relies on a percentage of a total.

For planning purposed for the CMC members, the FY 2018 dry season monitoring activity (weather permitting), analytical results, and E. coli loading calculations will be summarized by BHI for the CMC in a memo due August 15, 2018.

SG/le

Attachments:

Attachment 1 – Hall Environmental Analysis Laboratory Reports with BHI Notes for FY 2018 Wet Season

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

Attachment 3 – Documentation from DBS&A Related to September 27-28, 2017, Sample Collection and Gross Alpha Analytical Result

Spreadsheets Included Separately:

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

Excel CMC Spreadsheet with FY 2018 Wet Season Stormwater Quality Monitoring Results

ATTACHMENT 1

HALL ENVIRONMENTAL ANALYSIS LABORATORY REPORTS WITH BHI NOTES FOR FY 2018 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 11, 2017

July 27, 2017 Rio Grande North and Rio Grande at Alameda (pre storm) - E. coli results

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

RE: CMC OrderNo.: 1707E07

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/27/2017 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1707E07**
Date Reported: **8/11/2017**

CLIENT: AMAFCA
Client Sample ID: Alameda-20170727
Project: CMC
Collection Date: 7/27/2017 10:20:00 AM
Lab ID: 1707E07-001
Matrix: AQUEOUS
Received Date: 7/27/2017 1:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **SMS**	
E. Coli	50.4	1.000		MPN/100mL	1	7/28/2017 4:04:00 PM	33053

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1707E07**
Date Reported: **8/11/2017**

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North-20170727
Project: CMC
Collection Date: 7/27/2017 12:30:00 PM
Lab ID: 1707E07-002 **Matrix:** AQUEOUS **Received Date:** 7/27/2017 1:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **SMS**	
E. Coli	20	10.00		MPN/100mL	10	7/28/2017 4:04:00 PM	33053

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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: 1707E07 RcptNo: 1

Received By: **Anne Thorne** 7/27/2017 1:30:00 PM

Completed By: **Anne Thorne** 7/27/2017 1:43:54 PM

Reviewed By: 7/27 @ 1348

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	16.9	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address: 2600 Prospect Ave
ABQ NM 87107

Phone #: 505-884-2215

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 - DBSA

On Ice: ☒ Yes ☐ No

Sample Temperature: 16.9

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)
7-27-17	1020	AQ	Alameda - 20170727	1		201												X				
7-27-17	1230	AQ	RioGrande - North - 20170727	1		202												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
7-27-17	1330			7/27/17	1330
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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.

July 27, 2018
Rio Grande at Alameda E. coli sample during storm event

Bernalillo WWTP

E. coli WORKSHEET

Time of Sampling: 10:30PM Time of Arrival: 10:47PM
Type of Sample: Grab Sample Instantaneous Flow: ______ MGD
Exact Location: ~~EFF WW~~ River Sample
Method Used: Hach m-ColiBlue 24 EPA Approved Method

Refrigerator Temperature: 4 °C
(Samples must be stored at <6°C)

In Incubator:
Date: 7-27-17 Time: 11:07PM Temp: 35.1 °C
24 Hours ± 2 hours. 35.0 ± 0.5°C

Out of Incubator:
Date: 7-28-17 Time: 9:31 Temp: 35.1 °C
24 Hours ± 2 hours. 35.0 ± 0.5°C

Formula: Calculate coliform density: Use all plates and filtered volumes that fall between the ideal range. Include duplicates and multiple dilutions.

Colonies/100 mL = (coliform colonies counted) X (100) / mLs Sample filtered

Formula: If no plate falls in the ideal range, use all plates and filtered volumes not categorized as TNTC or Confluent Growth.

Colonies/100 mL = (Sum of colonies in all samples) X (100) / Sum of volume (in mL) of all samples

(Use the worksheet below to calculate coliform density)

IF: The total number of colonies exceeds 200 per membrane, or the colonies are too indistinct for accurate counting, or exceed 60 blue colonies, report the results as "Too Numerous to Count (TNTC)" Or "confluent growth" as applies.

**Use plates that fall in the ideal range for Quantitative Determinations for e-coli (20-60)

E. coli Colonies Reported/100 mls
52

Sample	Volume	Blue Colonies
Blank I	100 mL	Ø
MW ~~25~~ 10	MW ~~25 mL~~ 10 mL	6
MW ~~50A~~ 20A	MW ~~50 mL~~ 20 mL	10
MW ~~50B~~ 20B	MW ~~50 mL~~ 20 mL	14
MW ~~100~~ 50	MW ~~100 mL~~ 50 mL	52
Blank II	100 mL	Ø

Sampled By: Mark Wootan

Analyzed By: Mark Wootan

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

September 21, 2017

July 27, 2018 Rio Grande North and
July 28, 2017 Rio Grand South results

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

RE: CMC OrderNo.: 1707E46

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 6 sample(s) on 7/28/2017 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Data - Provided by DBS&A (field notebook):
7/27/17 - Rio Grande North
DO = 6.73 mg/L, pH = 7.33, Conductivity = 247 umhos/cm, and Temperature = 23.47°C
7/28/17 - Rio Grande South
DO = 6.8 mg/L, pH = 8.13, Conductivity = 361 umhos/cm, and Temperature = 23.6°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#: **1707E46**
Date: **9/21/2017**

CLIENT: AMAFCA
Project: CMC

Analytical Notes Regarding EPA Method 8260:
Both samples in this report were analzyed by EPA Method 8260, however Tetrahydrofuran was not included in the list of reportable compounds. We have scanned the samples using the MS for Tetrahydrofuran and this compound was not detected.

Analytical Notes Regarding EPA Method 8270:
Both samples in this report were analzyed by EPA Method 8270, however Benzidine and Dieldrin were not included in the list of reportable compounds. We have scanned the samples using the MS for Benzidine and Dieldrin and these compounds were not detected.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North-20170727
Project: CMC
Collection Date: 7/27/2017 12:30:00 PM
Lab ID: 1707E46-001B
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benz(a)anthracene	ND	3.9	10		µg/L	1	8/11/2017 4:39:12 PM	33127
Benzo(a)pyrene	ND	4.0	10		µg/L	1	8/11/2017 4:39:12 PM	33127
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	8/11/2017 4:39:12 PM	33127
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	8/11/2017 4:39:12 PM	33127
Bis(2-ethylhexyl)phthalate	5.5	4.8	10	J	µg/L	1	8/11/2017 4:39:12 PM	33127
Chrysene	ND	3.8	10		µg/L	1	8/11/2017 4:39:12 PM	33127
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	8/11/2017 4:39:12 PM	33127
Dibenzofuran	ND	4.1	10		µg/L	1	8/11/2017 4:39:12 PM	33127
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	8/11/2017 4:39:12 PM	33127
Pentachlorophenol	ND	4.9	20		µg/L	1	8/11/2017 4:39:12 PM	33127
Surr: 2-Fluorophenol	52.2	0	15-88		%Rec	1	8/11/2017 4:39:12 PM	33127
Surr: Phenol-d5	40.6	0	15-72.4		%Rec	1	8/11/2017 4:39:12 PM	33127
Surr: 2,4,6-Tribromophenol	74.9	0	15-117		%Rec	1	8/11/2017 4:39:12 PM	33127
Surr: Nitrobenzene-d5	92.1	0	33.5-120		%Rec	1	8/11/2017 4:39:12 PM	33127
Surr: 2-Fluorobiphenyl	86.4	0	26.5-109		%Rec	1	8/11/2017 4:39:12 PM	33127
Surr: 4-Terphenyl-d14	64.2	0	21.7-98.7		%Rec	1	8/11/2017 4:39:12 PM	33127

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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
Project: CMC
Lab ID: 1707E46-001C

Client Sample ID: Rio Grande-North-20170727
Collection Date: 7/27/2017 12:30:00 PM
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 1664B							Analyst: **MAB**	
N-Hexane Extractable Material	5.17	3.77	9.94	J	mg/L	1	8/1/2017	33094

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170727
Project: CMC
Collection Date: 7/27/2017 12:30:00 PM
Lab ID: 1707E46-001E
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	DO Depletion<2.0	2.0	2.0		mg/L	1	8/2/2017 3:49:00 PM	33070

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170727
Project: CMC
Collection Date: 7/27/2017 12:30:00 PM
Lab ID: 1707E46-001F
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Nitrogen, Nitrite (As N)	ND	0.0069	0.10		mg/L	1	7/28/2017 3:28:31 PM	R44608
Nitrogen, Nitrate (As N)	0.050	0.022	0.10	J	mg/L	1	7/28/2017 3:28:31 PM	R44608
SM 4500 NH3: AMMONIA							Analyst: **CJS**	
Nitrogen, Ammonia	ND	0.40	1.0		mg/L	1	8/2/2017 2:36:00 PM	R44684
SM4500-H+B: PH							Analyst: **JRR**	
pH	8.19			H	pH units	1	7/31/2017 1:10:24 PM	R44651
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **CJS**	
Phosphorus, Total (As P)	0.062	0.010	0.010		mg/L	1	8/8/2017 12:25:00 PM	33215
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **SRM**	
Total Dissolved Solids	181	11.8	20.0		mg/L	1	8/3/2017 12:07:00 PM	33122
SM 4500 NORG C: TKN							Analyst: **smb**	
Nitrogen, Kjeldahl, Total	ND	0.44	1.0		mg/L	1	8/11/2017 11:11:00 AM	33282
SM 2540D: TSS							Analyst: **KS**	
Suspended Solids	32	3.9	4.0		mg/L	1	8/3/2017 2:30:00 PM	33138

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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
Project: CMC
Lab ID: 1707E46-001G

Client Sample ID: Rio Grande-North-20170727
Collection Date: 7/27/2017 12:30:00 PM
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS							Analyst: **TES**	
Calcium	34	0.078	1.0		mg/L	1	8/16/2017 3:33:23 PM	33360
Magnesium	6.0	0.25	1.0		mg/L	1	8/16/2017 3:33:23 PM	33360
SM2340B: HARDNESS							Analyst: **TES**	
Hardness (As CaCO3)	110	2.5	6.6		mg/L	1	8/16/2017	R45008

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170727
Project: CMC
Collection Date: 7/27/2017 12:30:00 PM
Lab ID: 1707E46-001H
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Copper	0.0011	0.00030	0.0010		mg/L	1	8/3/2017 7:13:20 PM	B44712
Lead	ND	0.00017	0.00050		mg/L	1	8/2/2017 9:11:04 PM	D44683

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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: ABQRD-East
Project: CMC
Collection Date: 7/28/2017 7:15:00 AM
Lab ID: 1707E46-002A
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	1296	10.00	10.00		MPN/100	10	7/29/2017 3:29:00 PM	33077

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170728
Project: CMC
Collection Date: 7/28/2017 8:45:00 AM
Lab ID: 1707E46-003B
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	4.0	10		µg/L	1	8/11/2017 6:03:09 PM	33127
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	8/11/2017 6:03:09 PM	33127
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	8/11/2017 6:03:09 PM	33127
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	8/11/2017 6:03:09 PM	33127
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	8/11/2017 6:03:09 PM	33127
Chrysene	ND	3.8	10		µg/L	1	8/11/2017 6:03:09 PM	33127
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	8/11/2017 6:03:09 PM	33127
Dibenzofuran	ND	4.1	10		µg/L	1	8/11/2017 6:03:09 PM	33127
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	8/11/2017 6:03:09 PM	33127
Pentachlorophenol	ND	4.9	20		µg/L	1	8/11/2017 6:03:09 PM	33127
Surr: 2-Fluorophenol	43.3	0	15-88		%Rec	1	8/11/2017 6:03:09 PM	33127
Surr: Phenol-d5	32.4	0	15-72.4		%Rec	1	8/11/2017 6:03:09 PM	33127
Surr: 2,4,6-Tribromophenol	60.3	0	15-117		%Rec	1	8/11/2017 6:03:09 PM	33127
Surr: Nitrobenzene-d5	72.7	0	33.5-120		%Rec	1	8/11/2017 6:03:09 PM	33127
Surr: 2-Fluorobiphenyl	66.2	0	26.5-109		%Rec	1	8/11/2017 6:03:09 PM	33127
Surr: 4-Terphenyl-d14	55.0	0	21.7-98.7		%Rec	1	8/11/2017 6:03:09 PM	33127

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170728
Project: CMC
Collection Date: 7/28/2017 8:45:00 AM
Lab ID: 1707E46-003C
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 1664B							Analyst: **MAB**	
N-Hexane Extractable Material	3.70	3.69	9.73	J	mg/L	1	8/1/2017	33094

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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
Project: CMC
Lab ID: 1707E46-003D

Client Sample ID: Rio Grande-South-20170728
Collection Date: 7/28/2017 8:45:00 AM
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	235.9	1.000	1.000		MPN/100	1	7/29/2017 3:29:00 PM	33077

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170728
Project: CMC
Collection Date: 7/28/2017 8:45:00 AM
Lab ID: 1707E46-003E
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	2.0	2.0	2.0		mg/L	1	8/2/2017 3:49:00 PM	33070

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170728
Project: CMC
Collection Date: 7/28/2017 8:45:00 AM
Lab ID: 1707E46-003F
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Nitrogen, Nitrite (As N)	ND	0.0069	0.10		mg/L	1	7/28/2017 3:53:21 PM	R44608
Nitrogen, Nitrate (As N)	0.88	0.022	0.10		mg/L	1	7/28/2017 3:53:21 PM	R44608
SM 4500 NH3: AMMONIA							Analyst: **CJS**	
Nitrogen, Ammonia	ND	0.40	1.0		mg/L	1	8/2/2017 2:36:00 PM	R44684
SM4500-H+B: PH							Analyst: **JRR**	
pH	8.20			H	pH units	1	7/31/2017 1:14:40 PM	R44651
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **CJS**	
Phosphorus, Total (As P)	0.33	0.010	0.010		mg/L	1	8/8/2017 1:10:00 PM	33215
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **SRM**	
Total Dissolved Solids	248	11.8	20.0		mg/L	1	8/3/2017 12:07:00 PM	33122
SM 4500 NORG C: TKN							Analyst: **smb**	
Nitrogen, Kjeldahl, Total	0.84	0.44	1.0	J	mg/L	1	8/11/2017 11:11:00 AM	33282
SM 2540D: TSS							Analyst: **KS**	
Suspended Solids	63	3.9	4.0		mg/L	1	8/3/2017 2:30:00 PM	33138

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170728
Project: CMC
Collection Date: 7/28/2017 8:45:00 AM
Lab ID: 1707E46-003G
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS							Analyst: **TES**	
Calcium	40	0.078	1.0		mg/L	1	8/16/2017 3:35:11 PM	33360
Magnesium	7.4	0.25	1.0		mg/L	1	8/16/2017 3:35:11 PM	33360
SM2340B: HARDNESS							Analyst: **TES**	
Hardness (As CaCO3)	130	2.5	6.6		mg/L	1	8/16/2017	R45008

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170728
Project: CMC
Collection Date: 7/28/2017 8:45:00 AM
Lab ID: 1707E46-003H
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Copper	0.0012	0.00030	0.0010		mg/L	1	8/3/2017 7:16:24 PM	B44712
Lead	ND	0.00017	0.00050		mg/L	1	8/2/2017 9:14:07 PM	D44683

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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
Project: CMC
Lab ID: 1707E46-004A

Client Sample ID: Rio Grande-North-20170727 FIL
Collection Date: 7/27/2017 12:30:00 PM
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **JRR**	
Phosphorus, Total (As P)	0.025	0.010	0.010		mg/L	1	8/11/2017 12:57:10 PM	33306

Dissolved phosphorous - filtered sample

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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
Project: CMC
Lab ID: 1707E46-005A

Client Sample ID: Rio Grande-South-20170728 FIL
Collection Date: 7/28/2017 8:45:00 AM
Matrix: Aqueous

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **JRR**	
Phosphorus, Total (As P)	0.25	0.010	0.010		mg/L	1	8/11/2017 12:58:40 PM	33306

Dissolved phosphorous - filtered sample

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

Qualifiers:

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

CFA | Cape Fear Analytical LLC
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September 12, 2017

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

Re: Routine Analysis
Work Order: 11143
SDG: 1707E46

PCB lab report for July 27-28, 2017 was reissued to provide a reporting format consistent with other PCB reports provided for this CMC monitoring. Reissued lab report follows this completed lab report.

Dear Mr. Freeman:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on August 01, 2017. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

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

Sincerely,

Cynde Larkins

Cynde Larkins
Project Manager

Purchase Order: IDIQ Pricing
Enclosures

problem solved

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	19.9		10.0	1	08/01/2017 23:28	WG1004901

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	08/04/2017 14:31	WG1008004

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	15.0		10.0	1	08/01/2017 23:28	WG1004901

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	08/04/2017 14:47	WG1006004

Method Blank (MB)

(MB) R3238729-1 08/04/17 13:17

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Hexavalent Chromium	U		0.00015	0.000500

L925975-02 Original Sample (OS) • Duplicate (DUP)

(OS) L925975-02 08/04/17 14:31 • (DUP) R3238729-4 08/04/17 14:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Hexavalent Chromium	ND	0.000	1	0		20

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

(LCS) R3238729-2 08/04/17 13:31 • (LCSD) R3238729-3 08/04/17 13:42

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	0.00200	0.00199	100	99	90-110			1	20

L926000-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926000-03 08/04/17 15:28 • (MS) R3238729-5 08/04/17 15:36 • (MSD) R3238729-6 08/04/17 15:45

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	0.0120	0.0628	0.0630	101	102	1	90-110			0	20

Method Blank (MB)

(MB) R3237807-1 08/01/17 23:26

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L926102-01 Original Sample (OS) • Duplicate (DUP)

(OS) L926102-01 08/01/17 23:31 • (DUP) R3237807-7 08/01/17 23:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	10.5	11.0	1	5		20

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

(LCS) R3237807-2 08/01/17 23:26 • (LCSD) R3237807-3 08/01/17 23:26

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	%	%	%			%	%
COD	242	241	239	100	99	90-110			1	20

L925999-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L925999-01 08/01/17 23:28 • (MS) R3237807-5 08/01/17 23:29 • (MSD) R3237807-6 08/01/17 23:29

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	%	%		%			%	%
COD	400	92.8	471	477	95	96	1	80-120			1	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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(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1707E46
Pace Project No.: 30225841

Sample: 1707E46-001L Rio Grande-North- **Lab ID: 30225841001** Collected: 07/27/17 12:30 Received: 08/01/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**2.06 ± 1.60 (2.88) C:NA T:NA**	pCi/L	08/16/17 08:36	12587-46-1	

Sample: 1707E46-003L Rio Grande-South- **Lab ID: 30225841002** Collected: 07/28/17 08:45 Received: 08/01/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**2.15 ± 1.31 (1.90) C:NA T:NA**	pCi/L	08/16/17 08:36	12587-46-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1707E46
Pace Project No.: 30225841

QC Batch: 267183 Analysis Method: EPA 900.0
QC Batch Method: EPA 900.0 Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 30225841001, 30225841002

METHOD BLANK: 1315323 Matrix: Water
Associated Lab Samples: 30225841001, 30225841002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	0.319 ± 0.853 (2.04) C:NA T:NA	pCi/L	08/16/17 08:35	

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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without the written consent of Pace Analytical Services, LLC.

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

QUALIFIERS

Project: 1707E46
Pace Project No.: 30225841

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-33094**	SampType:	**MBLK**	TestCode:	**EPA Method 1664B**					
Client ID:	**PBW**	Batch ID:	**33094**	RunNo:	**44643**					
Prep Date:	**8/1/2017**	Analysis Date:	**8/1/2017**	SeqNo:	**1414653**	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-33094**	SampType:	**LCS**	TestCode:	**EPA Method 1664B**					
Client ID:	**LCSW**	Batch ID:	**33094**	RunNo:	**44643**					
Prep Date:	**8/1/2017**	Analysis Date:	**8/1/2017**	SeqNo:	**1414654**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	35.8	10.0	40.00	0	89.5	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
PQL	Practical Quanitative Limit	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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-33360**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**PBW**	Batch ID:	**33360**	RunNo:	**45008**					
Prep Date:	**8/14/2017**	Analysis Date:	**8/16/2017**	SeqNo:	**1424221**	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	**LLLCS-33360**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**BatchQC**	Batch ID:	**33360**	RunNo:	**45008**					
Prep Date:	**8/14/2017**	Analysis Date:	**8/16/2017**	SeqNo:	**1424222**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.50	1.0	0.5000	0	101	50	150			J
Magnesium	0.51	1.0	0.5000	0	103	50	150			J

Sample ID	**LCS-33360**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**LCSW**	Batch ID:	**33360**	RunNo:	**45008**					
Prep Date:	**8/14/2017**	Analysis Date:	**8/16/2017**	SeqNo:	**1424223**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	102	85	115			
Magnesium	49	1.0	50.00	0	98.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **D44683**			RunNo: **44683**					
Prep Date:		Analysis Date: **8/2/2017**			SeqNo: **1413497**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	92.4	85	115			

Sample ID	**LLLCS**	SampType: **LCSLL**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **D44683**			RunNo: **44683**					
Prep Date:		Analysis Date: **8/2/2017**			SeqNo: **1413500**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00048	0.00050	0.0005000	0	95.4	50	150			J

Sample ID	**MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **D44683**			RunNo: **44683**					
Prep Date:		Analysis Date: **8/2/2017**			SeqNo: **1413503**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **B44712**			RunNo: **44712**					
Prep Date:		Analysis Date: **8/3/2017**			SeqNo: **1414078**		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	94.3	85	115			

Sample ID	**LLLCS**	SampType: **LCSLL**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **B44712**			RunNo: **44712**					
Prep Date:		Analysis Date: **8/3/2017**			SeqNo: **1414079**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0014	0.0010	0.001000	0	144	50	150			

Sample ID	**MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **B44712**			RunNo: **44712**					
Prep Date:		Analysis Date: **8/3/2017**			SeqNo: **1414080**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	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#: **1707E46**
21-Sep-17

Client: AMAFCA
Project: CMC

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R44608**	RunNo: **44608**
Prep Date:	Analysis Date: **7/28/2017**	SeqNo: **1410086** 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: **R44608**	RunNo: **44608**
Prep Date:	Analysis Date: **7/28/2017**	SeqNo: **1410087** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	93.2	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	96.7	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID **1707e46-001bms**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **Rio Grande-North-2**	Batch ID: **33127**	RunNo: **44929**
Prep Date: **8/2/2017**	Analysis Date: **8/11/2017**	SeqNo: **1421011** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	66	10	100.0	0	65.5	18.1	108			
4-Chloro-3-methylphenol	120	10	200.0	0	59.4	15	111			
2-Chlorophenol	130	10	200.0	0	65.0	15	113			
1,4-Dichlorobenzene	66	10	100.0	0	66.2	21	81.3			
2,4-Dinitrotoluene	57	10	100.0	0	57.4	27.4	101			
N-Nitrosodi-n-propylamine	74	10	100.0	0	73.7	24.9	107			
4-Nitrophenol	77	10	200.0	0	38.6	15	62.2			
Pentachlorophenol	100	20	200.0	0	51.5	15	96.9			
Phenol	71	10	200.0	0	35.6	15	64.7			
Pyrene	74	10	100.0	0	73.9	29.2	111			
1,2,4-Trichlorobenzene	76	10	100.0	0	75.8	22.9	94.8			
Surr: 2-Fluorophenol	94		200.0		46.8	15	88			
Surr: Phenol-d5	73		200.0		36.7	15	72.4			
Surr: 2,4,6-Tribromophenol	130		200.0		63.1	15	117			
Surr: Nitrobenzene-d5	82		100.0		81.5	33.5	120			
Surr: 2-Fluorobiphenyl	78		100.0		78.2	26.5	109			
Surr: 4-Terphenyl-d14	62		100.0		62.2	21.7	98.7			

Sample ID **1707e46-001bmsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **Rio Grande-North-2**	Batch ID: **33127**	RunNo: **44929**
Prep Date: **8/2/2017**	Analysis Date: **8/11/2017**	SeqNo: **1421012** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	60	10	100.0	0	60.0	18.1	108	8.80	30.5	
4-Chloro-3-methylphenol	130	10	200.0	0	62.9	15	111	5.66	50	
2-Chlorophenol	97	10	200.0	0	48.6	15	113	28.9	36.3	
1,4-Dichlorobenzene	46	10	100.0	0	46.3	21	81.3	35.4	42.1	
2,4-Dinitrotoluene	53	10	100.0	0	52.6	27.4	101	8.58	28.5	
N-Nitrosodi-n-propylamine	61	10	100.0	0	60.6	24.9	107	19.5	25.4	
4-Nitrophenol	42	10	200.0	0	21.1	15	62.2	58.4	50	R
Pentachlorophenol	93	20	200.0	0	46.5	15	96.9	10.2	50	
Phenol	57	10	200.0	0	28.5	15	64.7	22.3	46.1	
Pyrene	71	10	100.0	0	71.0	29.2	111	4.06	34.3	
1,2,4-Trichlorobenzene	61	10	100.0	0	60.6	22.9	94.8	22.3	43.6	
Surr: 2-Fluorophenol	67		200.0		33.6	15	88	0	0	
Surr: Phenol-d5	55		200.0		27.7	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	120		200.0		59.9	15	117	0	0	
Surr: Nitrobenzene-d5	64		100.0		64.0	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	63		100.0		62.8	26.5	109	0	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
PQL	Practical Quanitative Limit	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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID **1707e46-001bmsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **Rio Grande-North-2**	Batch ID: **33127**	RunNo: **44929**
Prep Date: **8/2/2017**	Analysis Date: **8/11/2017**	SeqNo: **1421012** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	56		100.0		55.6	21.7	98.7	0	0	

Sample ID **lcs-33127**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **33127**	RunNo: **44929**
Prep Date: **8/2/2017**	Analysis Date: **8/11/2017**	SeqNo: **1421015** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	71	10	100.0	0	70.8	41.2	98.9			
4-Chloro-3-methylphenol	160	10	200.0	0	78.6	29.1	111			
2-Chlorophenol	140	10	200.0	0	69.8	23.3	108			
1,4-Dichlorobenzene	66	10	100.0	0	65.6	29.4	84.5			
2,4-Dinitrotoluene	61	10	100.0	0	61.0	36.6	88.7			
N-Nitrosodi-n-propylamine	83	10	100.0	0	82.7	46.9	106			
4-Nitrophenol	100	10	200.0	0	52.2	15	74.7			
Pentachlorophenol	130	20	200.0	0	63.2	28.1	85.4			
Phenol	100	10	200.0	0	52.2	15	78.2			
Pyrene	89	10	100.0	0	89.0	44.4	96.8			
1,2,4-Trichlorobenzene	81	10	100.0	0	80.8	34.3	89			
Surr: 2-Fluorophenol	120		200.0		58.1	15	88			
Surr: Phenol-d5	110		200.0		54.1	15	72.4			
Surr: 2,4,6-Tribromophenol	150		200.0		74.5	15	117			
Surr: Nitrobenzene-d5	87		100.0		86.6	33.5	120			
Surr: 2-Fluorobiphenyl	76		100.0		76.5	26.5	109			
Surr: 4-Terphenyl-d14	66		100.0		66.5	21.7	98.7			

Sample ID **mb-33127**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **33127**	RunNo: **44929**
Prep Date: **8/2/2017**	Analysis Date: **8/11/2017**	SeqNo: **1421016** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								

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
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID **mb-33127**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **33127**	RunNo: **44929**
Prep Date: **8/2/2017**	Analysis Date: **8/11/2017**	SeqNo: **1421016** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzoic acid	7.4	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								

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
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID **mb-33127**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **33127**	RunNo: **44929**
Prep Date: **8/2/2017**	Analysis Date: **8/11/2017**	SeqNo: **1421016** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	100		200.0		51.0	15	88			
Surr: Phenol-d5	90		200.0		44.9	15	72.4			
Surr: 2,4,6-Tribromophenol	130		200.0		66.9	15	117			
Surr: Nitrobenzene-d5	71		100.0		71.1	33.5	120			
Surr: 2-Fluorobiphenyl	65		100.0		65.3	26.5	109			
Surr: 4-Terphenyl-d14	59		100.0		59.2	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-33070**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**33070**	RunNo:	**44761**					
Prep Date:	**7/28/2017**	Analysis Date:	**8/2/2017**	SeqNo:	**1415455**	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--33070**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**33070**	RunNo:	**44761**					
Prep Date:	**7/28/2017**	Analysis Date:	**8/2/2017**	SeqNo:	**1415456**	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-33070**	SampType:	**LCS**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSW**	Batch ID:	**33070**	RunNo:	**44761**					
Prep Date:	**7/28/2017**	Analysis Date:	**8/2/2017**	SeqNo:	**1415457**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	150	2.0	198.0	0	74.0	58.5	126			

Sample ID	**LCSD-33070**	SampType:	**LCSD**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSS02**	Batch ID:	**33070**	RunNo:	**44761**					
Prep Date:	**7/28/2017**	Analysis Date:	**8/2/2017**	SeqNo:	**1415458**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	150	2.0	198.0	0	74.7	58.5	126	1.02	34.6	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-33077**	SampType:	**MBLK**	TestCode:	**SM 9223B Fecal Indicator: E. coli MPN**					
Client ID:	**PBW**	Batch ID:	**33077**	RunNo:	**44737**					
Prep Date:	**7/28/2017**	Analysis Date:	**7/29/2017**	SeqNo:	**1414707**	Units:	**MPN/100mL**			

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID **MB**	SampType: **MBLK**	TestCode: **SM 4500 NH3: Ammonia**
Client ID: **PBW**	Batch ID: **R44684**	RunNo: **44684**
Prep Date:	Analysis Date: **8/2/2017**	SeqNo: **1412888** 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: **R44684**	RunNo: **44684**
Prep Date:	Analysis Date: **8/2/2017**	SeqNo: **1412889** Units: **mg/L**

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-33215**	SampType:	**MBLK**		TestCode:	**EPA Method 365.1: Total Phosphorous**				
Client ID:	**PBW**	Batch ID:	**33215**		RunNo:	**44794**				
Prep Date:	**8/7/2017**	Analysis Date:	**8/8/2017**		SeqNo:	**1416272**	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-33215**	SampType:	**LCS**		TestCode:	**EPA Method 365.1: Total Phosphorous**				
Client ID:	**LCSW**	Batch ID:	**33215**		RunNo:	**44794**				
Prep Date:	**8/7/2017**	Analysis Date:	**8/8/2017**		SeqNo:	**1416273**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.24	0.010	0.2500	0	94.2	90	110			

Sample ID	**MB-33306**	SampType:	**MBLK**		TestCode:	**EPA Method 365.1: Total Phosphorous**				
Client ID:	**PBW**	Batch ID:	**33306**		RunNo:	**44899**				
Prep Date:	**8/10/2017**	Analysis Date:	**8/11/2017**		SeqNo:	**1419952**	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-33306**	SampType:	**LCS**		TestCode:	**EPA Method 365.1: Total Phosphorous**				
Client ID:	**LCSW**	Batch ID:	**33306**		RunNo:	**44899**				
Prep Date:	**8/10/2017**	Analysis Date:	**8/11/2017**		SeqNo:	**1419953**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.24	0.010	0.2500	0	94.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-33122**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**33122**	RunNo:	**44703**					
Prep Date:	**8/1/2017**	Analysis Date:	**8/3/2017**	SeqNo:	**1413722**	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-33122**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**33122**	RunNo:	**44703**					
Prep Date:	**8/1/2017**	Analysis Date:	**8/3/2017**	SeqNo:	**1413723**	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
PQL	Practical Quanitative Limit	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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-33282**	SampType:	**MBLK**	TestCode:	**SM 4500 Norg C: TKN**					
Client ID:	**PBW**	Batch ID:	**33282**	RunNo:	**44897**					
Prep Date:	**8/9/2017**	Analysis Date:	**8/11/2017**	SeqNo:	**1419895**	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-33282**	SampType:	**LCS**	TestCode:	**SM 4500 Norg C: TKN**					
Client ID:	**LCSW**	Batch ID:	**33282**	RunNo:	**44897**					
Prep Date:	**8/9/2017**	Analysis Date:	**8/11/2017**	SeqNo:	**1419896**	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
PQL	Practical Quanitative Limit	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#: **1707E46**

21-Sep-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-33138**	SampType:	**MBLK**	TestCode:	**SM 2540D: TSS**					
Client ID:	**PBW**	Batch ID:	**33138**	RunNo:	**44710**					
Prep Date:	**8/2/2017**	Analysis Date:	**8/3/2017**	SeqNo:	**1413945**	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-33138**	SampType:	**LCS**	TestCode:	**SM 2540D: TSS**					
Client ID:	**LCSW**	Batch ID:	**33138**	RunNo:	**44710**					
Prep Date:	**8/2/2017**	Analysis Date:	**8/3/2017**	SeqNo:	**1413946**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	87	4.0	91.10	0	95.5	84.63	120.75			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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: 1707E46 RcptNo: 1

Received By: Sophia Campuzano 7/28/2017 10:47:00 AM

Completed By: Ashley Gallegos 7/28/2017 10:58:12 AM

Reviewed By: ENM 7/28/17 @ 1215

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 ☐
	Approved by client.		
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: 14 (<2 or >12 unless noted)

Adjusted? NO

Checked by: JMO

Special Handling (if applicable)

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

Person Notified:	Alan Lewis	Date	7/28/2017
By Whom:	Sophia Campuzano	Via:	☐ eMail ☐ Phone ☐ Fax ☑ In Person
Regarding:	High Temp		
Client Instructions:	Proceed with analysis		

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	9.6	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address: 2600 Prospect Ave ABQ, NM 87107

Phone #: 505 884 2215

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: 9.6 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1707E410	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 - enum	See attached	Diss Phos		Air Bubbles (Y or N)
7/27/17	1230	AQ	Rio Grande-North-20170727			-001													X			
7/28/17	0715	AQ	ABQRD-East			-002												X				
7/28/17	845	AQ	Rio Grande-South-20170728			-003													X			
07/27	1230	"	RioGrande North 20170727 Filtered			-004														X		
07/28	845	"	RioGrande South 20170728 Filtered			-005														X		
			07/28/17																			

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/28	1047	ALAN LEWIS	Sophi Cox	07/28/17	1047
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:
High temp approved by client. See temp above. See 07128/17
* -001 E.Coli Enumeration for -001 Submitted 07/27/17 07/28/17

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
Polychlorinated biphenyls (PCBs)	1336-36-3	Total	1668	0.014
Tetrahydrofuran (THF)	109-99-9	Total	8260C	7.9
bis(2-Ethylhexyl)phthalate	117-81-7	Total	8270D	0.2
Dibenzofuran	132-64-9	Total	8270D	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	Total	8270D	0.2
Benzo(b)fluoranthene	205-99-2	Total	8270D	0.1
Benzo(k)fluoranthene	207-08-9	Total	8270D	0.1
Chrysene	218-01-9	Total	8270D	0.2
Benzo(a)pyrene	50-32-8	Total	8270D	0.3
Dibenzo(a,h)anthracene	53-70-3	Total	8270D	0.3
Benzo(a)anthracene	56-55-3	Total	8270D	0.2
Dieldrin	60-57-1	Total	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 — num			SM 9223B	
pH			SM 4500	
Phosphorus		Dissolved	365.1	100
Phosphorus		Total	365.1	100
Chromium IV		Total	3500Cr C-2011	100

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

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 02, 2017

Reissued Lab report for PCB testing of July 27-28, 2017 stormwater samples. Reissued to provide a consistent reporting format with previous CMC reporting.

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

Re: Routine Analysis
Work Order: 11143
SDG: 1707E46

Dear Mr. Freeman:

Cape Fear Analytical, LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on August 01, 2017. This revised data report has been prepared and reviewed in accordance with CFA's standard operating procedures. Refer to the fractional case narrative for revision details.

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

Sincerely,

Cynde Larkins

Cynde Larkins
Project Manager

Purchase Order: IDIQ Pricing
Enclosures

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

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

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	1707E46-001K	Rio Grande-North-20170727		Aqueous	7/27/2017 12:30:00 PM	1	PCB CONGENERS PREP 1668
2	1707E46-003K	Rio Grande-South-20170728		Aqueous	7/28/2017 8:45:00 AM	1	PCB CONGENERS PREP 1668

CFA WO #11143

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	Time	Received By	Date	Time
Relinquished By: [signature]	7/28/2017	11:34 AM	Received By: Cynde Lutkins	01AUG17	1000
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 0.1 °C Attempt to Cool ? ______

Comments: ______

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: HALL	Work Order: 11143
Shipping Company: FedEx	Date/Time Received: 01AUG17 1000

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

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

* Notify RSO of any responses in this column immediately.

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

Air Witness: _____

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	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° - 2.9 = 0.1°C
4	Aqueous samples found to have visible solids?	✓			Sample IDs, containers affected: Minimal visible solids
5	Samples requiring chemical preservation at proper pH?				Sample IDs, containers affected and pH observed: 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?	COC 01AUG17 ✓		✓	List type and number of containers / Sample IDs, containers affected: 2 - 1L WMA per sample
11	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: CJ Date: 01AUG17

CF-UD-F-7

PCB Congeners Analysis

Case Narrative

PCBC Case Narrative
Hall Environmental Analysis Laboratory (HALL)
SDG 1707E46
Work Order 11143

Revision 1
This data package has been revised to report results with J flags to the EDL, and report non-detects as ND.

Method/Analysis Information

Product:	**PCB Congeners by EPA Method 1668A in Liquids**
Analytical Method:	EPA Method 1668A
Extraction Method:	SW846 3520C
Analytical Batch Number:	35299
Clean Up Batch Number:	35298
Extraction Batch Number:	35297

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

Sample ID	Client ID
11143001	1707E46-001K Rio Grande-North-20170727
11143002	1707E46-003K Rio Grande-South-20170728
12019228	Method Blank (MB)
12019229	Laboratory Control Sample (LCS)
12019230	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
One surrogate recovered outside the acceptance limits. 12019230 (LCSD).

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: 1707E46 CFA Work Order: 11143

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

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: 02 NOV 2017 **Title: Group Leader**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143001**	**Date Collected:**	**07/27/2017 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-001K Rio Grande-North-2**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/13/2017 13:53**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_2-11**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**916.4 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	8.16	21.8
2051-61-8	2-MoCB	U	ND	pg/L	7.75	21.8
2051-62-9	3-MoCB	U	ND	pg/L	6.55	21.8
13029-08-8	4-DiCB	U	ND	pg/L	27.7	21.8
16605-91-7	5-DiCB	U	ND	pg/L	16.7	21.8
25569-80-6	6-DiCB	U	ND	pg/L	13.6	21.8
33284-50-3	7-DiCB	U	ND	pg/L	15.0	21.8
34883-43-7	8-DiCB	U	ND	pg/L	12.5	21.8
34883-39-1	9-DiCB	U	ND	pg/L	16.1	21.8
33146-45-1	10-DiCB	U	ND	pg/L	15.7	21.8
2050-67-1	11-DiCB	J	47.1	pg/L	15.3	109
2974-92-7	12-DiCB	CU	ND	pg/L	14.6	43.6
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	14.6	21.8
2050-68-2	15-DiCB	U	ND	pg/L	14.2	21.8
38444-78-9	16-TrCB	U	ND	pg/L	6.48	21.8
37680-66-3	17-TrCB	U	ND	pg/L	6.70	21.8
37680-65-2	18-TrCB	CU	ND	pg/L	5.83	43.6
38444-73-4	19-TrCB	U	ND	pg/L	7.46	21.8
38444-84-7	20-TrCB	CJ	8.34	pg/L	4.87	43.6
55702-46-0	21-TrCB	CU	ND	pg/L	4.74	43.6
38444-85-8	22-TrCB	U	ND	pg/L	5.06	21.8
55720-44-0	23-TrCB	U	ND	pg/L	4.91	21.8
55702-45-9	24-TrCB	U	ND	pg/L	5.50	21.8
55712-37-3	25-TrCB	U	ND	pg/L	4.23	21.8
38444-81-4	26-TrCB	CU	ND	pg/L	4.71	43.6
38444-76-7	27-TrCB	U	ND	pg/L	5.00	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	8.25	21.8
38444-77-8	32-TrCB	U	ND	pg/L	4.58	21.8

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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143001**	**Date Collected:**	**07/27/2017 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-001K Rio Grande-North-2**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/13/2017 13:53**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_2-11**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**916.4 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	5.15	21.8
37680-69-6	35-TrCB	U	ND	pg/L	6.13	21.8
38444-87-0	36-TrCB	U	ND	pg/L	5.94	21.8
38444-90-5	37-TrCB	U	ND	pg/L	6.20	21.8
53555-66-1	38-TrCB	U	ND	pg/L	6.09	21.8
38444-88-1	39-TrCB	U	ND	pg/L	5.83	21.8
38444-93-8	40-TeCB	CU	ND	pg/L	4.54	43.6
52663-59-9	41-TeCB	U	ND	pg/L	5.70	21.8
36559-22-5	42-TeCB	U	ND	pg/L	4.63	21.8
70362-46-8	43-TeCB	U	ND	pg/L	5.67	21.8
41464-39-5	44-TeCB	CJ	6.63	pg/L	4.58	65.5
70362-45-7	45-TeCB	CU	ND	pg/L	3.38	43.6
41464-47-5	46-TeCB	U	ND	pg/L	3.43	21.8
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	4.93	21.8
41464-40-8	49-TeCB	CU	ND	pg/L	4.26	43.6
62796-65-0	50-TeCB	CU	ND	pg/L	3.21	43.6
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	U	ND	pg/L	5.00	21.8
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	2.36	21.8
74338-24-2	55-TeCB	U	ND	pg/L	3.88	21.8
41464-43-1	56-TeCB	U	ND	pg/L	4.04	21.8
70424-67-8	57-TeCB	U	ND	pg/L	3.84	21.8
41464-49-7	58-TeCB	U	ND	pg/L	4.06	21.8
74472-33-6	59-TeCB	CU	ND	pg/L	3.73	65.5
33025-41-1	60-TeCB	U	ND	pg/L	3.86	21.8
33284-53-6	61-TeCB	CU	ND	pg/L	7.31	87.3
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	3.62	21.8
52663-58-8	64-TeCB	U	ND	pg/L	3.60	21.8

Comments:

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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143001**	**Date Collected:**	**07/27/2017 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-001K Rio Grande-North-2**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/13/2017 13:53**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_2-11**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**916.4 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	J	4.50	pg/L	3.64	21.8
73575-53-8	67-TeCB	U	ND	pg/L	3.45	21.8
73575-52-7	68-TeCB	U	ND	pg/L	3.64	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	3.64	21.8
74338-23-1	73-TeCB	U	ND	pg/L	3.93	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	3.51	21.8
70362-49-1	78-TeCB	U	ND	pg/L	3.34	21.8
41464-48-6	79-TeCB	U	ND	pg/L	3.16	21.8
33284-52-5	80-TeCB	U	ND	pg/L	3.36	21.8
70362-50-4	81-TeCB	U	ND	pg/L	3.40	21.8
52663-62-4	82-PeCB	U	ND	pg/L	3.47	21.8
60145-20-2	83-PeCB	U	ND	pg/L	4.10	21.8
52663-60-2	84-PeCB	U	ND	pg/L	3.95	21.8
65510-45-4	85-PeCB	CU	ND	pg/L	2.73	65.5
55312-69-1	86-PeCB	CJ	4.50	pg/L	2.90	131
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	3.67	43.6
73575-57-2	89-PeCB	U	ND	pg/L	3.80	21.8
68194-07-0	90-PeCB	CU	ND	pg/L	5.26	65.5
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	3.58	21.8
73575-56-1	93-PeCB	CU	ND	pg/L	3.69	43.6
73575-55-0	94-PeCB	U	ND	pg/L	3.93	21.8
38379-99-6	95-PeCB	U	ND	pg/L	3.56	21.8
73575-54-9	96-PeCB	U	ND	pg/L	1.57	21.8

Comments:

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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143001**	**Date Collected:**	**07/27/2017 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-001K Rio Grande-North-2**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/13/2017 13:53**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_2-11**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**916.4 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	3.75	43.6
38380-01-7	99-PeCB	U	ND	pg/L	3.30	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	3.43	21.8
56558-16-8	104-PeCB	U	ND	pg/L	1.62	21.8
32598-14-4	105-PeCB	U	ND	pg/L	2.68	21.8
70424-69-0	106-PeCB	U	ND	pg/L	2.58	21.8
70424-68-9	107-PeCB	U	ND	pg/L	2.55	21.8
70362-41-3	108-PeCB	CU	ND	pg/L	2.71	43.6
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CJ	5.33	pg/L	2.55	43.6
39635-32-0	111-PeCB	U	ND	pg/L	2.51	21.8
74472-36-9	112-PeCB	U	ND	pg/L	2.60	21.8
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	2.84	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	4.34	21.8
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	2.29	21.8
56558-18-0	121-PeCB	U	ND	pg/L	2.79	21.8
76842-07-4	122-PeCB	U	ND	pg/L	2.77	21.8
65510-44-3	123-PeCB	U	ND	pg/L	2.77	21.8
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	2.68	21.8
39635-33-1	127-PeCB	U	ND	pg/L	2.51	21.8
38380-07-3	128-HxCB	CU	ND	pg/L	3.36	43.6

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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143001**	**Date Collected:**	**07/27/2017 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-001K Rio Grande-North-2**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/13/2017 13:53**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_2-11**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**916.4 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CJ	9.43	pg/L	3.78	65.5
52663-66-8	130-HxCB	U	ND	pg/L	4.32	21.8
61798-70-7	131-HxCB	U	ND	pg/L	4.98	21.8
38380-05-1	132-HxCB	U	ND	pg/L	4.60	21.8
35694-04-3	133-HxCB	U	ND	pg/L	4.21	21.8
52704-70-8	134-HxCB	U	ND	pg/L	5.41	21.8
52744-13-5	135-HxCB	CU	ND	pg/L	3.14	43.6
38411-22-2	136-HxCB	U	ND	pg/L	2.49	21.8
35694-06-5	137-HxCB	U	ND	pg/L	4.02	21.8
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	4.15	43.6
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	3.99	21.8
41411-61-4	142-HxCB	U	ND	pg/L	4.39	21.8
68194-15-0	143-HxCB	U	ND	pg/L	4.28	21.8
68194-14-9	144-HxCB	U	ND	pg/L	3.03	21.8
74472-40-5	145-HxCB	U	ND	pg/L	2.64	21.8
51908-16-8	146-HxCB	U	ND	pg/L	3.78	21.8
68194-13-8	147-HxCB	CJ	4.58	pg/L	4.19	43.6
74472-41-6	148-HxCB	U	ND	pg/L	3.03	21.8
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	2.53	21.8
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	2.47	21.8
35065-27-1	153-HxCB	CJ	8.53	pg/L	3.27	43.6
60145-22-4	154-HxCB	U	ND	pg/L	2.75	21.8
33979-03-2	155-HxCB	U	ND	pg/L	2.51	21.8
38380-08-4	156-HxCB	CU	ND	pg/L	3.64	43.6
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	2.75	21.8
39635-35-3	159-HxCB	U	ND	pg/L	2.79	21.8
41411-62-5	160-HxCB	U	ND	pg/L	3.12	21.8

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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143001**	**Date Collected:**	**07/27/2017 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-001K Rio Grande-North-2**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/13/2017 13:53**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_2-11**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**916.4 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	3.06	21.8
39635-34-2	162-HxCB	U	ND	pg/L	2.88	21.8
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	3.08	21.8
74472-46-1	165-HxCB	U	ND	pg/L	3.54	21.8
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	2.71	21.8
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	2.64	21.8
35065-30-6	170-HpCB	J	4.87	pg/L	3.54	21.8
52663-71-5	171-HpCB	CU	ND	pg/L	3.86	43.6
52663-74-8	172-HpCB	U	ND	pg/L	3.73	21.8
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	3.82	21.8
40186-70-7	175-HpCB	U	ND	pg/L	2.95	21.8
52663-65-7	176-HpCB	U	ND	pg/L	2.49	21.8
52663-70-4	177-HpCB	U	ND	pg/L	3.93	21.8
52663-67-9	178-HpCB	U	ND	pg/L	3.14	21.8
52663-64-6	179-HpCB	U	ND	pg/L	2.47	21.8
35065-29-3	180-HpCB	CJ	14.5	pg/L	3.10	43.6
74472-47-2	181-HpCB	U	ND	pg/L	3.84	21.8
60145-23-5	182-HpCB	U	ND	pg/L	2.95	21.8
52663-69-1	183-HpCB	CU	ND	pg/L	3.69	43.6
74472-48-3	184-HpCB	U	ND	pg/L	2.49	21.8
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	2.64	21.8
52663-68-0	187-HpCB	J	4.02	pg/L	2.92	21.8
74487-85-7	188-HpCB	U	ND	pg/L	2.53	21.8
39635-31-9	189-HpCB	U	ND	pg/L	3.43	21.8
41411-64-7	190-HpCB	U	ND	pg/L	2.77	21.8
74472-50-7	191-HpCB	U	ND	pg/L	2.75	21.8
74472-51-8	192-HpCB	U	ND	pg/L	3.08	21.8

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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143001**	**Date Collected:**	**07/27/2017 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-001K Rio Grande-North-2**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/13/2017 13:53**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_2-11**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**916.4 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	4.60	pg/L	3.56	21.8
52663-78-2	195-OcCB	U	ND	pg/L	3.99	21.8
42740-50-1	196-OcCB	U	ND	pg/L	2.95	21.8
33091-17-7	197-OcCB	CU	ND	pg/L	2.47	43.6
68194-17-2	198-OcCB	CU	ND	pg/L	3.08	43.6
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	2.49	21.8
2136-99-4	202-OcCB	U	ND	pg/L	2.86	21.8
52663-76-0	203-OcCB	U	ND	pg/L	2.88	21.8
74472-52-9	204-OcCB	U	ND	pg/L	2.49	21.8
74472-53-0	205-OcCB	U	ND	pg/L	3.01	21.8
40186-72-9	206-NoCB	U	ND	pg/L	3.58	21.8
52663-79-3	207-NoCB	U	ND	pg/L	3.10	21.8
52663-77-1	208-NoCB	U	ND	pg/L	3.03	21.8
2051-24-3	209-DeCB	U	ND	pg/L	3.60	21.8
1336-36-3	Total PCB Congeners	J	127	pg/L	7.29	21.8

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		1050	2180	pg/L	48.1	(15%-150%)
13C-3-MoCB		1220	2180	pg/L	56.0	(15%-150%)
13C-4-DiCB		1290	2180	pg/L	59.3	(25%-150%)
13C-15-DiCB		1690	2180	pg/L	77.2	(25%-150%)
13C-19-TrCB		1580	2180	pg/L	72.5	(25%-150%)
13C-37-TrCB		1840	2180	pg/L	84.1	(25%-150%)
13C-54-TeCB		1820	2180	pg/L	83.5	(25%-150%)
13C-77-TeCB		2580	2180	pg/L	118	(25%-150%)
13C-81-TeCB		2490	2180	pg/L	114	(25%-150%)
13C-104-PeCB		1820	2180	pg/L	83.5	(25%-150%)
13C-105-PeCB		2290	2180	pg/L	105	(25%-150%)
13C-114-PeCB		2230	2180	pg/L	102	(25%-150%)
13C-118-PeCB		2230	2180	pg/L	102	(25%-150%)
13C-123-PeCB		2250	2180	pg/L	103	(25%-150%)
13C-126-PeCB		2790	2180	pg/L	128	(25%-150%)
13C-155-HxCB		1360	2180	pg/L	62.2	(25%-150%)
13C-156-HxCB	C	4210	4360	pg/L	96.3	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		2060	2180	pg/L	94.3	(25%-150%)
13C-169-HxCB		2440	2180	pg/L	112	(25%-150%)
13C-188-HpCB		1210	2180	pg/L	55.4	(25%-150%)
13C-189-HpCB		1650	2180	pg/L	75.5	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143001**	**Date Collected:**	**07/27/2017 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-001K Rio Grande-North-2**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/13/2017 13:53**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_2-11**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**916.4 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1430	2180	pg/L	65.7	(25%-150%)
13C-205-OcCB		2040	2180	pg/L	93.5	(25%-150%)
13C-206-NoCB		2330	2180	pg/L	107	(25%-150%)
13C-208-NoCB		1880	2180	pg/L	86.0	(25%-150%)
13C-209-DeCB		2430	2180	pg/L	112	(25%-150%)
13C-28-TrCB		1710	2180	pg/L	78.4	(30%-135%)
13C-111-PeCB		2040	2180	pg/L	93.5	(30%-135%)
13C-178-HpCB		2100	2180	pg/L	96.0	(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.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143002**	**Date Collected:**	**07/28/2017 08:45**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-003K Rio Grande-South-20**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/14/2017 00:19**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_3-9**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**906.1 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	5.56	22.1
2051-61-8	2-MoCB	U	ND	pg/L	5.23	22.1
2051-62-9	3-MoCB	U	ND	pg/L	4.41	22.1
13029-08-8	4-DiCB	U	ND	pg/L	14.3	22.1
16605-91-7	5-DiCB	U	ND	pg/L	7.31	22.1
25569-80-6	6-DiCB	U	ND	pg/L	5.63	22.1
33284-50-3	7-DiCB	U	ND	pg/L	6.16	22.1
34883-43-7	8-DiCB	U	ND	pg/L	4.90	22.1
34883-39-1	9-DiCB	U	ND	pg/L	6.58	22.1
33146-45-1	10-DiCB	U	ND	pg/L	7.35	22.1
2050-67-1	11-DiCB	U	ND	pg/L	48.4	110
2974-92-7	12-DiCB	CU	ND	pg/L	5.92	44.1
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	6.00	22.1
2050-68-2	15-DiCB	U	ND	pg/L	5.56	22.1
38444-78-9	16-TrCB	U	ND	pg/L	3.47	22.1
37680-66-3	17-TrCB	U	ND	pg/L	3.55	22.1
37680-65-2	18-TrCB	CU	ND	pg/L	4.52	44.1
38444-73-4	19-TrCB	U	ND	pg/L	4.22	22.1
38444-84-7	20-TrCB	CJ	5.76	pg/L	2.38	44.1
55702-46-0	21-TrCB	CU	ND	pg/L	2.32	44.1
38444-85-8	22-TrCB	U	ND	pg/L	2.38	22.1
55720-44-0	23-TrCB	U	ND	pg/L	2.47	22.1
55702-45-9	24-TrCB	U	ND	pg/L	2.83	22.1
55712-37-3	25-TrCB	U	ND	pg/L	2.10	22.1
38444-81-4	26-TrCB	CU	ND	pg/L	2.36	44.1
38444-76-7	27-TrCB	U	ND	pg/L	2.58	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	U	ND	pg/L	4.68	22.1
38444-77-8	32-TrCB	U	ND	pg/L	2.34	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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143002**	**Date Collected:**	**07/28/2017 08:45**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-003K Rio Grande-South-20**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/14/2017 00:19**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_3-9**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**906.1 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	2.58	22.1
37680-69-6	35-TrCB	U	ND	pg/L	3.47	22.1
38444-87-0	36-TrCB	U	ND	pg/L	3.44	22.1
38444-90-5	37-TrCB	U	ND	pg/L	3.40	22.1
53555-66-1	38-TrCB	U	ND	pg/L	3.44	22.1
38444-88-1	39-TrCB	U	ND	pg/L	3.38	22.1
38444-93-8	40-TeCB	CU	ND	pg/L	3.55	44.1
52663-59-9	41-TeCB	U	ND	pg/L	4.55	22.1
36559-22-5	42-TeCB	U	ND	pg/L	3.82	22.1
70362-46-8	43-TeCB	U	ND	pg/L	4.64	22.1
41464-39-5	44-TeCB	CJ	7.73	pg/L	3.62	66.2
70362-45-7	45-TeCB	CJ	2.45	pg/L	2.19	44.1
41464-47-5	46-TeCB	U	ND	pg/L	2.32	22.1
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	4.02	22.1
41464-40-8	49-TeCB	CJ	3.93	pg/L	3.42	44.1
62796-65-0	50-TeCB	CU	ND	pg/L	2.07	44.1
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	J	8.45	pg/L	3.97	22.1
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	1.52	22.1
74338-24-2	55-TeCB	U	ND	pg/L	1.79	22.1
41464-43-1	56-TeCB	U	ND	pg/L	1.90	22.1
70424-67-8	57-TeCB	U	ND	pg/L	1.81	22.1
41464-49-7	58-TeCB	U	ND	pg/L	1.92	22.1
74472-33-6	59-TeCB	CU	ND	pg/L	2.94	66.2
33025-41-1	60-TeCB	U	ND	pg/L	1.77	22.1
33284-53-6	61-TeCB	CJ	7.33	pg/L	1.77	88.3
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	1.68	22.1
52663-58-8	64-TeCB	U	ND	pg/L	2.87	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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143002**	**Date Collected:**	**07/28/2017 08:45**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-003K Rio Grande-South-20**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/14/2017 00:19**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_3-9**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**906.1 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	U	ND	pg/L	3.05	22.1
73575-53-8	67-TeCB	U	ND	pg/L	1.63	22.1
73575-52-7	68-TeCB	U	ND	pg/L	1.72	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	1.74	22.1
74338-23-1	73-TeCB	U	ND	pg/L	3.16	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	1.59	22.1
70362-49-1	78-TeCB	U	ND	pg/L	1.55	22.1
41464-48-6	79-TeCB	U	ND	pg/L	1.41	22.1
33284-52-5	80-TeCB	U	ND	pg/L	1.52	22.1
70362-50-4	81-TeCB	U	ND	pg/L	1.50	22.1
52663-62-4	82-PeCB	U	ND	pg/L	2.43	22.1
60145-20-2	83-PeCB	U	ND	pg/L	2.76	22.1
52663-60-2	84-PeCB	U	ND	pg/L	2.78	22.1
65510-45-4	85-PeCB	CU	ND	pg/L	1.90	66.2
55312-69-1	86-PeCB	CJ	5.85	pg/L	2.03	132
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	2.63	44.1
73575-57-2	89-PeCB	U	ND	pg/L	2.63	22.1
68194-07-0	90-PeCB	CU	ND	pg/L	9.78	66.2
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	2.47	22.1
73575-56-1	93-PeCB	CU	ND	pg/L	2.65	44.1
73575-55-0	94-PeCB	U	ND	pg/L	2.94	22.1
38379-99-6	95-PeCB	J	7.50	pg/L	2.54	22.1
73575-54-9	96-PeCB	U	ND	pg/L	1.13	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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143002**	**Date Collected:**	**07/28/2017 08:45**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-003K Rio Grande-South-20**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/14/2017 00:19**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_3-9**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**906.1 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	2.69	44.1
38380-01-7	99-PeCB	U	ND	pg/L	3.11	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	2.47	22.1
56558-16-8	104-PeCB	U	ND	pg/L	0.905	22.1
32598-14-4	105-PeCB	U	ND	pg/L	2.94	22.1
70424-69-0	106-PeCB	U	ND	pg/L	1.72	22.1
70424-68-9	107-PeCB	U	ND	pg/L	1.68	22.1
70362-41-3	108-PeCB	CU	ND	pg/L	1.85	44.1
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CU	ND	pg/L	10.4	44.1
39635-32-0	111-PeCB	U	ND	pg/L	1.70	22.1
74472-36-9	112-PeCB	U	ND	pg/L	1.72	22.1
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	2.03	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	U	ND	pg/L	6.51	22.1
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	1.55	22.1
56558-18-0	121-PeCB	U	ND	pg/L	1.90	22.1
76842-07-4	122-PeCB	U	ND	pg/L	1.85	22.1
65510-44-3	123-PeCB	U	ND	pg/L	1.92	22.1
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	2.03	22.1
39635-33-1	127-PeCB	U	ND	pg/L	1.59	22.1
38380-07-3	128-HxCB	CU	ND	pg/L	2.30	44.1

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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143002**	**Date Collected:**	**07/28/2017 08:45**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-003K Rio Grande-South-20**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/14/2017 00:19**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_3-9**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**906.1 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CJ	21.1	pg/L	2.58	66.2
52663-66-8	130-HxCB	U	ND	pg/L	2.94	22.1
61798-70-7	131-HxCB	U	ND	pg/L	3.44	22.1
38380-05-1	132-HxCB	J	5.78	pg/L	3.29	22.1
35694-04-3	133-HxCB	U	ND	pg/L	2.94	22.1
52704-70-8	134-HxCB	U	ND	pg/L	3.95	22.1
52744-13-5	135-HxCB	CJ	7.68	pg/L	1.90	44.1
38411-22-2	136-HxCB	U	ND	pg/L	2.03	22.1
35694-06-5	137-HxCB	U	ND	pg/L	2.96	22.1
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	2.91	44.1
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	J	4.55	pg/L	2.67	22.1
41411-61-4	142-HxCB	U	ND	pg/L	3.16	22.1
68194-15-0	143-HxCB	U	ND	pg/L	2.91	22.1
68194-14-9	144-HxCB	U	ND	pg/L	1.77	22.1
74472-40-5	145-HxCB	U	ND	pg/L	1.66	22.1
51908-16-8	146-HxCB	J	3.24	pg/L	2.54	22.1
68194-13-8	147-HxCB	CJ	16.0	pg/L	2.96	44.1
74472-41-6	148-HxCB	U	ND	pg/L	1.83	22.1
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	1.59	22.1
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	1.55	22.1
35065-27-1	153-HxCB	CJ	23.8	pg/L	2.30	44.1
60145-22-4	154-HxCB	U	ND	pg/L	1.63	22.1
33979-03-2	155-HxCB	U	ND	pg/L	1.17	22.1
38380-08-4	156-HxCB	CJ	2.14	pg/L	2.05	44.1
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	2.16	22.1
39635-35-3	159-HxCB	U	ND	pg/L	1.48	22.1
41411-62-5	160-HxCB	U	ND	pg/L	2.23	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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143002**	**Date Collected:**	**07/28/2017 08:45**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-003K Rio Grande-South-20**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/14/2017 00:19**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_3-9**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**906.1 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	2.14	22.1
39635-34-2	162-HxCB	U	ND	pg/L	1.50	22.1
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	2.05	22.1
74472-46-1	165-HxCB	U	ND	pg/L	2.43	22.1
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	1.55	22.1
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	1.50	22.1
35065-30-6	170-HpCB	J	8.45	pg/L	2.38	22.1
52663-71-5	171-HpCB	CJ	2.87	pg/L	2.56	44.1
52663-74-8	172-HpCB	U	ND	pg/L	2.47	22.1
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	J	7.50	pg/L	2.49	22.1
40186-70-7	175-HpCB	U	ND	pg/L	1.52	22.1
52663-65-7	176-HpCB	U	ND	pg/L	1.35	22.1
52663-70-4	177-HpCB	U	ND	pg/L	5.14	22.1
52663-67-9	178-HpCB	U	ND	pg/L	2.14	22.1
52663-64-6	179-HpCB	U	ND	pg/L	3.38	22.1
35065-29-3	180-HpCB	CJ	24.1	pg/L	2.07	44.1
74472-47-2	181-HpCB	U	ND	pg/L	2.52	22.1
60145-23-5	182-HpCB	U	ND	pg/L	1.52	22.1
52663-69-1	183-HpCB	CJ	6.91	pg/L	2.49	44.1
74472-48-3	184-HpCB	U	ND	pg/L	1.32	22.1
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	1.39	22.1
52663-68-0	187-HpCB	J	9.40	pg/L	1.52	22.1
74487-85-7	188-HpCB	U	ND	pg/L	1.24	22.1
39635-31-9	189-HpCB	U	ND	pg/L	1.48	22.1
41411-64-7	190-HpCB	J	2.52	pg/L	1.85	22.1
74472-50-7	191-HpCB	U	ND	pg/L	1.83	22.1
74472-51-8	192-HpCB	U	ND	pg/L	2.03	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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143002**	**Date Collected:**	**07/28/2017 08:45**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-003K Rio Grande-South-20**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/14/2017 00:19**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_3-9**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**906.1 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	5.92	pg/L	1.48	22.1
52663-78-2	195-OcCB	U	ND	pg/L	1.88	22.1
42740-50-1	196-OcCB	J	3.18	pg/L	1.63	22.1
33091-17-7	197-OcCB	CU	ND	pg/L	1.37	44.1
68194-17-2	198-OcCB	CJ	4.99	pg/L	1.70	44.1
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	1.37	22.1
2136-99-4	202-OcCB	U	ND	pg/L	1.50	22.1
52663-76-0	203-OcCB	J	3.93	pg/L	1.61	22.1
74472-52-9	204-OcCB	U	ND	pg/L	1.37	22.1
74472-53-0	205-OcCB	U	ND	pg/L	1.28	22.1
40186-72-9	206-NoCB	J	2.27	pg/L	1.41	22.1
52663-79-3	207-NoCB	U	ND	pg/L	1.19	22.1
52663-77-1	208-NoCB	U	ND	pg/L	1.13	22.1
2051-24-3	209-DeCB	U	ND	pg/L	2.30	22.1
1336-36-3	Total PCB Congeners	J	215	pg/L	7.37	22.1

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		990	2210	pg/L	44.9	(15%-150%)
13C-3-MoCB		1200	2210	pg/L	54.3	(15%-150%)
13C-4-DiCB		1300	2210	pg/L	59.0	(25%-150%)
13C-15-DiCB		2240	2210	pg/L	101	(25%-150%)
13C-19-TrCB		1800	2210	pg/L	81.7	(25%-150%)
13C-37-TrCB		1980	2210	pg/L	89.6	(25%-150%)
13C-54-TeCB		1720	2210	pg/L	78.1	(25%-150%)
13C-77-TeCB		2570	2210	pg/L	117	(25%-150%)
13C-81-TeCB		2510	2210	pg/L	114	(25%-150%)
13C-104-PeCB		1880	2210	pg/L	85.3	(25%-150%)
13C-105-PeCB		2040	2210	pg/L	92.4	(25%-150%)
13C-114-PeCB		2040	2210	pg/L	92.4	(25%-150%)
13C-118-PeCB		2070	2210	pg/L	93.9	(25%-150%)
13C-123-PeCB		2100	2210	pg/L	95.3	(25%-150%)
13C-126-PeCB		2400	2210	pg/L	109	(25%-150%)
13C-155-HxCB		1600	2210	pg/L	72.3	(25%-150%)
13C-156-HxCB	C	3970	4410	pg/L	89.9	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1970	2210	pg/L	89.3	(25%-150%)
13C-169-HxCB		2260	2210	pg/L	102	(25%-150%)
13C-188-HpCB		1440	2210	pg/L	65.1	(25%-150%)
13C-189-HpCB		1670	2210	pg/L	75.6	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**11143002**	**Date Collected:**	**07/28/2017 08:45**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**08/01/2017 10:00**		
Client ID:	**1707E46-003K Rio Grande-South-20**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/14/2017 00:19**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a_3-9**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**906.1 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1570	2210	pg/L	71.3	(25%-150%)
13C-205-OcCB		2040	2210	pg/L	92.3	(25%-150%)
13C-206-NoCB		2340	2210	pg/L	106	(25%-150%)
13C-208-NoCB		1940	2210	pg/L	87.8	(25%-150%)
13C-209-DeCB		2440	2210	pg/L	110	(25%-150%)
13C-28-TrCB		1700	2210	pg/L	77.0	(30%-135%)
13C-111-PeCB		1990	2210	pg/L	90.1	(30%-135%)
13C-178-HpCB		2130	2210	pg/L	96.7	(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: 1707E46

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12019229	LCS for batch 35297	13C-1-MoCB		44.5	(15%-140%)
		13C-3-MoCB		51.5	(15%-140%)
		13C-4-DiCB		52.6	(30%-140%)
		13C-15-DiCB		69.2	(30%-140%)
		13C-19-TrCB		62.6	(30%-140%)
		13C-37-TrCB		77.7	(30%-140%)
		13C-54-TeCB		75.1	(30%-140%)
		13C-77-TeCB		110	(30%-140%)
		13C-81-TeCB		106	(30%-140%)
		13C-104-PeCB		68.5	(30%-140%)
		13C-105-PeCB		89.9	(30%-140%)
		13C-114-PeCB		88.8	(30%-140%)
		13C-118-PeCB		88.3	(30%-140%)
		13C-123-PeCB		89.1	(30%-140%)
		13C-126-PeCB		115	(30%-140%)
		13C-155-HxCB		49.6	(30%-140%)
		13C-156-HxCB	C	84.3	(30%-140%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		80.4	(30%-140%)
		13C-169-HxCB		103	(30%-140%)
		13C-188-HpCB		40.6	(30%-140%)
		13C-189-HpCB		64.2	(30%-140%)
		13C-202-OcCB		50.0	(30%-140%)
		13C-205-OcCB		79.1	(30%-140%)
		13C-206-NoCB		92.4	(30%-140%)
		13C-208-NoCB		70.3	(30%-140%)
		13C-209-DeCB		96.1	(30%-140%)
		13C-28-TrCB		66.6	(40%-125%)
		13C-111-PeCB		81.2	(40%-125%)
		13C-178-HpCB		80.7	(40%-125%)
12019230	LCSD for batch 35297	13C-1-MoCB		51.4	(15%-140%)
		13C-3-MoCB		59.6	(15%-140%)
		13C-4-DiCB		59.3	(30%-140%)
		13C-15-DiCB		75.9	(30%-140%)
		13C-19-TrCB		73.5	(30%-140%)
		13C-37-TrCB		79.5	(30%-140%)
		13C-54-TeCB		84.8	(30%-140%)
		13C-77-TeCB		113	(30%-140%)
		13C-81-TeCB		111	(30%-140%)
		13C-104-PeCB		81.5	(30%-140%)
		13C-105-PeCB		108	(30%-140%)
		13C-114-PeCB		107	(30%-140%)
		13C-118-PeCB		104	(30%-140%)
		13C-123-PeCB		106	(30%-140%)
		13C-126-PeCB		141 *	(30%-140%)
		13C-155-HxCB		57.1	(30%-140%)
		13C-156-HxCB	C	107	(30%-140%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		100	(30%-140%)
		13C-169-HxCB		134	(30%-140%)
		13C-188-HpCB		41.2	(30%-140%)
		13C-189-HpCB		73.7	(30%-140%)

PCB Congeners

Surrogate Recovery Report

SDG Number: 1707E46

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12019230	LCSD for batch 35297	13C-202-OcCB		52.7	(30%-140%)
		13C-205-OcCB		93.1	(30%-140%)
		13C-206-NoCB		110	(30%-140%)
		13C-208-NoCB		79.9	(30%-140%)
		13C-209-DeCB		116	(30%-140%)
		13C-28-TrCB		74.7	(40%-125%)
		13C-111-PeCB		93.2	(40%-125%)
		13C-178-HpCB		95.2	(40%-125%)
12019228	MB for batch 35297	13C-1-MoCB		56.2	(15%-150%)
		13C-3-MoCB		61.6	(15%-150%)
		13C-4-DiCB		62.6	(25%-150%)
		13C-15-DiCB		84.6	(25%-150%)
		13C-19-TrCB		73.9	(25%-150%)
		13C-37-TrCB		95.7	(25%-150%)
		13C-54-TeCB		84.1	(25%-150%)
		13C-77-TeCB		130	(25%-150%)
		13C-81-TeCB		129	(25%-150%)
		13C-104-PeCB		80.5	(25%-150%)
		13C-105-PeCB		110	(25%-150%)
		13C-114-PeCB		107	(25%-150%)
		13C-118-PeCB		107	(25%-150%)
		13C-123-PeCB		108	(25%-150%)
		13C-126-PeCB		140	(25%-150%)
		13C-155-HxCB		58.5	(25%-150%)
		13C-156-HxCB	C	99.7	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		96.2	(25%-150%)
		13C-169-HxCB		121	(25%-150%)
		13C-188-HpCB		46.8	(25%-150%)
		13C-189-HpCB		73.6	(25%-150%)
		13C-202-OcCB		58.3	(25%-150%)
		13C-205-OcCB		93.2	(25%-150%)
		13C-206-NoCB		109	(25%-150%)
		13C-208-NoCB		81.2	(25%-150%)
		13C-209-DeCB		113	(25%-150%)
		13C-28-TrCB		76.8	(30%-135%)
		13C-111-PeCB		96.9	(30%-135%)
		13C-178-HpCB		96.3	(30%-135%)
11143001	1707E46-001K Rio Grande-North-20170727	13C-1-MoCB		48.1	(15%-150%)
		13C-3-MoCB		56.0	(15%-150%)
		13C-4-DiCB		59.3	(25%-150%)
		13C-15-DiCB		77.2	(25%-150%)
		13C-19-TrCB		72.5	(25%-150%)
		13C-37-TrCB		84.1	(25%-150%)
		13C-54-TeCB		83.5	(25%-150%)
		13C-77-TeCB		118	(25%-150%)
		13C-81-TeCB		114	(25%-150%)
		13C-104-PeCB		83.5	(25%-150%)
		13C-105-PeCB		105	(25%-150%)
		13C-114-PeCB		102	(25%-150%)
		13C-118-PeCB		102	(25%-150%)

PCB Congeners

Surrogate Recovery Report

SDG Number: 1707E46

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
11143001	1707E46-001K Rio Grande-North-20170727	13C-123-PeCB		103	(25%-150%)
		13C-126-PeCB		128	(25%-150%)
		13C-155-HxCB		62.2	(25%-150%)
		13C-156-HxCB	C	96.3	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		94.3	(25%-150%)
		13C-169-HxCB		112	(25%-150%)
		13C-188-HpCB		55.4	(25%-150%)
		13C-189-HpCB		75.5	(25%-150%)
		13C-202-OcCB		65.7	(25%-150%)
		13C-205-OcCB		93.5	(25%-150%)
		13C-206-NoCB		107	(25%-150%)
		13C-208-NoCB		86.0	(25%-150%)
		13C-209-DeCB		112	(25%-150%)
		13C-28-TrCB		78.4	(30%-135%)
		13C-111-PeCB		93.5	(30%-135%)
		13C-178-HpCB		96.0	(30%-135%)
11143002	1707E46-003K Rio Grande-South-20170728	13C-1-MoCB		44.9	(15%-150%)
		13C-3-MoCB		54.3	(15%-150%)
		13C-4-DiCB		59.0	(25%-150%)
		13C-15-DiCB		101	(25%-150%)
		13C-19-TrCB		81.7	(25%-150%)
		13C-37-TrCB		89.6	(25%-150%)
		13C-54-TeCB		78.1	(25%-150%)
		13C-77-TeCB		117	(25%-150%)
		13C-81-TeCB		114	(25%-150%)
		13C-104-PeCB		85.3	(25%-150%)
		13C-105-PeCB		92.4	(25%-150%)
		13C-114-PeCB		92.4	(25%-150%)
		13C-118-PeCB		93.9	(25%-150%)
		13C-123-PeCB		95.3	(25%-150%)
		13C-126-PeCB		109	(25%-150%)
		13C-155-HxCB		72.3	(25%-150%)
		13C-156-HxCB	C	89.9	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		89.3	(25%-150%)
		13C-169-HxCB		102	(25%-150%)
		13C-188-HpCB		65.1	(25%-150%)
		13C-189-HpCB		75.6	(25%-150%)
		13C-202-OcCB		71.3	(25%-150%)
		13C-205-OcCB		92.3	(25%-150%)
		13C-206-NoCB		106	(25%-150%)
		13C-208-NoCB		87.8	(25%-150%)
		13C-209-DeCB		110	(25%-150%)
		13C-28-TrCB		77.0	(30%-135%)
		13C-111-PeCB		90.1	(30%-135%)
		13C-178-HpCB		96.7	(30%-135%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

PCB Congeners

Quality Control Summary
Spike Recovery Report

SDG Number: 1707E46 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 35297 **Matrix:** WATER

Lab Sample ID: 12019229

Instrument: HRP791 **Analysis Date:** 08/12/2017 14:59 **Dilution:** 1

Analyst: MLS **Prep Batch ID:** 35297

Batch ID: 35299

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits
2051-60-7	LCS	1-MoCB	500		469	93.9	50-150
2051-62-9	LCS	3-MoCB	500		521	104	50-150
13029-08-8	LCS	4-DiCB	500		444	88.7	50-150
2050-68-2	LCS	15-DiCB	500		584	117	50-150
38444-73-4	LCS	19-TrCB	500		475	95	50-150
38444-90-5	LCS	37-TrCB	500		461	92.2	50-150
15968-05-5	LCS	54-TeCB	1000		853	85.3	50-150
32598-13-3	LCS	77-TeCB	1000		923	92.3	50-150
70362-50-4	LCS	81-TeCB	1000		1000	100	50-150
56558-16-8	LCS	104-PeCB	1000		863	86.3	50-150
32598-14-4	LCS	105-PeCB	1000		1090	109	50-150
74472-37-0	LCS	114-PeCB	1000		1050	105	50-150
31508-00-6	LCS	118-PeCB	1000		1020	102	50-150
65510-44-3	LCS	123-PeCB	1000		987	98.7	50-150
57465-28-8	LCS	126-PeCB	1000		1080	108	50-150
33979-03-2	LCS	155-HxCB	1000		941	94.1	50-150
38380-08-4	LCS	156-HxCB	2000	C	2250	113	50-150
69782-90-7	LCS	157-HxCB		C156			
52663-72-6	LCS	167-HxCB	1000		1150	115	50-150
32774-16-6	LCS	169-HxCB	1000		1050	105	50-150
74487-85-7	LCS	188-HpCB	1000		927	92.7	50-150
39635-31-9	LCS	189-HpCB	1000		1090	109	50-150
2136-99-4	LCS	202-OcCB	1500		1460	97.4	50-150
74472-53-0	LCS	205-OcCB	1500		1430	95.5	50-150
40186-72-9	LCS	206-NoCB	1500		1330	88.8	50-150
52663-77-1	LCS	208-NoCB	1500		1460	97.7	50-150
2051-24-3	LCS	209-DeCB	1500		1450	97	50-150

PCB Congeners

Quality Control Summary
Spike Recovery Report

SDG Number: 1707E46 **Sample Type:** Laboratory Control Sample Duplicate

Client ID: LCSD for batch 35297 **Matrix:** WATER

Lab Sample ID: 12019230

Instrument: HRP791 **Analysis Date:** 08/12/2017 16:07 **Dilution:** 1

Analyst: MLS **Prep Batch ID:** 35297

Batch ID: 35299

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
2051-60-7	LCSD	1-MoCB	500		452	90.4	50-150	3.81	0-20
2051-62-9	LCSD	3-MoCB	500		528	106	50-150	1.35	0-20
13029-08-8	LCSD	4-DiCB	500		464	92.8	50-150	4.50	0-20
2050-68-2	LCSD	15-DiCB	500		673	135	50-150	14.1	0-20
38444-73-4	LCSD	19-TrCB	500		485	97	50-150	2.02	0-20
38444-90-5	LCSD	37-TrCB	500		468	93.5	50-150	1.42	0-20
15968-05-5	LCSD	54-TeCB	1000		901	90.1	50-150	5.54	0-20
32598-13-3	LCSD	77-TeCB	1000		948	94.8	50-150	2.67	0-20
70362-50-4	LCSD	81-TeCB	1000		1010	101	50-150	0.587	0-20
56558-16-8	LCSD	104-PeCB	1000		943	94.3	50-150	8.95	0-20
32598-14-4	LCSD	105-PeCB	1000		1100	110	50-150	0.303	0-20
74472-37-0	LCSD	114-PeCB	1000		1070	107	50-150	1.24	0-20
31508-00-6	LCSD	118-PeCB	1000		1030	103	50-150	0.671	0-20
65510-44-3	LCSD	123-PeCB	1000		985	98.5	50-150	0.172	0-20
57465-28-8	LCSD	126-PeCB	1000		1110	111	50-150	2.62	0-20
33979-03-2	LCSD	155-HxCB	1000		935	93.5	50-150	0.663	0-20
38380-08-4	LCSD	156-HxCB	2000	C	2260	113	50-150	0.0843	0-20
69782-90-7	LCSD	157-HxCB		C156					
52663-72-6	LCSD	167-HxCB	1000		1130	113	50-150	1.48	0-20
32774-16-6	LCSD	169-HxCB	1000		1060	106	50-150	0.252	0-20
74487-85-7	LCSD	188-HpCB	1000		913	91.3	50-150	1.55	0-20
39635-31-9	LCSD	189-HpCB	1000		1090	109	50-150	0.0976	0-20
2136-99-4	LCSD	202-OcCB	1500		1460	97.6	50-150	0.242	0-20
74472-53-0	LCSD	205-OcCB	1500		1430	95.1	50-150	0.439	0-20
40186-72-9	LCSD	206-NoCB	1500		1330	88.7	50-150	0.101	0-20
52663-77-1	LCSD	208-NoCB	1500		1470	98.1	50-150	0.412	0-20
2051-24-3	LCSD	209-DeCB	1500		1440	96.1	50-150	0.950	0-20

Method Blank Summary

SDG Number:	**1707E46**	**Client:**	**HALL001**	**Matrix:**	**WATER**
Client ID:	**MB for batch 35297**	**Instrument ID:**	**HRP791**	**Data File:**	**c12aug17a-4**
Lab Sample ID:	**12019228**	**Prep Date:**	**08-AUG-17**	**Analyzed:**	**08/12/17 17:15**
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 35297	12019229	c12aug17a-2	08/12/17	1459
02	LCSD for batch 35297	12019230	c12aug17a-3	08/12/17	1607
03	1707E46-001K Rio Grande-North-20170727	11143001	c12aug17a_2-11	08/13/17	1353
04	1707E46-003K Rio Grande-South-20170728	11143002	c12aug17a_3-9	08/14/17	0019

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019228**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**MB for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 17:15**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-4**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	7.00	40.0
2051-61-8	2-MoCB	U	ND	pg/L	7.02	40.0
2051-62-9	3-MoCB	U	ND	pg/L	6.42	20.0
13029-08-8	4-DiCB	U	ND	pg/L	41.3	40.0
16605-91-7	5-DiCB	U	ND	pg/L	24.9	40.0
25569-80-6	6-DiCB	U	ND	pg/L	20.3	20.0
33284-50-3	7-DiCB	U	ND	pg/L	23.5	40.0
34883-43-7	8-DiCB	U	ND	pg/L	19.1	40.0
34883-39-1	9-DiCB	U	ND	pg/L	25.1	40.0
33146-45-1	10-DiCB	U	ND	pg/L	23.9	40.0
2050-67-1	11-DiCB	U	ND	pg/L	24.3	100
2974-92-7	12-DiCB	CU	ND	pg/L	23.7	40.0
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	23.2	40.0
2050-68-2	15-DiCB	U	ND	pg/L	23.3	20.0
38444-78-9	16-TrCB	U	ND	pg/L	7.84	20.0
37680-66-3	17-TrCB	U	ND	pg/L	7.70	20.0
37680-65-2	18-TrCB	CU	ND	pg/L	6.60	40.0
38444-73-4	19-TrCB	U	ND	pg/L	8.52	40.0
38444-84-7	20-TrCB	CU	ND	pg/L	5.58	40.0
55702-46-0	21-TrCB	CU	ND	pg/L	5.36	40.0
38444-85-8	22-TrCB	U	ND	pg/L	5.50	20.0
55720-44-0	23-TrCB	U	ND	pg/L	5.68	20.0
55702-45-9	24-TrCB	U	ND	pg/L	5.78	40.0
55712-37-3	25-TrCB	U	ND	pg/L	4.86	20.0
38444-81-4	26-TrCB	CU	ND	pg/L	5.40	40.0
38444-76-7	27-TrCB	U	ND	pg/L	5.82	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	4.98	20.0
38444-77-8	32-TrCB	U	ND	pg/L	5.18	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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019228**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**MB for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 17:15**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-4**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	5.86	20.0
37680-69-6	35-TrCB	U	ND	pg/L	6.32	40.0
38444-87-0	36-TrCB	U	ND	pg/L	5.90	20.0
38444-90-5	37-TrCB	U	ND	pg/L	6.38	20.0
53555-66-1	38-TrCB	U	ND	pg/L	6.14	20.0
38444-88-1	39-TrCB	U	ND	pg/L	6.00	20.0
38444-93-8	40-TeCB	CU	ND	pg/L	5.78	40.0
52663-59-9	41-TeCB	U	ND	pg/L	8.48	20.0
36559-22-5	42-TeCB	U	ND	pg/L	6.26	20.0
70362-46-8	43-TeCB	U	ND	pg/L	7.40	20.0
41464-39-5	44-TeCB	CU	ND	pg/L	6.06	60.0
70362-45-7	45-TeCB	CU	ND	pg/L	4.78	40.0
41464-47-5	46-TeCB	U	ND	pg/L	4.80	20.0
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	6.50	20.0
41464-40-8	49-TeCB	CU	ND	pg/L	5.66	40.0
62796-65-0	50-TeCB	CU	ND	pg/L	4.40	40.0
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	U	ND	pg/L	6.58	20.0
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	3.32	20.0
74338-24-2	55-TeCB	U	ND	pg/L	4.76	20.0
41464-43-1	56-TeCB	U	ND	pg/L	5.00	20.0
70424-67-8	57-TeCB	U	ND	pg/L	4.86	20.0
41464-49-7	58-TeCB	U	ND	pg/L	5.06	20.0
74472-33-6	59-TeCB	CU	ND	pg/L	4.92	60.0
33025-41-1	60-TeCB	U	ND	pg/L	4.72	20.0
33284-53-6	61-TeCB	CU	ND	pg/L	4.72	80.0
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	4.50	20.0
52663-58-8	64-TeCB	U	ND	pg/L	4.92	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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019228**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**MB for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 17:15**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-4**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	U	ND	pg/L	4.48	20.0
73575-53-8	67-TeCB	U	ND	pg/L	4.38	20.0
73575-52-7	68-TeCB	U	ND	pg/L	4.56	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	4.62	20.0
74338-23-1	73-TeCB	U	ND	pg/L	5.40	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	4.40	20.0
70362-49-1	78-TeCB	U	ND	pg/L	4.20	20.0
41464-48-6	79-TeCB	U	ND	pg/L	3.86	20.0
33284-52-5	80-TeCB	U	ND	pg/L	4.14	20.0
70362-50-4	81-TeCB	U	ND	pg/L	4.16	20.0
52663-62-4	82-PeCB	U	ND	pg/L	4.12	20.0
60145-20-2	83-PeCB	U	ND	pg/L	4.74	20.0
52663-60-2	84-PeCB	U	ND	pg/L	4.66	20.0
65510-45-4	85-PeCB	CU	ND	pg/L	3.30	60.0
55312-69-1	86-PeCB	CU	ND	pg/L	3.46	120
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	4.40	40.0
73575-57-2	89-PeCB	U	ND	pg/L	4.42	20.0
68194-07-0	90-PeCB	CJ	4.18	pg/L	3.62	60.0
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	4.10	20.0
73575-56-1	93-PeCB	CU	ND	pg/L	4.42	40.0
73575-55-0	94-PeCB	U	ND	pg/L	4.76	20.0
38379-99-6	95-PeCB	U	ND	pg/L	4.28	20.0
73575-54-9	96-PeCB	U	ND	pg/L	2.80	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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019228**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**MB for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 17:15**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-4**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	4.50	40.0
38380-01-7	99-PeCB	U	ND	pg/L	3.80	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	4.06	20.0
56558-16-8	104-PeCB	U	ND	pg/L	2.70	20.0
32598-14-4	105-PeCB	U	ND	pg/L	3.52	20.0
70424-69-0	106-PeCB	U	ND	pg/L	3.20	20.0
70424-68-9	107-PeCB	U	ND	pg/L	3.20	20.0
70362-41-3	108-PeCB	CU	ND	pg/L	3.48	40.0
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CU	ND	pg/L	3.02	40.0
39635-32-0	111-PeCB	U	ND	pg/L	2.88	20.0
74472-36-9	112-PeCB	U	ND	pg/L	2.94	20.0
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	3.66	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	3.46	20.0
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	2.66	20.0
56558-18-0	121-PeCB	U	ND	pg/L	3.24	20.0
76842-07-4	122-PeCB	U	ND	pg/L	3.50	20.0
65510-44-3	123-PeCB	U	ND	pg/L	3.60	20.0
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	3.26	20.0
39635-33-1	127-PeCB	U	ND	pg/L	2.96	20.0
38380-07-3	128-HxCB	CU	ND	pg/L	4.74	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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019228**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**MB for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 17:15**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-4**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CJ	8.36	pg/L	5.34	60.0
52663-66-8	130-HxCB	U	ND	pg/L	6.20	20.0
61798-70-7	131-HxCB	U	ND	pg/L	7.22	20.0
38380-05-1	132-HxCB	U	ND	pg/L	6.96	20.0
35694-04-3	133-HxCB	U	ND	pg/L	6.26	20.0
52704-70-8	134-HxCB	U	ND	pg/L	8.22	20.0
52744-13-5	135-HxCB	CU	ND	pg/L	3.96	40.0
38411-22-2	136-HxCB	U	ND	pg/L	3.14	20.0
35694-06-5	137-HxCB	U	ND	pg/L	6.12	20.0
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	6.14	40.0
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	5.54	20.0
41411-61-4	142-HxCB	U	ND	pg/L	6.60	20.0
68194-15-0	143-HxCB	U	ND	pg/L	6.22	20.0
68194-14-9	144-HxCB	U	ND	pg/L	3.72	20.0
74472-40-5	145-HxCB	U	ND	pg/L	3.36	20.0
51908-16-8	146-HxCB	U	ND	pg/L	5.38	20.0
68194-13-8	147-HxCB	CU	ND	pg/L	6.30	40.0
74472-41-6	148-HxCB	U	ND	pg/L	4.04	20.0
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	3.24	40.0
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	3.20	20.0
35065-27-1	153-HxCB	CJ	8.08	pg/L	4.82	40.0
60145-22-4	154-HxCB	U	ND	pg/L	3.40	20.0
33979-03-2	155-HxCB	U	ND	pg/L	3.06	20.0
38380-08-4	156-HxCB	CU	ND	pg/L	4.76	40.0
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	3.94	20.0
39635-35-3	159-HxCB	U	ND	pg/L	3.64	20.0
41411-62-5	160-HxCB	U	ND	pg/L	4.52	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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019228**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**MB for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 17:15**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-4**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	4.52	20.0
39635-34-2	162-HxCB	U	ND	pg/L	3.72	20.0
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	4.24	20.0
74472-46-1	165-HxCB	U	ND	pg/L	5.16	20.0
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	3.68	20.0
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	3.24	20.0
35065-30-6	170-HpCB	U	ND	pg/L	4.62	40.0
52663-71-5	171-HpCB	CU	ND	pg/L	5.10	40.0
52663-74-8	172-HpCB	U	ND	pg/L	4.86	20.0
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	5.16	20.0
40186-70-7	175-HpCB	U	ND	pg/L	3.60	20.0
52663-65-7	176-HpCB	U	ND	pg/L	3.12	20.0
52663-70-4	177-HpCB	U	ND	pg/L	5.30	20.0
52663-67-9	178-HpCB	U	ND	pg/L	3.84	20.0
52663-64-6	179-HpCB	U	ND	pg/L	3.14	20.0
35065-29-3	180-HpCB	CJ	12.8	pg/L	4.06	40.0
74472-47-2	181-HpCB	U	ND	pg/L	5.12	20.0
60145-23-5	182-HpCB	U	ND	pg/L	3.58	40.0
52663-69-1	183-HpCB	CU	ND	pg/L	4.94	40.0
74472-48-3	184-HpCB	U	ND	pg/L	3.12	20.0
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	3.30	20.0
52663-68-0	187-HpCB	U	ND	pg/L	3.58	20.0
74487-85-7	188-HpCB	U	ND	pg/L	3.30	20.0
39635-31-9	189-HpCB	U	ND	pg/L	3.88	20.0
41411-64-7	190-HpCB	U	ND	pg/L	3.58	20.0
74472-50-7	191-HpCB	U	ND	pg/L	3.60	20.0
74472-51-8	192-HpCB	U	ND	pg/L	4.02	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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019228**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**MB for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 17:15**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-4**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	6.54	pg/L	3.64	40.0
52663-78-2	195-OcCB	U	ND	pg/L	4.04	20.0
42740-50-1	196-OcCB	U	ND	pg/L	4.08	20.0
33091-17-7	197-OcCB	CU	ND	pg/L	3.50	40.0
68194-17-2	198-OcCB	CJ	7.18	pg/L	4.28	40.0
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	3.52	20.0
2136-99-4	202-OcCB	U	ND	pg/L	4.22	20.0
52663-76-0	203-OcCB	J	5.54	pg/L	3.98	40.0
74472-52-9	204-OcCB	U	ND	pg/L	3.52	20.0
74472-53-0	205-OcCB	U	ND	pg/L	2.94	20.0
40186-72-9	206-NoCB	U	ND	pg/L	3.20	20.0
52663-79-3	207-NoCB	J	4.72	pg/L	2.92	20.0
52663-77-1	208-NoCB	U	ND	pg/L	2.98	20.0
2051-24-3	209-DeCB	J	4.82	pg/L	2.64	20.0
1336-36-3	Total PCB Congeners	J	62.2	pg/L	6.68	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		1120	2000	pg/L	56.2	(15%-150%)
13C-3-MoCB		1230	2000	pg/L	61.6	(15%-150%)
13C-4-DiCB		1250	2000	pg/L	62.6	(25%-150%)
13C-15-DiCB		1690	2000	pg/L	84.6	(25%-150%)
13C-19-TrCB		1480	2000	pg/L	73.9	(25%-150%)
13C-37-TrCB		1910	2000	pg/L	95.7	(25%-150%)
13C-54-TeCB		1680	2000	pg/L	84.1	(25%-150%)
13C-77-TeCB		2600	2000	pg/L	130	(25%-150%)
13C-81-TeCB		2570	2000	pg/L	129	(25%-150%)
13C-104-PeCB		1610	2000	pg/L	80.5	(25%-150%)
13C-105-PeCB		2200	2000	pg/L	110	(25%-150%)
13C-114-PeCB		2140	2000	pg/L	107	(25%-150%)
13C-118-PeCB		2130	2000	pg/L	107	(25%-150%)
13C-123-PeCB		2170	2000	pg/L	108	(25%-150%)
13C-126-PeCB		2800	2000	pg/L	140	(25%-150%)
13C-155-HxCB		1170	2000	pg/L	58.5	(25%-150%)
13C-156-HxCB	C	3990	4000	pg/L	99.7	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1920	2000	pg/L	96.2	(25%-150%)
13C-169-HxCB		2420	2000	pg/L	121	(25%-150%)
13C-188-HpCB		936	2000	pg/L	46.8	(25%-150%)
13C-189-HpCB		1470	2000	pg/L	73.6	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019228**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**MB for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 17:15**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-4**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1170	2000	pg/L	58.3	(25%-150%)
13C-205-OcCB		1860	2000	pg/L	93.2	(25%-150%)
13C-206-NoCB		2170	2000	pg/L	109	(25%-150%)
13C-208-NoCB		1620	2000	pg/L	81.2	(25%-150%)
13C-209-DeCB		2260	2000	pg/L	113	(25%-150%)
13C-28-TrCB		1540	2000	pg/L	76.8	(30%-135%)
13C-111-PeCB		1940	2000	pg/L	96.9	(30%-135%)
13C-178-HpCB		1930	2000	pg/L	96.3	(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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019229**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**LCS for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 14:59**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-2**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB		469	pg/L	16.2	40.0
2051-62-9	3-MoCB		521	pg/L	13.1	20.0
13029-08-8	4-DiCB		444	pg/L	40.6	40.0
2050-68-2	15-DiCB		584	pg/L	26.5	20.0
38444-73-4	19-TrCB		475	pg/L	16.1	40.0
38444-90-5	37-TrCB		461	pg/L	15.2	20.0
15968-05-5	54-TeCB		853	pg/L	6.04	20.0
32598-13-3	77-TeCB		923	pg/L	17.4	20.0
70362-50-4	81-TeCB		1000	pg/L	17.1	20.0
56558-16-8	104-PeCB		863	pg/L	6.54	20.0
32598-14-4	105-PeCB		1090	pg/L	17.6	20.0
74472-37-0	114-PeCB		1050	pg/L	17.5	20.0
31508-00-6	118-PeCB		1020	pg/L	17.3	20.0
65510-44-3	123-PeCB		987	pg/L	17.6	20.0
57465-28-8	126-PeCB		1080	pg/L	16.5	20.0
33979-03-2	155-HxCB		941	pg/L	4.70	20.0
38380-08-4	156-HxCB	C	2250	pg/L	13.3	40.0
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		1150	pg/L	10.3	20.0
32774-16-6	169-HxCB		1050	pg/L	9.20	20.0
74487-85-7	188-HpCB		927	pg/L	5.48	20.0
39635-31-9	189-HpCB		1090	pg/L	5.48	20.0
2136-99-4	202-OcCB		1460	pg/L	4.96	20.0
74472-53-0	205-OcCB		1430	pg/L	4.02	20.0
40186-72-9	206-NoCB		1330	pg/L	4.02	20.0
52663-77-1	208-NoCB		1460	pg/L	3.52	20.0
2051-24-3	209-DeCB		1450	pg/L	2.90	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		890	2000	pg/L	44.5	(15%-140%)
13C-3-MoCB		1030	2000	pg/L	51.5	(15%-140%)
13C-4-DiCB		1050	2000	pg/L	52.6	(30%-140%)
13C-15-DiCB		1380	2000	pg/L	69.2	(30%-140%)
13C-19-TrCB		1250	2000	pg/L	62.6	(30%-140%)
13C-37-TrCB		1550	2000	pg/L	77.7	(30%-140%)
13C-54-TeCB		1500	2000	pg/L	75.1	(30%-140%)
13C-77-TeCB		2210	2000	pg/L	110	(30%-140%)
13C-81-TeCB		2120	2000	pg/L	106	(30%-140%)
13C-104-PeCB		1370	2000	pg/L	68.5	(30%-140%)
13C-105-PeCB		1800	2000	pg/L	89.9	(30%-140%)
13C-114-PeCB		1780	2000	pg/L	88.8	(30%-140%)
13C-118-PeCB		1770	2000	pg/L	88.3	(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019229**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**LCS for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 14:59**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-2**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-123-PeCB		1780	2000	pg/L	89.1	(30%-140%)
13C-126-PeCB		2310	2000	pg/L	115	(30%-140%)
13C-155-HxCB		993	2000	pg/L	49.6	(30%-140%)
13C-156-HxCB	C	3370	4000	pg/L	84.3	(30%-140%)
13C-157-HxCB	C156L					
13C-167-HxCB		1610	2000	pg/L	80.4	(30%-140%)
13C-169-HxCB		2060	2000	pg/L	103	(30%-140%)
13C-188-HpCB		812	2000	pg/L	40.6	(30%-140%)
13C-189-HpCB		1280	2000	pg/L	64.2	(30%-140%)
13C-202-OcCB		1000	2000	pg/L	50.0	(30%-140%)
13C-205-OcCB		1580	2000	pg/L	79.1	(30%-140%)
13C-206-NoCB		1850	2000	pg/L	92.4	(30%-140%)
13C-208-NoCB		1410	2000	pg/L	70.3	(30%-140%)
13C-209-DeCB		1920	2000	pg/L	96.1	(30%-140%)
13C-28-TrCB		1330	2000	pg/L	66.6	(40%-125%)
13C-111-PeCB		1620	2000	pg/L	81.2	(40%-125%)
13C-178-HpCB		1610	2000	pg/L	80.7	(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:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019230**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**LCSD for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 16:07**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-3**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB		452	pg/L	17.5	40.0
2051-62-9	3-MoCB		528	pg/L	14.4	20.0
13029-08-8	4-DiCB		464	pg/L	38.9	40.0
2050-68-2	15-DiCB		673	pg/L	29.6	20.0
38444-73-4	19-TrCB		485	pg/L	14.8	40.0
38444-90-5	37-TrCB		468	pg/L	18.1	20.0
15968-05-5	54-TeCB		901	pg/L	8.04	20.0
32598-13-3	77-TeCB		948	pg/L	22.3	20.0
70362-50-4	81-TeCB		1010	pg/L	23.0	20.0
56558-16-8	104-PeCB		943	pg/L	9.18	20.0
32598-14-4	105-PeCB		1100	pg/L	20.1	20.0
74472-37-0	114-PeCB		1070	pg/L	20.1	20.0
31508-00-6	118-PeCB		1030	pg/L	20.6	20.0
65510-44-3	123-PeCB		985	pg/L	19.9	20.0
57465-28-8	126-PeCB		1110	pg/L	18.8	20.0
33979-03-2	155-HxCB		935	pg/L	6.88	20.0
38380-08-4	156-HxCB	C	2260	pg/L	19.7	40.0
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		1130	pg/L	15.4	20.0
32774-16-6	169-HxCB		1060	pg/L	12.8	20.0
74487-85-7	188-HpCB		913	pg/L	378	20.0
39635-31-9	189-HpCB		1090	pg/L	6.14	20.0
2136-99-4	202-OcCB		1460	pg/L	6.86	20.0
74472-53-0	205-OcCB		1430	pg/L	5.26	20.0
40186-72-9	206-NoCB		1330	pg/L	4.00	20.0
52663-77-1	208-NoCB		1470	pg/L	3.74	20.0
2051-24-3	209-DeCB		1440	pg/L	2.70	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		1030	2000	pg/L	51.4	(15%-140%)
13C-3-MoCB		1190	2000	pg/L	59.6	(15%-140%)
13C-4-DiCB		1190	2000	pg/L	59.3	(30%-140%)
13C-15-DiCB		1520	2000	pg/L	75.9	(30%-140%)
13C-19-TrCB		1470	2000	pg/L	73.5	(30%-140%)
13C-37-TrCB		1590	2000	pg/L	79.5	(30%-140%)
13C-54-TeCB		1700	2000	pg/L	84.8	(30%-140%)
13C-77-TeCB		2260	2000	pg/L	113	(30%-140%)
13C-81-TeCB		2230	2000	pg/L	111	(30%-140%)
13C-104-PeCB		1630	2000	pg/L	81.5	(30%-140%)
13C-105-PeCB		2170	2000	pg/L	108	(30%-140%)
13C-114-PeCB		2130	2000	pg/L	107	(30%-140%)
13C-118-PeCB		2070	2000	pg/L	104	(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1707E46**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12019230**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35297**				
Client ID:	**LCSD for batch 35297**			**Prep Basis:**	**As Received**
Batch ID:	**35299**	**Method:**	**EPA Method 1668A**		
Run Date:	**08/12/2017 16:07**	**Analyst:**	**MLS**	**Instrument:**	**HRP791**
Data File:	**c12aug17a-3**			**Dilution:**	**1**
Prep Batch:	**35297**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**08-AUG-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-123-PeCB		2110	2000	pg/L	106		(30%-140%)
13C-126-PeCB		2830	2000	pg/L	141	*	(30%-140%)
13C-155-HxCB		1140	2000	pg/L	57.1		(30%-140%)
13C-156-HxCB	C	4270	4000	pg/L	107		(30%-140%)
13C-157-HxCB	C156L						
13C-167-HxCB		2000	2000	pg/L	100		(30%-140%)
13C-169-HxCB		2680	2000	pg/L	134		(30%-140%)
13C-188-HpCB		824	2000	pg/L	41.2		(30%-140%)
13C-189-HpCB		1470	2000	pg/L	73.7		(30%-140%)
13C-202-OcCB		1050	2000	pg/L	52.7		(30%-140%)
13C-205-OcCB		1860	2000	pg/L	93.1		(30%-140%)
13C-206-NoCB		2200	2000	pg/L	110		(30%-140%)
13C-208-NoCB		1600	2000	pg/L	79.9		(30%-140%)
13C-209-DeCB		2330	2000	pg/L	116		(30%-140%)
13C-28-TrCB		1490	2000	pg/L	74.7		(40%-125%)
13C-111-PeCB		1860	2000	pg/L	93.2		(40%-125%)
13C-178-HpCB		1900	2000	pg/L	95.2		(40%-125%)

Comments:

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

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 02, 2017

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

Sept. 27, 2017 Rio Grande North - E. coli result

RE: CMC OrderNo.: 1709F09

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/27/2017 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1709F09**
Date Reported: **10/2/2017**

CLIENT: AMAFCA
Client Sample ID: Rio Grande-North-20170927
Project: CMC
Collection Date: 9/27/2017 12:00:00 PM
Lab ID: 1709F09-001
Matrix: AQUEOUS
Received Date: 9/27/2017 12:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SM 9223B FECAL INDICATOR: E. COLI	**MPN**					Analyst: **SMS**
E. Coli	733	10.00		MPN/100mL	10	9/28/2017 6:51:00 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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: 1709F09 RcptNo: 1

Received By: **Anne Thorne** 9/27/2017 12:30:00 PM

Completed By: **Anne Thorne** 9/27/2017 12:45:42 PM

Reviewed By: AT 09/27/17

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	17.9	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address: 2600 Prospect NE

Phone #: 505-884-2215

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: 17.9

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. 1709F09
9-27-17	1200	AQ	RioGrande_North_20170927	1		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 - Enumerated				Air Bubbles (Y or N)
											X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/27/17	1230			09/27/17	1230
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

October 02, 2017

Sept. 27, 2017 Rio Grande at Alameda Pre-storm - E. coli result

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

RE: ALAMEDA CMC OrderNo.: 1709F01

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/27/2017 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1709F01**
Date Reported: **10/2/2017**

CLIENT: AMAFCA
Client Sample ID: ALAMEDA PRE STORM
Project: ALAMEDA CMC
Collection Date: 9/27/2017 10:30:00 AM
Lab ID: 1709F01-001 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 10:54:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI	**MPN**					Analyst: **SMS**	
E. Coli	218	10.00		MPN/100mL	10	9/28/2017 2:48:00 PM	34107

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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: 1709F01 RcptNo: 1

Received By: **Sophia Campuzano** 9/27/2017 10:54:00 AM Sophia Campuzano

Completed By: **Sophia Campuzano** 9/27/2017 11:08:14 AM Sophia Campuzano

Reviewed By: EVM 9/27/17

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	13.3	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA - CMC

Mailing Address: 2600 Prospect Ave NE
Albuquerque, NM 87107

Phone #: 505 884-2215

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: Alameda CMC

Project #:

Project Manager: Patrick Chavez

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 13.3

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. 1709F01
9/27/17	10:30a	AQ	Alameda Pre Storm			-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)	Enumeration				Air Bubbles (Y or N)
											✓				

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/27/17	10:54		Sylph Cm	09/27/17	1054
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.

Client Ska 09/27/17

Bernalillo WWTP

E. coli WORKSHEET

Time of Sampling: 10:00PM Time of Arrival: 10:03PM
Type of Sample: Grab Sample Instantaneous Flow: _____MGD
Exact Location: EFF WW River flow
Method Used: Hach m-ColiBlue 24 EPA Approved Method

Refrigerator Temperature: 4 °C
(Samples must be stored at <6°C)

In Incubator:
Date: 9/27/17 Time: 10:41 (24 Hours ± 2 hours.) Temp: 35.1 °C (35.0 ± 0.5°C)

Out of Incubator:
Date: 9/28/17 Time: ~~10:41~~ MW 8:57 (24 Hours ± 2 hours.) Temp: 35.1 °C (35.0 ± 0.5°C)

**Formula: Calculate coliform density: Use all plates and filtered volumes that fall between the ideal range. Include duplicates and multiple dilutions.

Colonies/100 mL = (coliform colonies counted) X (100) / mLs Sample filtered

**Formula: If no plate falls in the ideal range, use all plates and filtered volumes not categorized as TNTC or Confluent Growth.

Colonies/100 mL = (Sum of colonies in all samples) X (100) / Sum of volume (in mL) of all samples

(Use the worksheet below to calculate coliform density)

IF: The total number of colonies exceeds 200 per membrane, or the colonies are too indistinct for accurate counting, or exceed 60 blue colonies, report the results as "Too Numerous to Count (TNTC)" Or "confluent growth" as applies.

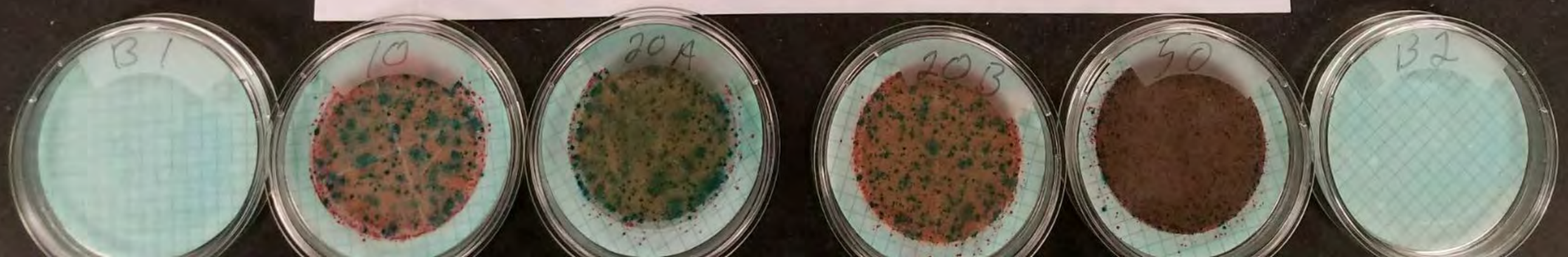
**Use plates that fall in the ideal range for Quantitative Determinations for e-coli (20-60)

Sample	Volume	Blue Colonies
Blank I	100 mL	Ø
25	10mL ~~25 mL~~	T
50A	20mL ~~50 mL~~	N
50B	20mL ~~50 mL~~	T
100	50mL ~~100 mL~~	C
Blank II	100 mL	Ø

E. coli Colonies Reported/100 mls: TNTC

Sampled By: Mark Wooton

Analyzed By: Mark Wooton



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 31, 2017

Sept. 27, 2017 Rio Grande North and Sept. 28, 2017 Rio Grande South results

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

RE: CMC OrderNo.: 1709F81

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/28/2017 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Field Data - Provided by DBS&A (field notebook):
9/27/17 - Rio Grande North
DO = 7.13 mg/L, pH = 7.83, Conductivity = 103.4 umhos/cm, and Temperature = 16.3°C
9/28/17 - Rio Grande South
DO = 7.23 mg/L, pH = 7.92, Conductivity = 192.2 umhos/cm, and Temperature = 15.2°C

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1709F81**
Date Reported: **10/31/2017**

CLIENT: AMAFCA
Client Sample ID: Rio Grande-South-20170928
Project: CMC
Collection Date: 9/28/2017 9:00:00 AM
Lab ID: 1709F81-001
Matrix: AQUEOUS
Received Date: 9/28/2017 1:40:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/29/2017 10:01:11 AM	R46023
Nitrogen, Nitrate (As N)	0.46	0.11	0.50	J	mg/L	5	9/29/2017 10:01:11 AM	R46023
EPA METHOD 200.7: METALS							Analyst: **pmf**	
Calcium	80	0.078	1.0		mg/L	1	10/16/2017 6:38:36 PM	34381
Magnesium	15	0.25	1.0		mg/L	1	10/16/2017 6:38:36 PM	34381
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Copper	0.00098	0.00030	0.0010	J	mg/L	1	10/6/2017 8:08:32 PM	C46196
Lead	0.00047	0.00017	0.00050	J	mg/L	1	10/6/2017 8:08:32 PM	C46196
SM2340B: HARDNESS							Analyst: **pmf**	
Hardness (As CaCO3)	260	2.5	6.6		mg/L	1	10/17/2017	R46397
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	5.0	2.0	2.0		mg/L	1	10/4/2017 12:17:00 PM	34138
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	6131	10.00	10.00		MPN/100	10	9/29/2017 3:20:00 PM	34130
EPA METHOD 1664B							Analyst: **dbf**	
N-Hexane Extractable Material	ND	3.85	10.2		mg/L	1	10/4/2017 8:00:00 AM	34213
SM 4500 NH3: AMMONIA							Analyst: **smb**	
Nitrogen, Ammonia	ND	0.40	1.0		mg/L	1	10/16/2017 2:44:00 PM	R46385
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.97			H	pH units	1	10/2/2017 11:40:44 AM	R46061
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **JRR**	
Phosphorus, Total (As P)	0.74	0.050	0.050	D	mg/L	1	10/13/2017 9:28:00 AM	34388
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	260	118	200	D	mg/L	1	10/4/2017 8:51:00 PM	34208
SM 4500 NORG C: TKN							Analyst: **smb**	
Nitrogen, Kjeldahl, Total	1.7	0.88	2.0	JD	mg/L	1	10/17/2017 10:53:00 AM	34412
SM 2540D: TSS							Analyst: **KS**	
Suspended Solids	810	20	20	D	mg/L	1	10/2/2017 4:41:00 PM	34153

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170927
Project: CMC
Collection Date: 9/27/2017 12:00:00 PM
Lab ID: 1709F81-003
Matrix: AQUEOUS
Received Date: 9/28/2017 1:40:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/29/2017 10:26:00 AM	R46023
Nitrogen, Nitrate (As N)	0.20	0.11	0.50	J	mg/L	5	9/29/2017 10:26:00 AM	R46023
EPA METHOD 200.7: METALS							Analyst: **pmf**	
Calcium	40	0.078	1.0		mg/L	1	10/16/2017 6:40:14 PM	34381
Magnesium	9.0	0.25	1.0		mg/L	1	10/16/2017 6:40:14 PM	34381
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Copper	0.00095	0.00030	0.0010	J	mg/L	1	10/6/2017 8:14:39 PM	C46196
Lead	ND	0.00017	0.00050		mg/L	1	10/6/2017 8:14:39 PM	C46196
SM2340B: HARDNESS							Analyst: **pmf**	
Hardness (As CaCO3)	140	2.5	6.6		mg/L	1	10/17/2017	R46397
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	2.0	2.0	2.0		mg/L	1	10/4/2017 12:17:00 PM	34138
EPA METHOD 1664B							Analyst: **dbf**	
N-Hexane Extractable Material	ND	3.73	9.86		mg/L	1	10/4/2017 8:00:00 AM	34213
SM 4500 NH3: AMMONIA							Analyst: **smb**	
Nitrogen, Ammonia	ND	0.40	1.0		mg/L	1	10/16/2017 2:44:00 PM	R46385
SM4500-H+B: PH							Analyst: **JRR**	
pH	8.06			H	pH units	1	10/2/2017 11:44:35 AM	R46061
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **JRR**	
Phosphorus, Total (As P)	0.28	0.050	0.050	D	mg/L	1	10/13/2017 9:29:00 AM	34388
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	225	59.1	100	D	mg/L	1	10/4/2017 8:51:00 PM	34208
SM 4500 NORG C: TKN							Analyst: **smb**	
Nitrogen, Kjeldahl, Total	0.84	0.44	1.0	J	mg/L	1	10/17/2017 10:53:00 AM	34412
SM 2540D: TSS							Analyst: **KS**	
Suspended Solids	260	7.9	8.0	D	mg/L	1	10/2/2017 4:41:00 PM	34153

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170928 Filt
Project: CMC
Collection Date: 9/28/2017 9:00:00 AM
Lab ID: 1709F81-005
Matrix: AQUEOUS
Received Date: 9/28/2017 1:40:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **JRR**	
Phosphorus, Total (As P)	0.080	0.010	0.010		mg/L	1	10/13/2017 9:34:00 AM	34388

Dissolved phosphorous - filtered sample

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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-20170927 Filt
Project: CMC
Collection Date: 9/27/2017 12:00:00 PM
Lab ID: 1709F81-006
Matrix: AQUEOUS
Received Date: 9/28/2017 1:40:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **JRR**	
Phosphorus, Total (As P)	0.029	0.010	0.010		mg/L	1	10/13/2017 9:35:00 AM	34388

Dissolved phosphorous - filtered sample

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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 #:**	171003037
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1709F81
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	171003037-001	**Sampling Date**	9/28/2017	**Date/Time Received**	10/3/2017 2:05 PM
Client Sample ID	1709F81-001A / RIO GRANDE-SOUTH 20170928			**Sampling Time**	9:00 AM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	10/4/2017	SAT	EPA 8260C	

Surrogate Data

Sample Number 171003037-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	100.4	70-130
4-Bromofluorobenzene	EPA 8260C	96.8	70-130
Toluene-d8	EPA 8260C	98.8	70-130

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	171003037
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1709F81
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	171003037-004	**Sampling Date**	9/27/2017	**Date/Time Received**	10/3/20172:05 PM
Client Sample ID	1709F81-003A / RIO GRANDE-NORTH-20170927			**Sampling Time**	12:00 PM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	10/4/2017	SAT	EPA 8260C	

Surrogate Data

Sample Number 171003037-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	102.8	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
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 171003037
Project Name: 1709F81

Analytical Results Report

Sample Number 171003037-007 **Sampling Date** 9/27/2017 **Date/Time Received** 10/3/20172:05 PM
Client Sample ID 1709F81-004A / TRIP BLANK **Sampling Time**
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrahydrofuran	ND	ug/L	0.5	10/4/2017	SAT	EPA 8260C	

Surrogate Data

Sample Number 171003037-007

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	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 #:**	171003037
Address:	4901 HAWKINS NE SUITE D	**Project Name:**	1709F81
	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	8.11	ug/L	10	81.1	70-130	10/4/2017	10/4/2017

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Tetrahydrofuran	ND	ug/L	0.5	10/4/2017	10/4/2017

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 #:**	171003037
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1709F81
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	171003037-002	**Sampling Date**	9/28/2017	**Date/Time Received**	10/3/20172:05 PM
Client Sample ID	1709F81-001B / RIO GRANDE-SOUTH-20170928			**Extraction Date**	10/3/2017
Matrix	Water	**Sampling Time**	9:00 AM		
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
4,4-DDD	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
4,4-DDE	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
4,4-DDT	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Aldrin	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
alpha-BHC	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Aroclor 1016 (PCB-1016)	ND	ug/L	2	10/10/2017	MAH	EPA 608	
Aroclor 1221 (PCB-1221)	ND	ug/L	2	10/10/2017	MAH	EPA 608	
Aroclor 1232 (PCB-1232)	ND	ug/L	2	10/10/2017	MAH	EPA 608	
Aroclor 1242 (PCB-1242)	ND	ug/L	2	10/10/2017	MAH	EPA 608	
Aroclor 1248 (PCB-1248)	ND	ug/L	2	10/10/2017	MAH	EPA 608	
Aroclor 1254 (PCB-1254)	ND	ug/L	2	10/10/2017	MAH	EPA 608	
Aroclor 1260 (PCB-1260)	ND	ug/L	2	10/10/2017	MAH	EPA 608	
beta-BHC	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Chlordane	ND	ug/L	1	10/10/2017	MAH	EPA 608	
delta-BHC	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Dieldrin	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Endosulfan I	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Endosulfan II	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Endosulfan sulfate	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Endrin	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Endrin aldehyde	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Endrin ketone	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	

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

Batch #: 171003037
Project Name: 1709F81

Analytical Results Report

Sample Number	171003037-002	**Sampling Date**	9/28/2017	**Date/Time Received**	10/3/20172:05 PM
Client Sample ID	1709F81-001B / RIO GRANDE-SOUTH-20170928			**Extraction Date**	10/3/2017
Matrix	Water	**Sampling Time**	9:00 AM		
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
gamma-BHC (Lindane)	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Heptachlor	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Heptachlor epoxide	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Methoxychlor	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
Toxaphene	ND	ug/L	1	10/10/2017	MAH	EPA 608	

Surrogate Data

Sample Number 171003037-002

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 608	97.0	30-130

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	171003037
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1709F81
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	171003037-005	**Sampling Date**	9/27/2017	**Date/Time Received**	10/3/20172:05 PM
Client Sample ID	1709F81-003B / RIO GRANDE-NORTH-20170927			**Extraction Date**	10/3/2017
Matrix	Water	**Sampling Time**	12:00 PM		
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
4,4-DDD	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
4,4-DDE	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
4,4-DDT	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Aldrin	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
alpha-BHC	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Aroclor 1016 (PCB-1016)	ND	ug/L	0.2	10/10/2017	MAH	EPA 608	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.2	10/10/2017	MAH	EPA 608	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.2	10/10/2017	MAH	EPA 608	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.2	10/10/2017	MAH	EPA 608	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.2	10/10/2017	MAH	EPA 608	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.2	10/10/2017	MAH	EPA 608	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.2	10/10/2017	MAH	EPA 608	
beta-BHC	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Chlordane	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	
delta-BHC	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Dieldrin	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Endosulfan I	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Endosulfan II	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Endosulfan sulfate	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Endrin	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Endrin aldehyde	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Endrin ketone	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
gamma-BHC (Lindane)	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	171003037
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1709F81
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	171003037-005	**Sampling Date**	9/27/2017	**Date/Time Received**	10/3/20172:05 PM
Client Sample ID	1709F81-003B / RIO GRANDE-NORTH-20170927			**Extraction Date**	10/3/2017
Matrix	Water	**Sampling Time**	12:00 PM		
Comments					

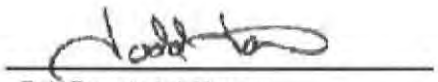
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Heptachlor	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Heptachlor epoxide	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Methoxychlor	ND	ug/L	0.01	10/10/2017	MAH	EPA 608	
Toxaphene	ND	ug/L	0.1	10/10/2017	MAH	EPA 608	

Surrogate Data

Sample Number 171003037-005

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 608	59.6	30-130

Authorized Signature



Todd Tanuscio, Lab Manager

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

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 171003037
Project Name: 1709F81

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Endosulfan I	0.527	ug/L	0.5	105.4	30-130	10/3/2017	10/9/2017
4,4-DDE	0.524	ug/L	0.5	104.8	30-130	10/3/2017	10/9/2017
4,4-DDT	0.579	ug/L	0.5	115.8	30-130	10/3/2017	10/9/2017
Aldrin	0.491	ug/L	0.5	98.2	30-130	10/3/2017	10/9/2017
alpha-BHC	0.515	ug/L	0.5	103.0	30-130	10/3/2017	10/9/2017
Aroclor 1016 (PCB-1016)	4.94	ug/L	5	98.8	50-130	10/3/2017	10/9/2017
Aroclor 1260 (PCB-1260)	5.32	ug/L	5	106.4	50-130	10/3/2017	10/9/2017
beta-BHC	0.498	ug/L	0.5	99.6	30-130	10/3/2017	10/9/2017
4,4-DDD	0.520	ug/L	0.5	104.0	30-130	10/3/2017	10/9/2017
Dieldrin	0.524	ug/L	0.5	104.8	30-130	10/3/2017	10/9/2017
Methoxychlor	0.569	ug/L	0.5	113.8	30-130	10/3/2017	10/9/2017
Endosulfan II	0.534	ug/L	0.5	106.8	30-130	10/3/2017	10/9/2017
Endosulfan sulfate	0.527	ug/L	0.5	105.4	30-130	10/3/2017	10/9/2017
Endrin	0.535	ug/L	0.5	107.0	30-130	10/3/2017	10/9/2017
Endrin aldehyde	0.497	ug/L	0.5	99.4	30-130	10/3/2017	10/9/2017
Endrin ketone	0.552	ug/L	0.5	110.4	30-130	10/3/2017	10/9/2017
gamma-BHC (Lindane)	0.523	ug/L	0.5	104.6	30-130	10/3/2017	10/9/2017
Heptachlor	0.489	ug/L	0.5	97.8	30-130	10/3/2017	10/9/2017
Heptachlor epoxide	0.510	ug/L	0.5	102.0	30-130	10/3/2017	10/9/2017
delta-BHC	0.506	ug/L	0.5	101.2	30-130	10/3/2017	10/9/2017

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
170929007-002	Endosulfan II	ND	0.461	ug/L	0.5	92.2	30-150	10/3/2017	10/9/2017
170929007-002	4,4-DDE	ND	0.395	ug/L	0.5	79.0	30-150	10/3/2017	10/9/2017
170929007-002	4,4-DDT	ND	0.434	ug/L	0.5	86.8	30-150	10/3/2017	10/9/2017
170929007-002	Aldrin	ND	0.409	ug/L	0.5	81.8	30-150	10/3/2017	10/9/2017
170929007-002	alpha-BHC	ND	0.468	ug/L	0.5	93.6	30-150	10/3/2017	10/9/2017
170929007-002	beta-BHC	ND	0.468	ug/L	0.5	93.6	30-150	10/3/2017	10/9/2017
170929007-002	delta-BHC	ND	0.464	ug/L	0.5	92.8	30-150	10/3/2017	10/9/2017
170929007-002	4,4-DDD	ND	0.431	ug/L	0.5	86.2	30-150	10/3/2017	10/9/2017
170929007-002	Endosulfan I	ND	0.461	ug/L	0.5	92.2	30-150	10/3/2017	10/9/2017
170929007-002	Methoxychlor	ND	0.479	ug/L	0.5	95.8	30-150	10/3/2017	10/9/2017
170929007-002	Endosulfan sulfate	ND	0.455	ug/L	0.5	91.0	30-150	10/3/2017	10/9/2017

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:070°; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013,NV:ID00013; OR:ID200001-002; WA:C585
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 #: 171003037
Project Name: 1709F81

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
170929007-002	Endrin	ND	0.464	ug/L	0.5	92.8	30-150	10/3/2017	10/9/2017
170929007-002	Endrin aldehyde	ND	0.435	ug/L	0.5	87.0	30-150	10/3/2017	10/9/2017
170929007-002	Endrin ketone	ND	0.475	ug/L	0.5	95.0	30-150	10/3/2017	10/9/2017
170929007-002	gamma-BHC (Lindane)	ND	0.478	ug/L	0.5	95.6	30-150	10/3/2017	10/9/2017
170929007-002	Heptachlor	ND	0.434	ug/L	0.5	86.8	30-150	10/3/2017	10/9/2017
170929007-002	Heptachlor epoxide	ND	0.454	ug/L	0.5	90.8	30-150	10/3/2017	10/9/2017
170929007-002	Dieldrin	ND	0.455	ug/L	0.5	91.0	30-150	10/3/2017	10/9/2017

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Endosulfan II	0.471	ug/L	0.5	94.2	2.1	0-30	10/3/2017	10/9/2017
4,4-DDE	0.404	ug/L	0.5	80.8	2.3	0-30	10/3/2017	10/9/2017
4,4-DDT	0.441	ug/L	0.5	88.2	1.6	0-30	10/3/2017	10/9/2017
Aldrin	0.416	ug/L	0.5	83.2	1.7	0-30	10/3/2017	10/9/2017
alpha-BHC	0.470	ug/L	0.5	94.0	0.4	0-30	10/3/2017	10/9/2017
beta-BHC	0.475	ug/L	0.5	95.0	1.5	0-30	10/3/2017	10/9/2017
delta-BHC	0.474	ug/L	0.5	94.8	2.1	0-30	10/3/2017	10/9/2017
4,4-DDD	0.440	ug/L	0.5	88.0	2.1	0-30	10/3/2017	10/9/2017
Endosulfan I	0.470	ug/L	0.5	94.0	1.9	0-30	10/3/2017	10/9/2017
Methoxychlor	0.486	ug/L	0.5	97.2	1.5	0-30	10/3/2017	10/9/2017
Endosulfan sulfate	0.469	ug/L	0.5	93.8	3.0	0-30	10/3/2017	10/9/2017
Endrin	0.473	ug/L	0.5	94.6	1.9	0-30	10/3/2017	10/9/2017
Endrin aldehyde	0.445	ug/L	0.5	89.0	2.3	0-30	10/3/2017	10/9/2017
Endrin ketone	0.483	ug/L	0.5	96.6	1.7	0-30	10/3/2017	10/9/2017
gamma-BHC (Lindane)	0.483	ug/L	0.5	96.6	1.0	0-30	10/3/2017	10/9/2017
Heptachlor	0.439	ug/L	0.5	87.8	1.1	0-30	10/3/2017	10/9/2017
Heptachlor epoxide	0.461	ug/L	0.5	92.2	1.5	0-30	10/3/2017	10/9/2017
Dieldrin	0.467	ug/L	0.5	93.4	2.6	0-30	10/3/2017	10/9/2017

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
4,4-DDD	ND	ug/L	0.01	10/3/2017	10/9/2017
4,4-DDE	ND	ug/L	0.01	10/3/2017	10/9/2017
4,4-DDT	ND	ug/L	0.01	10/3/2017	10/9/2017
Aldrin	ND	ug/L	0.01	10/3/2017	10/9/2017

Comments:

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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 #:**	171003037
Address:	4901 HAWKINS NE SUITE D	**Project Name:**	1709F81
	ALBUQUERQUE, NM 87109		
Attn:	ANDY FREEMAN		

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
alpha-BHC	ND	ug/L	0.01	10/3/2017	10/9/2017
Aroclor 1016 (PCB-1016)	ND	ug/L	0.2	10/3/2017	10/9/2017
Aroclor 1221 (PCB-1221)	ND	ug/L	0.2	10/3/2017	10/9/2017
Aroclor 1232 (PCB-1232)	ND	ug/L	0.2	10/3/2017	10/9/2017
Aroclor 1242 (PCB-1242)	ND	ug/L	0.2	10/3/2017	10/9/2017
Aroclor 1248 (PCB-1248)	ND	ug/L	0.2	10/3/2017	10/9/2017
Aroclor 1254 (PCB-1254)	ND	ug/L	0.2	10/3/2017	10/9/2017
Aroclor 1260 (PCB-1260)	ND	ug/L	0.2	10/3/2017	10/9/2017
beta-BHC	ND	ug/L	0.01	10/3/2017	10/9/2017
Chlordane	ND	ug/L	0.1	10/3/2017	10/9/2017
delta-BHC	ND	ug/L	0.01	10/3/2017	10/9/2017
Dieldrin	ND	ug/L	0.01	10/3/2017	10/9/2017
Endosulfan I	ND	ug/L	0.01	10/3/2017	10/9/2017
Endosulfan II	ND	ug/L	0.01	10/3/2017	10/9/2017
Endosulfan sulfate	ND	ug/L	0.01	10/3/2017	10/9/2017
Endrin	ND	ug/L	0.01	10/3/2017	10/9/2017
Endrin aldehyde	ND	ug/L	0.01	10/3/2017	10/9/2017
Endrin ketone	ND	ug/L	0.01	10/3/2017	10/9/2017
gamma-BHC (Lindane)	ND	ug/L	0.01	10/3/2017	10/9/2017
Heptachlor	ND	ug/L	0.01	10/3/2017	10/9/2017
Heptachlor epoxide	ND	ug/L	0.01	10/3/2017	10/9/2017
Methoxychlor	ND	ug/L	0.01	10/3/2017	10/9/2017
Toxaphene	ND	ug/L	0.1	10/3/2017	10/9/2017

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 #: 171003037
Project Name: 1709F81

Analytical Results Report

Sample Number 171003037-002 **Sampling Date** 9/28/2017 **Date/Time Received** 10/3/20172:05 PM
Client Sample ID 1709F81-001B / RIO GRANDE-SOUTH-20170928 **Extraction Date** 10/5/2017
Matrix Water **Sampling Time** 9:00 AM
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0.5	10/10/2017	HSW	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	10/10/2017	HSW	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	10/10/2017	HSW	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	10/10/2017	HSW	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	10/10/2017	HSW	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	10/10/2017	HSW	EPA 8270D	B1
Chrysene	ND	ug/L	0.5	10/10/2017	HSW	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/10/2017	HSW	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	10/10/2017	HSW	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/10/2017	HSW	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	10/10/2017	HSW	EPA 8270D	

Surrogate Data

Sample Number 171003037-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	79.4	43-120
2-Fluorobiphenyl	EPA 8270D	85.6	55-127
2-Fluorophenol	EPA 8270D	71.2	41-119
Nitrobenzene-d5	EPA 8270D	90.0	55-120
Phenol-d5	EPA 8270D	70.6	52-115
Terphenyl-d14	EPA 8270D	111.2	22-133

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	171003037
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1709F81
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	171003037-005	**Sampling Date**	9/27/2017	**Date/Time Received**	10/3/20172:05 PM
Client Sample ID	1709F81-003B / RIO GRANDE-NORTH-20170927			**Extraction Date**	10/3/2017
Matrix	Water	**Sampling Time**	12:00 PM		
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0.5	10/5/2017	HSW	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	10/5/2017	HSW	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	10/5/2017	HSW	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	10/5/2017	HSW	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	10/5/2017	HSW	EPA 8270D	
bis(2-Ethylhexyl)phthalate	3.06	ug/L	0.5	10/5/2017	HSW	EPA 8270D	
Chrysene	ND	ug/L	0.5	10/5/2017	HSW	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/5/2017	HSW	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	10/5/2017	HSW	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/5/2017	HSW	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	10/5/2017	HSW	EPA 8270D	

Surrogate Data

Sample Number 171003037-005

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	94.4	43-120
2-Fluorobiphenyl	EPA 8270D	94.4	55-127
2-Fluorophenol	EPA 8270D	78.6	41-119
Nitrobenzene-d5	EPA 8270D	90.4	55-120
Phenol-d5	EPA 8270D	83.6	52-115
Terphenyl-d14	EPA 8270D	108.4	22-133

Authorized Signature

Todd Taruscio, Lab Manager

B1 Target analyte detected in method blank at or above the method reporting limit
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 #: 171003037
Project Name: 1709F81

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pentachlorophenol	4.86	ug/L	5	97.2	22-138	10/5/2017	10/10/2017
bis(2-Ethylhexyl)phthalate	4.76	ug/L	5	95.2	51-149	10/5/2017	10/10/2017
Pentachlorophenol	8.93	ug/L	10	89.3	22-138	10/2/2017	10/5/2017
bis(2-Ethylhexyl)phthalate	9.98	ug/L	10	99.8	51-149	10/2/2017	10/5/2017

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pentachlorophenol	4.83	ug/L	5	96.6	0.6	0-47	10/5/2017	10/10/2017
bis(2-Ethylhexyl)phthalate	4.56	ug/L	5	91.2	4.3	0-50	10/5/2017	10/10/2017
Pentachlorophenol	7.83	ug/L	10	78.3	13.1	0-47	10/2/2017	10/5/2017
bis(2-Ethylhexyl)phthalate	10.5	ug/L	10	105.0	5.1	0-50	10/2/2017	10/5/2017

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzidine	ND	ug/L	0.5	10/5/2017	10/10/2017
Benzidine	ND	ug/L	0.5	10/2/2017	10/5/2017
Benzo[a]anthracene	ND	ug/L	0.5	10/2/2017	10/5/2017
Benzo[a]anthracene	ND	ug/L	0.5	10/5/2017	10/10/2017
Benzo[a]pyrene	ND	ug/L	0.5	10/2/2017	10/5/2017
Benzo[a]pyrene	ND	ug/L	0.5	10/5/2017	10/10/2017
Benzo[b]fluoranthene	ND	ug/L	0.5	10/2/2017	10/5/2017
Benzo[b]fluoranthene	ND	ug/L	0.5	10/5/2017	10/10/2017
Benzo[k]fluoranthene	ND	ug/L	0.5	10/5/2017	10/10/2017
Benzo[k]fluoranthene	ND	ug/L	0.5	10/2/2017	10/5/2017
bis(2-Ethylhexyl)phthalate	0.57	ug/L	0.5	10/5/2017	10/10/2017
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	10/2/2017	10/5/2017
Chrysene	ND	ug/L	0.5	10/2/2017	10/5/2017
Chrysene	ND	ug/L	0.5	10/5/2017	10/10/2017
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/2/2017	10/5/2017
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/5/2017	10/10/2017
Dibenzofuran	ND	ug/L	0.5	10/2/2017	10/5/2017
Dibenzofuran	ND	ug/L	0.5	10/5/2017	10/10/2017

Comments:

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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 #:**	171003037
Address:	4901 HAWKINS NE SUITE D	**Project Name:**	1709F81
	ALBUQUERQUE, NM 87109		
Attn:	ANDY FREEMAN		

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/2/2017	10/5/2017
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/5/2017	10/10/2017
Pentachlorophenol	ND	ug/L	0.5	10/5/2017	10/10/2017
Pentachlorophenol	ND	ug/L	0.5	10/2/2017	10/5/2017

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 #:**	171003037
Address:	4901 HAWKINS NE SUITE D	**Project Name:**	1709F81
	ALBUQUERQUE, NM 87109		
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	171003037-003	**Sampling Date**	9/28/2017	**Date/Time Received**	10/3/2017 2:05 PM
Client Sample ID	1709F81-001I / RIO GRANDE-SOUTH-20170928			**Sampling Time**	9:00 AM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	36.2	mg/L	5	10/25/2017 7:05:00 PM	KAE	EPA 410.4	

Sample Number	171003037-006	**Sampling Date**	9/27/2017	**Date/Time Received**	10/3/2017 2:05 PM
Client Sample ID	1709F81-003I / RIO GRANDE-NORTH-20170927			**Sampling Time**	12:00 PM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	20.5	mg/L	5	10/25/2017 7:05:00 PM	KAE	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 #: 171003037
Project Name: 1709F81

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
COD	94.4	mg/L	100	94.4	90-110	10/25/2017	10/25/2017

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
171010049-001	COD	6.95	102	mg/L	100	95.1	80-120	10/25/2017	10/25/2017

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	101	mg/L	100	94.1	1.0	0-15	10/25/2017	10/25/2017

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
COD	<5	mg/L	5	10/25/2017	10/25/2017

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
171011019-001	COD	<5	5.93	mg/L	0.0	0-20	10/25/2017	10/25/2017

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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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	10/03/2017 20:27	WG1026874

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	10/03/2017 20:35	WG1026874

Method Blank (MB)

(MB) R3254611-1 10/03/17 15:23

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Hexavalent Chromium	U		0.00015	0.000500

L939889-01 Original Sample (OS) • Duplicate (DUP)

(OS) L939889-01 10/03/17 17:07 • (DUP) R3254611-8 10/03/17 17:16

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Hexavalent Chromium	ND	0.000182	1	0		20

L940315-01 Original Sample (OS) • Duplicate (DUP)

(OS) L940315-01 10/03/17 19:51 • (DUP) R3254611-11 10/03/17 20:02

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Hexavalent Chromium	ND	0.000	1	0		20

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

(LCS) R3254611-5 10/03/17 15:32 • (LCSD) R3254611-6 10/03/17 15:40

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	0.00189	0.00183	95	91	90-110			4	20

L940091-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L940091-03 10/03/17 18:37 • (MS) R3254611-9 10/03/17 18:45 • (MSD) R3254611-10 10/03/17 18:53

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	0.0330	0.0498	66	100	1	90-110	J6	J6	41	20

L940318-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L940318-01 10/03/17 20:11 • (MS) R3254611-12 10/03/17 20:19

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Hexavalent Chromium	0.0500	ND	0.0488	98	1	90-110	

Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

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

October 26, 2017

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

Re: Routine Analysis
Work Order: 11458
SDG: 1709F81

Dear Mr. Freeman:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 06, 2017. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

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

Sincerely,

Cynde Larkins

Cynde Larkins
Project Manager

Purchase Order: IDIQ Pricing
Enclosures

problem solved

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

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

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	1709F81-001K	Rio Grande-South-20170928	1x 1lt Amber	Aqueous	9/28/2017 9:00:00 AM	1	PCB CONGENERS PREP 1668
2	1709F81-003K	Rio Grande-North-20170927	1x 1lt Amber	Aqueous	9/27/2017 12:00:00 PM	1	PCB CONGENERS PREP 1668

AT 09/29/17

CFA WO#11458

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	Time	Received By	Date	Time
[signature]	9/29/2017	8:52 AM	[signature]	30OCT17	0946
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 1.3 °C Attempt to Cool ?

Comments:

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: HALL	Work Order: 11458
Shipping Company: FedEx	Date/Time Received: 06OCT17 0946

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) C (6.2° - 4.9 = 1.3°C
4	Aqueous samples found to have visible solids?	✓			Sample IDs, containers affected: Minimal visible solids (<1%) in both samples
5	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: pH = 2 on all jars. 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: 2 - 1 LWMA per sample
11	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: CJ Date: 06OCT17

CF-UD-F-7

PCB Congeners Analysis

Case Narrative

PCBC Case Narrative
Hall Environmental Analysis Laboratory (HALL)
SDG 1709F81
Work Order 11458

Method/Analysis Information

Product:	**Method 1668C HRMS Aqueous Analysis**
Analytical Method:	EPA Method 1668C
Extraction Method:	SW846 3520C
Analytical Batch Number:	36029
Clean Up Batch Number:	35955
Extraction Batch Number:	35954

Sample Analysis

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

Sample ID	Client ID
11458001	1709F81-001K Rio Grande-South-21070928
11458002	1709F81-003K Rio Grande-North-20170927
12019813	Method Blank (MB)
12019814	Laboratory Control Sample (LCS)
12019815	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
HRP875_1	PCB Analysis	PCB Analysis	SPB-Octyl	30m x 0.25mm, 0.25um

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

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

Certificate of Analysis Report
for

HALL001 Hall Environmental Analysis Laboratory

Client SDG: 1709F81 CFA Work Order: 11458

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
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: 26 OCT 2017 **Title: Group Leader**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458001	**Date Collected:**	09/28/2017 09:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-001K Rio Grande-South-210			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 10:46	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-4			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	879 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	3.30	22.8
2051-61-8	2-MoCB	U	ND	pg/L	2.34	22.8
2051-62-9	3-MoCB	J	2.94	pg/L	2.28	22.8
13029-08-8	4-DiCB	U	ND	pg/L	8.40	22.8
16605-91-7	5-DiCB	U	ND	pg/L	8.69	22.8
25569-80-6	6-DiCB	U	ND	pg/L	7.08	22.8
33284-50-3	7-DiCB	U	ND	pg/L	7.42	22.8
34883-43-7	8-DiCB	U	ND	pg/L	6.28	22.8
34883-39-1	9-DiCB	U	ND	pg/L	8.05	22.8
33146-45-1	10-DiCB	U	ND	pg/L	4.62	22.8
2050-67-1	11-DiCB		116	pg/L	8.01	114
2974-92-7	12-DiCB	CU	ND	pg/L	7.83	45.5
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	7.53	22.8
2050-68-2	15-DiCB	U	ND	pg/L	7.53	22.8
38444-78-9	16-TrCB	J	2.98	pg/L	2.84	22.8
37680-66-3	17-TrCB	J	3.96	pg/L	2.73	22.8
37680-65-2	18-TrCB	CJ	6.46	pg/L	2.21	45.5
38444-73-4	19-TrCB	U	ND	pg/L	3.96	22.8
38444-84-7	20-TrCB	CJ	14.9	pg/L	1.87	45.5
55702-46-0	21-TrCB	CJ	5.32	pg/L	1.77	45.5
38444-85-8	22-TrCB	J	6.99	pg/L	1.89	22.8
55720-44-0	23-TrCB	U	ND	pg/L	1.87	22.8
55702-45-9	24-TrCB	U	ND	pg/L	1.96	22.8
55712-37-3	25-TrCB	U	ND	pg/L	1.64	22.8
38444-81-4	26-TrCB	CJ	2.03	pg/L	1.82	45.5
38444-76-7	27-TrCB	U	ND	pg/L	1.93	22.8
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	8.94	22.8
38444-77-8	32-TrCB	J	2.28	pg/L	1.73	22.8

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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458001	**Date Collected:**	09/28/2017 09:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-001K Rio Grande-South-210			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 10:46	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-4			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	879 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	1.93	22.8
37680-69-6	35-TrCB	J	4.32	pg/L	3.09	22.8
38444-87-0	36-TrCB	U	ND	pg/L	2.75	22.8
38444-90-5	37-TrCB	J	8.69	pg/L	2.87	22.8
53555-66-1	38-TrCB	U	ND	pg/L	2.84	22.8
38444-88-1	39-TrCB	U	ND	pg/L	2.75	22.8
38444-93-8	40-TeCB	CJ	6.51	pg/L	4.12	45.5
52663-59-9	41-TeCB	U	ND	pg/L	4.44	22.8
36559-22-5	42-TeCB	U	ND	pg/L	4.53	22.8
70362-46-8	43-TeCB	U	ND	pg/L	5.42	22.8
41464-39-5	44-TeCB	CJ	21.0	pg/L	3.91	68.3
70362-45-7	45-TeCB	CJ	2.62	pg/L	1.41	45.5
41464-47-5	46-TeCB	U	ND	pg/L	1.46	22.8
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	4.21	22.8
41464-40-8	49-TeCB	CJ	8.71	pg/L	3.69	45.5
62796-65-0	50-TeCB	CU	ND	pg/L	1.77	45.5
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	J	20.7	pg/L	3.91	22.8
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	1.27	22.8
74338-24-2	55-TeCB	U	ND	pg/L	2.53	22.8
41464-43-1	56-TeCB	J	9.06	pg/L	2.64	22.8
70424-67-8	57-TeCB	U	ND	pg/L	2.43	22.8
41464-49-7	58-TeCB	U	ND	pg/L	2.41	22.8
74472-33-6	59-TeCB	CU	ND	pg/L	3.16	68.3
33025-41-1	60-TeCB	J	5.01	pg/L	2.48	22.8
33284-53-6	61-TeCB	CJ	32.4	pg/L	2.41	91.0
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	2.32	22.8
52663-58-8	64-TeCB	J	7.76	pg/L	3.07	22.8

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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458001	**Date Collected:**	09/28/2017 09:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-001K Rio Grande-South-210			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 10:46	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-4			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	879 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	J	13.4	pg/L	2.37	22.8
73575-53-8	67-TeCB	U	ND	pg/L	2.25	22.8
73575-52-7	68-TeCB	U	ND	pg/L	2.23	22.8
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	2.30	22.8
74338-23-1	73-TeCB	U	ND	pg/L	3.23	22.8
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	5.46	22.8
70362-49-1	78-TeCB	U	ND	pg/L	2.43	22.8
41464-48-6	79-TeCB	U	ND	pg/L	2.16	22.8
33284-52-5	80-TeCB	U	ND	pg/L	2.07	22.8
70362-50-4	81-TeCB	U	ND	pg/L	2.28	22.8
52663-62-4	82-PeCB	U	ND	pg/L	4.48	22.8
60145-20-2	83-PeCB	U	ND	pg/L	3.89	22.8
52663-60-2	84-PeCB	J	8.21	pg/L	4.19	22.8
65510-45-4	85-PeCB	CJ	8.40	pg/L	3.00	68.3
55312-69-1	86-PeCB	CJ	28.3	pg/L	3.19	137
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CJ	4.62	pg/L	3.78	45.5
73575-57-2	89-PeCB	U	ND	pg/L	3.94	22.8
68194-07-0	90-PeCB	CJ	33.0	pg/L	3.12	68.3
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	J	6.37	pg/L	3.64	22.8
73575-56-1	93-PeCB	CU	ND	pg/L	3.66	45.5
73575-55-0	94-PeCB	U	ND	pg/L	4.07	22.8
38379-99-6	95-PeCB		23.8	pg/L	3.66	22.8
73575-54-9	96-PeCB	U	ND	pg/L	0.865	22.8

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:	**1709F81**	**Client:**	**HALL001**	**Project:**	**HALL00117**
Lab Sample ID:	**11458001**	**Date Collected:**	**09/28/2017 09:00**	**Matrix:**	**WATER**
Client Sample:	**1668C Water**	**Date Received:**	**10/06/2017 09:46**		
Client ID:	**1709F81-001K Rio Grande-South-210**			**Prep Basis:**	**As Received**
Batch ID:	**36029**	**Method:**	**EPA Method 1668C**		
Run Date:	**10/21/2017 10:46**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d21oct17a-4**			**Dilution:**	**1**
Prep Batch:	**35954**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**17-OCT-17**	**Prep Aliquot:**	**879 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	3.94	45.5
38380-01-7	99-PeCB	J	12.0	pg/L	3.28	22.8
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	3.37	22.8
56558-16-8	104-PeCB	U	ND	pg/L	0.887	22.8
32598-14-4	105-PeCB	J	16.6	pg/L	2.00	22.8
70424-69-0	106-PeCB	U	ND	pg/L	1.84	22.8
70424-68-9	107-PeCB	J	2.84	pg/L	1.59	22.8
70362-41-3	108-PeCB	CJ	2.00	pg/L	1.84	45.5
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	C	49.1	pg/L	2.96	45.5
39635-32-0	111-PeCB	U	ND	pg/L	2.80	22.8
74472-36-9	112-PeCB	U	ND	pg/L	2.71	22.8
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	1.93	22.8
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB		34.3	pg/L	1.89	22.8
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	2.66	22.8
56558-18-0	121-PeCB	U	ND	pg/L	2.84	22.8
76842-07-4	122-PeCB	U	ND	pg/L	1.93	22.8
65510-44-3	123-PeCB	U	ND	pg/L	1.84	22.8
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	2.23	22.8
39635-33-1	127-PeCB	U	ND	pg/L	1.89	22.8
38380-07-3	128-HxCB	CJ	11.0	pg/L	2.66	45.5

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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458001	**Date Collected:**	09/28/2017 09:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-001K Rio Grande-South-210			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 10:46	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-4			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	879 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	C	75.9	pg/L	2.75	68.3
52663-66-8	130-HxCB	U	ND	pg/L	3.82	22.8
61798-70-7	131-HxCB	U	ND	pg/L	3.39	22.8
38380-05-1	132-HxCB	J	20.4	pg/L	3.30	22.8
35694-04-3	133-HxCB	U	ND	pg/L	3.07	22.8
52704-70-8	134-HxCB	U	ND	pg/L	3.41	22.8
52744-13-5	135-HxCB	CJ	19.8	pg/L	1.57	45.5
38411-22-2	136-HxCB	J	6.21	pg/L	1.14	22.8
35694-06-5	137-HxCB	J	3.34	pg/L	3.07	22.8
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	2.84	45.5
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	J	12.7	pg/L	3.19	22.8
41411-61-4	142-HxCB	U	ND	pg/L	3.44	22.8
68194-15-0	143-HxCB	U	ND	pg/L	3.34	22.8
68194-14-9	144-HxCB	J	3.05	pg/L	1.52	22.8
74472-40-5	145-HxCB	U	ND	pg/L	1.21	22.8
51908-16-8	146-HxCB	J	8.76	pg/L	2.50	22.8
68194-13-8	147-HxCB	CJ	40.7	pg/L	2.91	45.5
74472-41-6	148-HxCB	U	ND	pg/L	1.59	22.8
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	1.18	22.8
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	1.11	22.8
35065-27-1	153-HxCB	C	56.4	pg/L	2.32	45.5
60145-22-4	154-HxCB	U	ND	pg/L	1.37	22.8
33979-03-2	155-HxCB	U	ND	pg/L	1.18	22.8
38380-08-4	156-HxCB	CJ	9.35	pg/L	2.05	45.5
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	J	7.39	pg/L	2.09	22.8
39635-35-3	159-HxCB	U	ND	pg/L	1.62	22.8
41411-62-5	160-HxCB	U	ND	pg/L	2.62	22.8

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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458001	**Date Collected:**	09/28/2017 09:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-001K Rio Grande-South-210			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 10:46	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-4			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	879 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	2.32	22.8
39635-34-2	162-HxCB	U	ND	pg/L	1.66	22.8
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	J	4.55	pg/L	2.28	22.8
74472-46-1	165-HxCB	U	ND	pg/L	2.48	22.8
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	J	3.59	pg/L	1.59	22.8
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	1.73	22.8
35065-30-6	170-HpCB	J	19.6	pg/L	2.46	22.8
52663-71-5	171-HpCB	CJ	6.12	pg/L	2.41	45.5
52663-74-8	172-HpCB	J	3.73	pg/L	2.41	22.8
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	J	20.8	pg/L	2.37	22.8
40186-70-7	175-HpCB	U	ND	pg/L	1.25	22.8
52663-65-7	176-HpCB	J	2.57	pg/L	0.978	22.8
52663-70-4	177-HpCB	J	12.8	pg/L	2.32	22.8
52663-67-9	178-HpCB	J	4.41	pg/L	1.34	22.8
52663-64-6	179-HpCB	J	7.17	pg/L	0.956	22.8
35065-29-3	180-HpCB	C	47.6	pg/L	1.96	45.5
74472-47-2	181-HpCB	U	ND	pg/L	2.23	22.8
60145-23-5	182-HpCB	U	ND	pg/L	1.25	22.8
52663-69-1	183-HpCB	CJ	14.1	pg/L	2.23	45.5
74472-48-3	184-HpCB	U	ND	pg/L	0.956	22.8
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	1.02	22.8
52663-68-0	187-HpCB		23.8	pg/L	1.21	22.8
74487-85-7	188-HpCB	U	ND	pg/L	1.00	22.8
39635-31-9	189-HpCB	U	ND	pg/L	1.34	22.8
41411-64-7	190-HpCB	J	4.82	pg/L	1.84	22.8
74472-50-7	191-HpCB	U	ND	pg/L	1.71	22.8
74472-51-8	192-HpCB	U	ND	pg/L	1.98	22.8

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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458001	**Date Collected:**	09/28/2017 09:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-001K Rio Grande-South-210			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 10:46	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-4			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	879 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	9.87	pg/L	1.32	22.8
52663-78-2	195-OcCB	J	3.91	pg/L	1.41	22.8
42740-50-1	196-OcCB	J	4.10	pg/L	1.55	22.8
33091-17-7	197-OcCB	CJ	2.64	pg/L	1.18	45.5
68194-17-2	198-OcCB	CJ	12.6	pg/L	1.62	45.5
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	J	1.68	pg/L	1.16	22.8
2136-99-4	202-OcCB	J	2.68	pg/L	1.30	22.8
52663-76-0	203-OcCB	J	6.26	pg/L	1.48	22.8
74472-52-9	204-OcCB	U	ND	pg/L	1.18	22.8
74472-53-0	205-OcCB	J	1.11	pg/L	1.02	22.8
40186-72-9	206-NoCB	J	5.85	pg/L	1.84	22.8
52663-79-3	207-NoCB	U	ND	pg/L	1.46	22.8
52663-77-1	208-NoCB	J	2.64	pg/L	1.37	22.8
2051-24-3	209-DeCB	J	5.05	pg/L	1.55	22.8
1336-36-3	Total PCB Congeners	J	1040	pg/L	7.60	22.8

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		1320	2280	pg/L	57.8	(5%-145%)
13C-3-MoCB		1510	2280	pg/L	66.6	(5%-145%)
13C-4-DiCB		1650	2280	pg/L	72.4	(5%-145%)
13C-15-DiCB		3200	2280	pg/L	141	(5%-145%)
13C-19-TrCB		2460	2280	pg/L	108	(5%-145%)
13C-37-TrCB		2290	2280	pg/L	101	(5%-145%)
13C-54-TeCB		1410	2280	pg/L	62.2	(5%-145%)
13C-77-TeCB		2380	2280	pg/L	104	(10%-145%)
13C-81-TeCB		2350	2280	pg/L	103	(10%-145%)
13C-104-PeCB		1860	2280	pg/L	81.6	(10%-145%)
13C-105-PeCB		1940	2280	pg/L	85.5	(10%-145%)
13C-114-PeCB		1870	2280	pg/L	82.4	(10%-145%)
13C-118-PeCB		1860	2280	pg/L	81.7	(10%-145%)
13C-123-PeCB		1950	2280	pg/L	85.7	(10%-145%)
13C-126-PeCB		1980	2280	pg/L	87.1	(10%-145%)
13C-155-HxCB		1860	2280	pg/L	81.9	(10%-145%)
13C-156-HxCB	C	3640	4550	pg/L	79.9	(10%-145%)
13C-157-HxCB	C156L					
13C-167-HxCB		1900	2280	pg/L	83.3	(10%-145%)
13C-169-HxCB		2010	2280	pg/L	88.3	(10%-145%)
13C-188-HpCB		1740	2280	pg/L	76.4	(10%-145%)
13C-189-HpCB		1750	2280	pg/L	77.0	(10%-145%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458001	**Date Collected:**	09/28/2017 09:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-001K Rio Grande-South-210			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 10:46	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-4			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	879 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1690	2280	pg/L	74.2	(10%-145%)
13C-205-OcCB		2210	2280	pg/L	97.3	(10%-145%)
13C-206-NoCB		2400	2280	pg/L	105	(10%-145%)
13C-208-NoCB		2050	2280	pg/L	89.9	(10%-145%)
13C-209-DeCB		2310	2280	pg/L	102	(10%-145%)
13C-28-TrCB		1310	2280	pg/L	57.4	(5%-145%)
13C-111-PeCB		2020	2280	pg/L	88.9	(10%-145%)
13C-178-HpCB		2070	2280	pg/L	91.1	(10%-145%)

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:	**1709F81**	**Client:**	**HALL001**	**Project:**	**HALL00117**
Lab Sample ID:	**11458002**	**Date Collected:**	**09/28/2017 12:00**	**Matrix:**	**WATER**
Client Sample:	**1668C Water**	**Date Received:**	**10/06/2017 09:46**		
Client ID:	**1709F81-003K Rio Grande-North-20**			**Prep Basis:**	**As Received**
Batch ID:	**36029**	**Method:**	**EPA Method 1668C**		
Run Date:	**10/21/2017 11:55**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d21oct17a-5**			**Dilution:**	**1**
Prep Batch:	**35954**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**17-OCT-17**	**Prep Aliquot:**	**946.6 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	2.01	21.1
2051-61-8	2-MoCB	U	ND	pg/L	3.15	21.1
2051-62-9	3-MoCB	U	ND	pg/L	2.07	21.1
13029-08-8	4-DiCB	U	ND	pg/L	9.04	21.1
16605-91-7	5-DiCB	U	ND	pg/L	9.93	21.1
25569-80-6	6-DiCB	U	ND	pg/L	8.09	21.1
33284-50-3	7-DiCB	U	ND	pg/L	8.47	21.1
34883-43-7	8-DiCB	U	ND	pg/L	7.16	21.1
34883-39-1	9-DiCB	U	ND	pg/L	9.19	21.1
33146-45-1	10-DiCB	U	ND	pg/L	5.26	21.1
2050-67-1	11-DiCB		120	pg/L	9.15	106
2974-92-7	12-DiCB	CU	ND	pg/L	8.94	42.3
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	8.62	21.1
2050-68-2	15-DiCB	U	ND	pg/L	8.73	21.1
38444-78-9	16-TrCB	U	ND	pg/L	3.66	21.1
37680-66-3	17-TrCB	J	3.59	pg/L	3.53	21.1
37680-65-2	18-TrCB	CJ	5.60	pg/L	2.85	42.3
38444-73-4	19-TrCB	U	ND	pg/L	4.25	21.1
38444-84-7	20-TrCB	CJ	8.60	pg/L	2.41	42.3
55702-46-0	21-TrCB	CU	ND	pg/L	3.34	42.3
38444-85-8	22-TrCB	U	ND	pg/L	4.50	21.1
55720-44-0	23-TrCB	U	ND	pg/L	2.41	21.1
55702-45-9	24-TrCB	U	ND	pg/L	2.51	21.1
55712-37-3	25-TrCB	U	ND	pg/L	2.11	21.1
38444-81-4	26-TrCB	CU	ND	pg/L	2.35	42.3
38444-76-7	27-TrCB	U	ND	pg/L	2.49	21.1
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	4.67	21.1
38444-77-8	32-TrCB	U	ND	pg/L	2.22	21.1

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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458002	**Date Collected:**	09/28/2017 12:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-003K Rio Grande-North-20			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 11:55	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-5			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	946.6 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	2.49	21.1
37680-69-6	35-TrCB	U	ND	pg/L	4.58	21.1
38444-87-0	36-TrCB	U	ND	pg/L	2.79	21.1
38444-90-5	37-TrCB	U	ND	pg/L	3.11	21.1
53555-66-1	38-TrCB	U	ND	pg/L	2.89	21.1
38444-88-1	39-TrCB	U	ND	pg/L	2.81	21.1
38444-93-8	40-TeCB	CU	ND	pg/L	3.82	42.3
52663-59-9	41-TeCB	U	ND	pg/L	4.12	21.1
36559-22-5	42-TeCB	U	ND	pg/L	4.20	21.1
70362-46-8	43-TeCB	U	ND	pg/L	5.03	21.1
41464-39-5	44-TeCB	CJ	9.74	pg/L	3.63	63.4
70362-45-7	45-TeCB	CJ	2.07	pg/L	1.77	42.3
41464-47-5	46-TeCB	U	ND	pg/L	1.84	21.1
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	3.91	21.1
41464-40-8	49-TeCB	CU	ND	pg/L	3.42	42.3
62796-65-0	50-TeCB	CU	ND	pg/L	1.65	42.3
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	J	5.94	pg/L	3.63	21.1
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	1.37	21.1
74338-24-2	55-TeCB	U	ND	pg/L	2.43	21.1
41464-43-1	56-TeCB	U	ND	pg/L	3.08	21.1
70424-67-8	57-TeCB	U	ND	pg/L	2.32	21.1
41464-49-7	58-TeCB	U	ND	pg/L	2.32	21.1
74472-33-6	59-TeCB	CU	ND	pg/L	2.92	63.4
33025-41-1	60-TeCB	U	ND	pg/L	2.39	21.1
33284-53-6	61-TeCB	CJ	8.85	pg/L	2.32	84.5
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	2.24	21.1
52663-58-8	64-TeCB	U	ND	pg/L	2.83	21.1

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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458002	**Date Collected:**	09/28/2017 12:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-003K Rio Grande-North-20			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 11:55	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-5			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	946.6 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	J	4.08	pg/L	2.28	21.1
73575-53-8	67-TeCB	U	ND	pg/L	2.18	21.1
73575-52-7	68-TeCB	U	ND	pg/L	2.16	21.1
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	2.22	21.1
74338-23-1	73-TeCB	U	ND	pg/L	3.00	21.1
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	2.41	21.1
70362-49-1	78-TeCB	U	ND	pg/L	2.35	21.1
41464-48-6	79-TeCB	U	ND	pg/L	2.09	21.1
33284-52-5	80-TeCB	U	ND	pg/L	1.99	21.1
70362-50-4	81-TeCB	U	ND	pg/L	2.32	21.1
52663-62-4	82-PeCB	U	ND	pg/L	2.26	21.1
60145-20-2	83-PeCB	U	ND	pg/L	2.07	21.1
52663-60-2	84-PeCB	U	ND	pg/L	2.24	21.1
65510-45-4	85-PeCB	CU	ND	pg/L	1.61	63.4
55312-69-1	86-PeCB	CJ	4.10	pg/L	1.69	127
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	2.01	42.3
73575-57-2	89-PeCB	U	ND	pg/L	2.09	21.1
68194-07-0	90-PeCB	CU	ND	pg/L	3.40	63.4
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	1.94	21.1
73575-56-1	93-PeCB	CU	ND	pg/L	1.94	42.3
73575-55-0	94-PeCB	U	ND	pg/L	2.18	21.1
38379-99-6	95-PeCB	J	3.00	pg/L	1.96	21.1
73575-54-9	96-PeCB	U	ND	pg/L	1.01	21.1

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:	**1709F81**	**Client:**	**HALL001**	**Project:**	**HALL00117**
Lab Sample ID:	**11458002**	**Date Collected:**	**09/28/2017 12:00**	**Matrix:**	**WATER**
Client Sample:	**1668C Water**	**Date Received:**	**10/06/2017 09:46**		
Client ID:	**1709F81-003K Rio Grande-North-20**			**Prep Basis:**	**As Received**
Batch ID:	**36029**	**Method:**	**EPA Method 1668C**		
Run Date:	**10/21/2017 11:55**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d21oct17a-5**			**Dilution:**	**1**
Prep Batch:	**35954**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**17-OCT-17**	**Prep Aliquot:**	**946.6 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	2.09	42.3
38380-01-7	99-PeCB	U	ND	pg/L	1.73	21.1
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	1.80	21.1
56558-16-8	104-PeCB	U	ND	pg/L	1.06	21.1
32598-14-4	105-PeCB	J	1.90	pg/L	1.86	21.1
70424-69-0	106-PeCB	U	ND	pg/L	1.69	21.1
70424-68-9	107-PeCB	U	ND	pg/L	1.46	21.1
70362-41-3	108-PeCB	CU	ND	pg/L	1.71	42.3
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CJ	4.18	pg/L	1.56	42.3
39635-32-0	111-PeCB	U	ND	pg/L	1.48	21.1
74472-36-9	112-PeCB	U	ND	pg/L	1.44	21.1
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	1.84	21.1
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB	J	2.66	pg/L	1.71	21.1
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	1.42	21.1
56558-18-0	121-PeCB	U	ND	pg/L	1.52	21.1
76842-07-4	122-PeCB	U	ND	pg/L	1.80	21.1
65510-44-3	123-PeCB	U	ND	pg/L	1.69	21.1
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	2.05	21.1
39635-33-1	127-PeCB	U	ND	pg/L	1.75	21.1
38380-07-3	128-HxCB	CU	ND	pg/L	1.75	42.3

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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458002	**Date Collected:**	09/28/2017 12:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-003K Rio Grande-North-20			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 11:55	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-5			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	946.6 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CJ	6.15	pg/L	1.82	63.4
52663-66-8	130-HxCB	U	ND	pg/L	2.18	21.1
61798-70-7	131-HxCB	U	ND	pg/L	2.24	21.1
38380-05-1	132-HxCB	U	ND	pg/L	2.18	21.1
35694-04-3	133-HxCB	U	ND	pg/L	2.03	21.1
52704-70-8	134-HxCB	U	ND	pg/L	2.26	21.1
52744-13-5	135-HxCB	CJ	2.01	pg/L	1.29	42.3
38411-22-2	136-HxCB	U	ND	pg/L	0.930	21.1
35694-06-5	137-HxCB	U	ND	pg/L	2.03	21.1
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	1.88	42.3
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	2.09	21.1
41411-61-4	142-HxCB	U	ND	pg/L	2.28	21.1
68194-15-0	143-HxCB	U	ND	pg/L	2.20	21.1
68194-14-9	144-HxCB	U	ND	pg/L	1.25	21.1
74472-40-5	145-HxCB	U	ND	pg/L	0.993	21.1
51908-16-8	146-HxCB	U	ND	pg/L	1.67	21.1
68194-13-8	147-HxCB	CU	ND	pg/L	4.20	42.3
74472-41-6	148-HxCB	U	ND	pg/L	1.29	21.1
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	0.951	21.1
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	0.909	21.1
35065-27-1	153-HxCB	CJ	4.06	pg/L	1.54	42.3
60145-22-4	154-HxCB	U	ND	pg/L	1.10	21.1
33979-03-2	155-HxCB	U	ND	pg/L	0.951	21.1
38380-08-4	156-HxCB	CU	ND	pg/L	1.65	42.3
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	1.39	21.1
39635-35-3	159-HxCB	U	ND	pg/L	1.33	21.1
41411-62-5	160-HxCB	U	ND	pg/L	1.73	21.1

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458002	**Date Collected:**	09/28/2017 12:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-003K Rio Grande-North-20			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 11:55	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-5			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	946.6 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	1.54	21.1
39635-34-2	162-HxCB	U	ND	pg/L	1.35	21.1
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	1.50	21.1
74472-46-1	165-HxCB	U	ND	pg/L	1.65	21.1
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	1.27	21.1
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	1.48	21.1
35065-30-6	170-HpCB	U	ND	pg/L	2.20	21.1
52663-71-5	171-HpCB	CU	ND	pg/L	2.16	42.3
52663-74-8	172-HpCB	U	ND	pg/L	2.16	21.1
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	2.28	21.1
40186-70-7	175-HpCB	U	ND	pg/L	1.42	21.1
52663-65-7	176-HpCB	U	ND	pg/L	1.12	21.1
52663-70-4	177-HpCB	U	ND	pg/L	2.07	21.1
52663-67-9	178-HpCB	U	ND	pg/L	1.50	21.1
52663-64-6	179-HpCB	U	ND	pg/L	1.08	21.1
35065-29-3	180-HpCB	CJ	3.74	pg/L	1.75	42.3
74472-47-2	181-HpCB	U	ND	pg/L	1.99	21.1
60145-23-5	182-HpCB	U	ND	pg/L	1.39	21.1
52663-69-1	183-HpCB	CU	ND	pg/L	1.99	42.3
74472-48-3	184-HpCB	U	ND	pg/L	1.10	21.1
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	1.16	21.1
52663-68-0	187-HpCB	J	1.99	pg/L	1.37	21.1
74487-85-7	188-HpCB	U	ND	pg/L	1.12	21.1
39635-31-9	189-HpCB	U	ND	pg/L	1.42	21.1
41411-64-7	190-HpCB	U	ND	pg/L	1.65	21.1
74472-50-7	191-HpCB	U	ND	pg/L	1.54	21.1
74472-51-8	192-HpCB	U	ND	pg/L	1.77	21.1

Comments:

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

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458002	**Date Collected:**	09/28/2017 12:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-003K Rio Grande-North-20			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 11:55	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-5			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	946.6 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	2.89	pg/L	1.50	21.1
52663-78-2	195-OcCB	U	ND	pg/L	1.58	21.1
42740-50-1	196-OcCB	U	ND	pg/L	1.39	21.1
33091-17-7	197-OcCB	CU	ND	pg/L	1.08	42.3
68194-17-2	198-OcCB	CJ	2.30	pg/L	1.46	42.3
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	1.06	21.1
2136-99-4	202-OcCB	U	ND	pg/L	1.16	21.1
52663-76-0	203-OcCB	U	ND	pg/L	1.33	21.1
74472-52-9	204-OcCB	U	ND	pg/L	1.06	21.1
74472-53-0	205-OcCB	U	ND	pg/L	1.18	21.1
40186-72-9	206-NoCB	U	ND	pg/L	1.84	21.1
52663-79-3	207-NoCB	U	ND	pg/L	1.44	21.1
52663-77-1	208-NoCB	U	ND	pg/L	1.33	21.1
2051-24-3	209-DeCB	J	1.96	pg/L	1.31	21.1
1336-36-3	Total PCB Congeners	J	210	pg/L	7.06	21.1

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		1030	2110	pg/L	48.8	(5%-145%)
13C-3-MoCB		1190	2110	pg/L	56.3	(5%-145%)
13C-4-DiCB		1350	2110	pg/L	64.0	(5%-145%)
13C-15-DiCB		2320	2110	pg/L	110	(5%-145%)
13C-19-TrCB		1930	2110	pg/L	91.3	(5%-145%)
13C-37-TrCB		1880	2110	pg/L	89.1	(5%-145%)
13C-54-TeCB		1390	2110	pg/L	66.0	(5%-145%)
13C-77-TeCB		1930	2110	pg/L	91.2	(10%-145%)
13C-81-TeCB		1920	2110	pg/L	91.0	(10%-145%)
13C-104-PeCB		1700	2110	pg/L	80.4	(10%-145%)
13C-105-PeCB		1740	2110	pg/L	82.4	(10%-145%)
13C-114-PeCB		1690	2110	pg/L	79.8	(10%-145%)
13C-118-PeCB		1690	2110	pg/L	80.2	(10%-145%)
13C-123-PeCB		1770	2110	pg/L	83.9	(10%-145%)
13C-126-PeCB		1730	2110	pg/L	82.1	(10%-145%)
13C-155-HxCB		1660	2110	pg/L	78.6	(10%-145%)
13C-156-HxCB	C	3210	4230	pg/L	76.0	(10%-145%)
13C-157-HxCB	C156L					
13C-167-HxCB		1670	2110	pg/L	79.1	(10%-145%)
13C-169-HxCB		1690	2110	pg/L	80.2	(10%-145%)
13C-188-HpCB		1610	2110	pg/L	76.2	(10%-145%)
13C-189-HpCB		1530	2110	pg/L	72.2	(10%-145%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	11458002	**Date Collected:**	09/28/2017 12:00	**Matrix:**	WATER
Client Sample:	1668C Water	**Date Received:**	10/06/2017 09:46		
Client ID:	1709F81-003K Rio Grande-North-20			**Prep Basis:**	As Received
Batch ID:	36029-	**Method:**	EPA Method 1668C		
Run Date:	10/21/2017 11:55	**Analyst:**	MJC	**Instrument:**	HRP875
Data File:	d21oct17a-5			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	946.6 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1570	2110	pg/L	74.2	(10%-145%)
13C-205-OcCB		1930	2110	pg/L	91.3	(10%-145%)
13C-206-NoCB		2090	2110	pg/L	99.0	(10%-145%)
13C-208-NoCB		1770	2110	pg/L	83.6	(10%-145%)
13C-209-DeCB		2020	2110	pg/L	95.6	(10%-145%)
13C-28-TrCB		1340	2110	pg/L	63.3	(5%-145%)
13C-111-PeCB		1810	2110	pg/L	85.6	(10%-145%)
13C-178-HpCB		1840	2110	pg/L	87.0	(10%-145%)

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: 1709F81

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
11458001	1709F81-001K Rio Grande-South-21070928	13C-1-MoCB		57.8	(5%-145%)
		13C-3-MoCB		66.6	(5%-145%)
		13C-4-DiCB		72.4	(5%-145%)
		13C-15-DiCB		141	(5%-145%)
		13C-19-TrCB		108	(5%-145%)
		13C-37-TrCB		101	(5%-145%)
		13C-54-TeCB		62.2	(5%-145%)
		13C-77-TeCB		104	(10%-145%)
		13C-81-TeCB		103	(10%-145%)
		13C-104-PeCB		81.6	(10%-145%)
		13C-105-PeCB		85.5	(10%-145%)
		13C-114-PeCB		82.4	(10%-145%)
		13C-118-PeCB		81.7	(10%-145%)
		13C-123-PeCB		85.7	(10%-145%)
		13C-126-PeCB		87.1	(10%-145%)
		13C-155-HxCB		81.9	(10%-145%)
		13C-156-HxCB	C	79.9	(10%-145%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		83.3	(10%-145%)
		13C-169-HxCB		88.3	(10%-145%)
		13C-188-HpCB		76.4	(10%-145%)
		13C-189-HpCB		77.0	(10%-145%)
		13C-202-OcCB		74.2	(10%-145%)
		13C-205-OcCB		97.3	(10%-145%)
		13C-206-NoCB		105	(10%-145%)
		13C-208-NoCB		89.9	(10%-145%)
		13C-209-DeCB		102	(10%-145%)
		13C-28-TrCB		57.4	(5%-145%)
		13C-111-PeCB		88.9	(10%-145%)
		13C-178-HpCB		91.1	(10%-145%)
11458002	1709F81-003K Rio Grande-North-20170927	13C-1-MoCB		48.8	(5%-145%)
		13C-3-MoCB		56.3	(5%-145%)
		13C-4-DiCB		64.0	(5%-145%)
		13C-15-DiCB		110	(5%-145%)
		13C-19-TrCB		91.3	(5%-145%)
		13C-37-TrCB		89.1	(5%-145%)
		13C-54-TeCB		66.0	(5%-145%)
		13C-77-TeCB		91.2	(10%-145%)
		13C-81-TeCB		91.0	(10%-145%)
		13C-104-PeCB		80.4	(10%-145%)
		13C-105-PeCB		82.4	(10%-145%)
		13C-114-PeCB		79.8	(10%-145%)
		13C-118-PeCB		80.2	(10%-145%)
		13C-123-PeCB		83.9	(10%-145%)
		13C-126-PeCB		82.1	(10%-145%)
		13C-155-HxCB		78.6	(10%-145%)
		13C-156-HxCB	C	76.0	(10%-145%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		79.1	(10%-145%)
		13C-169-HxCB		80.2	(10%-145%)
		13C-188-HpCB		76.2	(10%-145%)
		13C-189-HpCB		72.2	(10%-145%)

PCB Congeners

Surrogate Recovery Report

SDG Number: 1709F81

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
11458002	1709F81-003K Rio Grande-North-20170927	13C-202-OcCB		74.2	(10%-145%)
		13C-205-OcCB		91.3	(10%-145%)
		13C-206-NoCB		99.0	(10%-145%)
		13C-208-NoCB		83.6	(10%-145%)
		13C-209-DeCB		95.6	(10%-145%)
		13C-28-TrCB		63.3	(5%-145%)
		13C-111-PeCB		85.6	(10%-145%)
		13C-178-HpCB		87.0	(10%-145%)
12019814	LCS for batch 35954	13C-1-MoCB		47.4	(15%-145%)
		13C-3-MoCB		57.8	(15%-145%)
		13C-4-DiCB		66.6	(15%-145%)
		13C-15-DiCB		104	(15%-145%)
		13C-19-TrCB		91.0	(15%-145%)
		13C-37-TrCB		103	(15%-145%)
		13C-54-TeCB		64.0	(15%-145%)
		13C-77-TeCB		120	(40%-145%)
		13C-81-TeCB		119	(40%-145%)
		13C-104-PeCB		81.3	(40%-145%)
		13C-105-PeCB		86.9	(40%-145%)
		13C-114-PeCB		84.9	(40%-145%)
		13C-118-PeCB		84.3	(40%-145%)
		13C-123-PeCB		89.1	(40%-145%)
		13C-126-PeCB		87.7	(40%-145%)
		13C-155-HxCB		82.9	(40%-145%)
		13C-156-HxCB	C	82.8	(40%-145%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		86.0	(40%-145%)
		13C-169-HxCB		90.6	(40%-145%)
		13C-188-HpCB		78.8	(40%-145%)
		13C-189-HpCB		78.5	(40%-145%)
		13C-202-OcCB		79.8	(40%-145%)
		13C-205-OcCB		100	(40%-145%)
		13C-206-NoCB		115	(40%-145%)
		13C-208-NoCB		96.2	(40%-145%)
		13C-209-DeCB		113	(40%-145%)
		13C-28-TrCB		59.9	(15%-145%)
		13C-111-PeCB		94.9	(40%-145%)
		13C-178-HpCB		100	(40%-145%)
12019815	LCSD for batch 35954	13C-1-MoCB		46.1	(15%-145%)
		13C-3-MoCB		53.2	(15%-145%)
		13C-4-DiCB		64.3	(15%-145%)
		13C-15-DiCB		97.5	(15%-145%)
		13C-19-TrCB		88.7	(15%-145%)
		13C-37-TrCB		99.2	(15%-145%)
		13C-54-TeCB		67.1	(15%-145%)
		13C-77-TeCB		120	(40%-145%)
		13C-81-TeCB		119	(40%-145%)
		13C-104-PeCB		77.7	(40%-145%)
		13C-105-PeCB		86.4	(40%-145%)
		13C-114-PeCB		83.7	(40%-145%)
		13C-118-PeCB		84.5	(40%-145%)

PCB Congeners
Surrogate Recovery Report

SDG Number: 1709F81

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12019815	LCSD for batch 35954	13C-123-PeCB		86.7	(40%-145%)
		13C-126-PeCB		89.4	(40%-145%)
		13C-155-HxCB		78.0	(40%-145%)
		13C-156-HxCB	C	78.8	(40%-145%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		81.1	(40%-145%)
		13C-169-HxCB		88.1	(40%-145%)
		13C-188-HpCB		73.5	(40%-145%)
		13C-189-HpCB		74.6	(40%-145%)
		13C-202-OcCB		74.0	(40%-145%)
		13C-205-OcCB		97.9	(40%-145%)
		13C-206-NoCB		111	(40%-145%)
		13C-208-NoCB		91.6	(40%-145%)
		13C-209-DeCB		110	(40%-145%)
		13C-28-TrCB		63.3	(15%-145%)
		13C-111-PeCB		92.0	(40%-145%)
		13C-178-HpCB		95.7	(40%-145%)
12019813	MB for batch 35954	13C-1-MoCB		52.1	(5%-145%)
		13C-3-MoCB		57.8	(5%-145%)
		13C-4-DiCB		68.8	(5%-145%)
		13C-15-DiCB		113	(5%-145%)
		13C-19-TrCB		95.5	(5%-145%)
		13C-37-TrCB		106	(5%-145%)
		13C-54-TeCB		67.5	(5%-145%)
		13C-77-TeCB		125	(10%-145%)
		13C-81-TeCB		127	(10%-145%)
		13C-104-PeCB		78.2	(10%-145%)
		13C-105-PeCB		87.3	(10%-145%)
		13C-114-PeCB		84.8	(10%-145%)
		13C-118-PeCB		84.5	(10%-145%)
		13C-123-PeCB		88.7	(10%-145%)
		13C-126-PeCB		89.2	(10%-145%)
		13C-155-HxCB		82.0	(10%-145%)
		13C-156-HxCB	C	80.0	(10%-145%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		82.2	(10%-145%)
		13C-169-HxCB		89.5	(10%-145%)
		13C-188-HpCB		75.4	(10%-145%)
		13C-189-HpCB		75.7	(10%-145%)
		13C-202-OcCB		75.9	(10%-145%)
		13C-205-OcCB		97.6	(10%-145%)
		13C-206-NoCB		111	(10%-145%)
		13C-208-NoCB		93.4	(10%-145%)
		13C-209-DeCB		112	(10%-145%)
		13C-28-TrCB		61.5	(5%-145%)
		13C-111-PeCB		96.5	(10%-145%)
		13C-178-HpCB		98.0	(10%-145%)

* 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: 1709F81 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 35954 **Matrix:** WATER

Lab Sample ID: 12019814

Instrument: HRP875 **Analysis Date:** 10/23/2017 09:59 **Dilution:** 1

Analyst: MLS **Prep Batch ID:** 35954

Batch ID: 36029

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits
2051-60-7	LCS	1-MoCB	500		464	92.7	60-135
2051-62-9	LCS	3-MoCB	500		495	99	60-135
13029-08-8	LCS	4-DiCB	500		470	93.9	60-135
2050-68-2	LCS	15-DiCB	500		559	112	60-135
38444-73-4	LCS	19-TrCB	500		489	97.7	60-135
38444-90-5	LCS	37-TrCB	500		499	99.9	60-135
15968-05-5	LCS	54-TeCB	1000		957	95.7	60-135
32598-13-3	LCS	77-TeCB	1000		927	92.7	60-135
70362-50-4	LCS	81-TeCB	1000		1030	103	60-135
56558-16-8	LCS	104-PeCB	1000		1010	101	60-135
32598-14-4	LCS	105-PeCB	1000		1130	113	60-135
74472-37-0	LCS	114-PeCB	1000		1020	102	60-135
31508-00-6	LCS	118-PeCB	1000		1000	100	60-135
65510-44-3	LCS	123-PeCB	1000		993	99.3	60-135
57465-28-8	LCS	126-PeCB	1000		1110	111	60-135
33979-03-2	LCS	155-HxCB	1000		1150	115	60-135
38380-08-4	LCS	156-HxCB	2000	C	2260	113	60-135
69782-90-7	LCS	157-HxCB		C156			
52663-72-6	LCS	167-HxCB	1000		1140	114	60-135
32774-16-6	LCS	169-HxCB	1000		1080	108	60-135
74487-85-7	LCS	188-HpCB	1000		1000	100	60-135
39635-31-9	LCS	189-HpCB	1000		1040	104	60-135
2136-99-4	LCS	202-OcCB	1500		1510	100	60-135
74472-53-0	LCS	205-OcCB	1500		1410	94.3	60-135
40186-72-9	LCS	206-NoCB	1500		1390	92.4	60-135
52663-77-1	LCS	208-NoCB	1500		1520	101	60-135
2051-24-3	LCS	209-DeCB	1500		1580	105	60-135

PCB Congeners
Quality Control Summary
Spike Recovery Report

SDG Number: 1709F81 **Sample Type:** Laboratory Control Sample Duplicate
Client ID: LCSD for batch 35954 **Matrix:** WATER
Lab Sample ID: 12019815
Instrument: HRP875 **Analysis Date:** 10/23/2017 11:08 **Dilution:** 1
Analyst: MLS **Prep Batch ID:** 35954
Batch ID: 36029

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
2051-60-7	LCSD	1-MoCB	500		445	89	60-135	4.11	0-30
2051-62-9	LCSD	3-MoCB	500		517	103	60-135	4.22	0-30
13029-08-8	LCSD	4-DiCB	500		471	94.2	60-135	0.332	0-30
2050-68-2	LCSD	15-DiCB	500		548	110	60-135	1.98	0-30
38444-73-4	LCSD	19-TrCB	500		486	97.2	60-135	0.505	0-30
38444-90-5	LCSD	37-TrCB	500		496	99.2	60-135	0.683	0-30
15968-05-5	LCSD	54-TeCB	1000		956	95.6	60-135	0.128	0-30
32598-13-3	LCSD	77-TeCB	1000		908	90.8	60-135	2.08	0-30
70362-50-4	LCSD	81-TeCB	1000		1010	101	60-135	1.55	0-30
56558-16-8	LCSD	104-PeCB	1000		987	98.7	60-135	1.94	0-30
32598-14-4	LCSD	105-PeCB	1000		1100	110	60-135	3.21	0-30
74472-37-0	LCSD	114-PeCB	1000		998	99.8	60-135	2.23	0-30
31508-00-6	LCSD	118-PeCB	1000		964	96.4	60-135	3.71	0-30
65510-44-3	LCSD	123-PeCB	1000		970	97	60-135	2.27	0-30
57465-28-8	LCSD	126-PeCB	1000		1070	107	60-135	3.21	0-30
32979-03-2	LCSD	155-HxCB	1000		1090	109	60-135	5.84	0-30
38380-08-4	LCSD	156-HxCB	2000	C	2180	109	60-135	3.67	0-30
69782-90-7	LCSD	157-HxCB		C156					
52663-72-6	LCSD	167-HxCB	1000		1120	112	60-135	1.94	0-30
32774-16-6	LCSD	169-HxCB	1000		1060	106	60-135	1.87	0-30
74487-85-7	LCSD	188-HpCB	1000		982	98.2	60-135	1.77	0-30
39635-31-9	LCSD	189-HpCB	1000		1030	103	60-135	0.740	0-30
2136-99-4	LCSD	202-OcCB	1500		1480	98.7	60-135	1.69	0-30
74472-53-0	LCSD	205-OcCB	1500		1380	91.8	60-135	2.66	0-30
40186-72-9	LCSD	206-NoCB	1500		1360	90.9	60-135	1.62	0-30
52663-77-1	LCSD	208-NoCB	1500		1510	101	60-135	0.398	0-30
2051-24-3	LCSD	209-DeCB	1500		1550	103	60-135	1.65	0-30

Method Blank Summary

SDG Number:	**1709F81**	**Client:**	**HALL001**	**Matrix:**	**WATER**
Client ID:	**MB for batch 35954**	**Instrument ID:**	**HRP875**	**Data File:**	**d23oct17a-4**
Lab Sample ID:	**12019813**	**Prep Date:**	**17-OCT-17**	**Analyzed:**	**10/23/17 12:18**
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	1709F81-001K Rio Grande-South-21070928	11458001	d21oct17a-4	10/21/17	1046
02	1709F81-003K Rio Grande-North-20170927	11458002	d21oct17a-5	10/21/17	1155
03	LCS for batch 35954	12019814	d23oct17a-2	10/23/17	0959
04	LCSD for batch 35954	12019815	d23oct17a-3	10/23/17	1108

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**1709F81**	**Client:**	**HALL001**	**Project:**	**HALL00117**
Lab Sample ID:	**12019813**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35954**				
Client ID:	**MB for batch 35954**			**Prep Basis:**	**As Received**
Batch ID:	**36029**	**Method:**	**EPA Method 1668C**		
Run Date:	**10/23/2017 12:18**	**Analyst:**	**MLS**	**Instrument:**	**HRP875**
Data File:	**d23oct17a-4**			**Dilution:**	**1**
Prep Batch:	**35954**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**17-OCT-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	2.44	20.0
2051-61-8	2-MoCB	U	ND	pg/L	2.82	20.0
2051-62-9	3-MoCB	U	ND	pg/L	2.72	20.0
13029-08-8	4-DiCB	U	ND	pg/L	11.5	20.0
16605-91-7	5-DiCB	U	ND	pg/L	11.5	20.0
25569-80-6	6-DiCB	U	ND	pg/L	9.38	20.0
33284-50-3	7-DiCB	U	ND	pg/L	9.82	20.0
34883-43-7	8-DiCB	U	ND	pg/L	8.54	20.0
34883-39-1	9-DiCB	U	ND	pg/L	10.6	20.0
33146-45-1	10-DiCB	U	ND	pg/L	7.22	20.0
2050-67-1	11-DiCB	U	ND	pg/L	10.5	100
2974-92-7	12-DiCB	CU	ND	pg/L	10.4	40.0
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	9.84	20.0
2050-68-2	15-DiCB	U	ND	pg/L	10.8	20.0
38444-78-9	16-TrCB	U	ND	pg/L	2.86	20.0
37680-66-3	17-TrCB	U	ND	pg/L	2.78	20.0
37680-65-2	18-TrCB	CU	ND	pg/L	2.26	40.0
38444-73-4	19-TrCB	U	ND	pg/L	4.30	20.0
38444-84-7	20-TrCB	CJ	2.48	pg/L	1.86	40.0
55702-46-0	21-TrCB	CU	ND	pg/L	1.84	40.0
38444-85-8	22-TrCB	U	ND	pg/L	1.92	20.0
55720-44-0	23-TrCB	U	ND	pg/L	1.92	20.0
55702-45-9	24-TrCB	U	ND	pg/L	1.98	20.0
55712-37-3	25-TrCB	U	ND	pg/L	1.66	20.0
38444-81-4	26-TrCB	CU	ND	pg/L	1.86	40.0
38444-76-7	27-TrCB	U	ND	pg/L	1.98	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	2.34	20.0
38444-77-8	32-TrCB	U	ND	pg/L	1.76	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:	**1709F81**	**Client:**	**HALL001**	**Project:**	**HALL00117**
Lab Sample ID:	**12019813**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35954**				
Client ID:	**MB for batch 35954**			**Prep Basis:**	**As Received**
Batch ID:	**36029**	**Method:**	**EPA Method 1668C**		
Run Date:	**10/23/2017 12:18**	**Analyst:**	**MLS**	**Instrument:**	**HRP875**
Data File:	**d23oct17a-4**			**Dilution:**	**1**
Prep Batch:	**35954**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**17-OCT-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	1.96	20.0
37680-69-6	35-TrCB	U	ND	pg/L	2.42	20.0
38444-87-0	36-TrCB	U	ND	pg/L	2.10	20.0
38444-90-5	37-TrCB	U	ND	pg/L	2.12	20.0
53555-66-1	38-TrCB	U	ND	pg/L	2.24	20.0
38444-88-1	39-TrCB	U	ND	pg/L	2.10	20.0
38444-93-8	40-TeCB	CU	ND	pg/L	2.88	40.0
52663-59-9	41-TeCB	U	ND	pg/L	3.22	20.0
36559-22-5	42-TeCB	U	ND	pg/L	3.22	20.0
70362-46-8	43-TeCB	U	ND	pg/L	3.88	20.0
41464-39-5	44-TeCB	CJ	4.44	pg/L	2.84	60.0
70362-45-7	45-TeCB	CU	ND	pg/L	1.40	40.0
41464-47-5	46-TeCB	U	ND	pg/L	1.42	20.0
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	3.02	20.0
41464-40-8	49-TeCB	CU	ND	pg/L	2.60	40.0
62796-65-0	50-TeCB	CU	ND	pg/L	1.30	40.0
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	J	3.06	pg/L	2.78	20.0
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	1.56	20.0
74338-24-2	55-TeCB	U	ND	pg/L	2.30	20.0
41464-43-1	56-TeCB	U	ND	pg/L	2.28	20.0
70424-67-8	57-TeCB	U	ND	pg/L	2.08	20.0
41464-49-7	58-TeCB	U	ND	pg/L	2.06	20.0
74472-33-6	59-TeCB	CU	ND	pg/L	2.26	60.0
33025-41-1	60-TeCB	U	ND	pg/L	2.20	20.0
33284-53-6	61-TeCB	CJ	4.76	pg/L	2.06	80.0
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	1.94	20.0
52663-58-8	64-TeCB	U	ND	pg/L	2.24	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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	12019813			**Matrix:**	WATER
Client Sample:	QC for batch 35954				
Client ID:	MB for batch 35954			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/23/2017 12:18	**Analyst:**	MLS	**Instrument:**	HRP875
Data File:	d23oct17a-4			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	U	ND	pg/L	1.92	20.0
73575-53-8	67-TeCB	U	ND	pg/L	1.88	20.0
73575-52-7	68-TeCB	U	ND	pg/L	1.92	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	1.96	20.0
74338-23-1	73-TeCB	U	ND	pg/L	2.32	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	J	2.36	pg/L	1.82	20.0
70362-49-1	78-TeCB	U	ND	pg/L	2.16	20.0
41464-48-6	79-TeCB	U	ND	pg/L	1.90	20.0
33284-52-5	80-TeCB	U	ND	pg/L	1.88	20.0
70362-50-4	81-TeCB	U	ND	pg/L	1.76	20.0
52663-62-4	82-PeCB	U	ND	pg/L	2.18	20.0
60145-20-2	83-PeCB	U	ND	pg/L	2.16	20.0
52663-60-2	84-PeCB	U	ND	pg/L	2.14	20.0
65510-45-4	85-PeCB	CU	ND	pg/L	1.62	60.0
55312-69-1	86-PeCB	CU	ND	pg/L	3.76	120
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	1.96	40.0
73575-57-2	89-PeCB	U	ND	pg/L	2.00	20.0
68194-07-0	90-PeCB	CJ	2.78	pg/L	1.70	60.0
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	1.96	20.0
73575-56-1	93-PeCB	CU	ND	pg/L	1.88	40.0
73575-55-0	94-PeCB	U	ND	pg/L	2.10	20.0
38379-99-6	95-PeCB	U	ND	pg/L	1.90	20.0
73575-54-9	96-PeCB	U	ND	pg/L	0.720	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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	12019813			**Matrix:**	WATER
Client Sample:	QC for batch 35954				
Client ID:	MB for batch 35954			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/23/2017 12:18	**Analyst:**	MLS	**Instrument:**	HRP875
Data File:	d23oct17a-4			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	2.00	40.0
38380-01-7	99-PeCB	U	ND	pg/L	1.66	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	1.76	20.0
56558-16-8	104-PeCB	U	ND	pg/L	0.800	20.0
32598-14-4	105-PeCB	U	ND	pg/L	1.80	20.0
70424-69-0	106-PeCB	U	ND	pg/L	1.88	20.0
70424-68-9	107-PeCB	U	ND	pg/L	1.52	20.0
70362-41-3	108-PeCB	CU	ND	pg/L	1.74	40.0
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CJ	1.76	pg/L	1.54	40.0
39635-32-0	111-PeCB	U	ND	pg/L	1.44	20.0
74472-36-9	112-PeCB	U	ND	pg/L	1.62	20.0
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	1.76	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	1.68	20.0
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	1.40	20.0
56558-18-0	121-PeCB	U	ND	pg/L	1.48	20.0
76842-07-4	122-PeCB	U	ND	pg/L	1.82	20.0
65510-44-3	123-PeCB	U	ND	pg/L	1.66	20.0
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	1.96	20.0
39635-33-1	127-PeCB	U	ND	pg/L	1.74	20.0
38380-07-3	128-HxCB	CU	ND	pg/L	1.92	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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	12019813			**Matrix:**	WATER
Client Sample:	QC for batch 35954				
Client ID:	MB for batch 35954			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/23/2017 12:18	**Analyst:**	MLS	**Instrument:**	HRP875
Data File:	d23oct17a-4			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CJ	2.58	pg/L	2.00	60.0
52663-66-8	130-HxCB	U	ND	pg/L	2.40	20.0
61798-70-7	131-HxCB	U	ND	pg/L	2.58	20.0
38380-05-1	132-HxCB	U	ND	pg/L	2.42	20.0
35694-04-3	133-HxCB	U	ND	pg/L	2.26	20.0
52704-70-8	134-HxCB	U	ND	pg/L	2.62	20.0
52744-13-5	135-HxCB	CU	ND	pg/L	1.08	40.0
38411-22-2	136-HxCB	U	ND	pg/L	0.800	20.0
35694-06-5	137-HxCB	U	ND	pg/L	2.02	20.0
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	2.08	40.0
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	2.26	20.0
41411-61-4	142-HxCB	U	ND	pg/L	2.56	20.0
68194-15-0	143-HxCB	U	ND	pg/L	2.44	20.0
68194-14-9	144-HxCB	U	ND	pg/L	1.02	20.0
74472-40-5	145-HxCB	U	ND	pg/L	0.840	20.0
51908-16-8	146-HxCB	U	ND	pg/L	1.76	20.0
68194-13-8	147-HxCB	CU	ND	pg/L	2.14	40.0
74472-41-6	148-HxCB	U	ND	pg/L	1.06	20.0
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	0.820	20.0
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	0.800	20.0
35065-27-1	153-HxCB	CU	ND	pg/L	1.70	40.0
60145-22-4	154-HxCB	U	ND	pg/L	0.920	20.0
33979-03-2	155-HxCB	U	ND	pg/L	0.760	20.0
38380-08-4	156-HxCB	CJ	2.20	pg/L	1.34	40.0
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	1.52	20.0
39635-35-3	159-HxCB	U	ND	pg/L	1.06	20.0
41411-62-5	160-HxCB	U	ND	pg/L	1.92	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:	**1709F81**	**Client:**	**HALL001**	**Project:**	**HALL00117**
Lab Sample ID:	**12019813**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35954**				
Client ID:	**MB for batch 35954**			**Prep Basis:**	**As Received**
Batch ID:	**36029**	**Method:**	**EPA Method 1668C**		
Run Date:	**10/23/2017 12:18**	**Analyst:**	**MLS**	**Instrument:**	**HRP875**
Data File:	**d23oct17a-4**			**Dilution:**	**1**
Prep Batch:	**35954**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**17-OCT-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	1.72	20.0
39635-34-2	162-HxCB	U	ND	pg/L	1.06	20.0
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	1.74	20.0
74472-46-1	165-HxCB	U	ND	pg/L	1.84	20.0
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	1.02	20.0
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	1.12	20.0
35065-30-6	170-HpCB	U	ND	pg/L	1.42	20.0
52663-71-5	171-HpCB	CU	ND	pg/L	1.46	40.0
52663-74-8	172-HpCB	U	ND	pg/L	1.44	20.0
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	1.42	20.0
40186-70-7	175-HpCB	U	ND	pg/L	1.28	20.0
52663-65-7	176-HpCB	U	ND	pg/L	1.00	20.0
52663-70-4	177-HpCB	U	ND	pg/L	1.44	20.0
52663-67-9	178-HpCB	U	ND	pg/L	1.34	20.0
52663-64-6	179-HpCB	U	ND	pg/L	1.00	20.0
35065-29-3	180-HpCB	CU	ND	pg/L	1.16	40.0
74472-47-2	181-HpCB	U	ND	pg/L	1.38	20.0
60145-23-5	182-HpCB	U	ND	pg/L	1.24	20.0
52663-69-1	183-HpCB	CU	ND	pg/L	1.34	40.0
74472-48-3	184-HpCB	U	ND	pg/L	0.960	20.0
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	1.04	20.0
52663-68-0	187-HpCB	U	ND	pg/L	1.22	20.0
74487-85-7	188-HpCB	U	ND	pg/L	1.02	20.0
39635-31-9	189-HpCB	U	ND	pg/L	1.22	20.0
41411-64-7	190-HpCB	U	ND	pg/L	1.08	20.0
74472-50-7	191-HpCB	U	ND	pg/L	1.06	20.0
74472-51-8	192-HpCB	U	ND	pg/L	1.18	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:	**1709F81**	**Client:**	**HALL001**	**Project:**	**HALL00117**
Lab Sample ID:	**12019813**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 35954**				
Client ID:	**MB for batch 35954**			**Prep Basis:**	**As Received**
Batch ID:	**36029**	**Method:**	**EPA Method 1668C**		
Run Date:	**10/23/2017 12:18**	**Analyst:**	**MLS**	**Instrument:**	**HRP875**
Data File:	**d23oct17a-4**			**Dilution:**	**1**
Prep Batch:	**35954**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**17-OCT-17**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	U	ND	pg/L	1.38	20.0
52663-78-2	195-OcCB	U	ND	pg/L	1.32	20.0
42740-50-1	196-OcCB	U	ND	pg/L	1.16	20.0
33091-17-7	197-OcCB	CU	ND	pg/L	0.920	40.0
68194-17-2	198-OcCB	CU	ND	pg/L	1.22	40.0
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	0.900	20.0
2136-99-4	202-OcCB	U	ND	pg/L	0.980	20.0
52663-76-0	203-OcCB	U	ND	pg/L	1.16	20.0
74472-52-9	204-OcCB	U	ND	pg/L	0.900	20.0
74472-53-0	205-OcCB	U	ND	pg/L	0.980	20.0
40186-72-9	206-NoCB	U	ND	pg/L	1.30	20.0
52663-79-3	207-NoCB	U	ND	pg/L	0.980	20.0
52663-77-1	208-NoCB	U	ND	pg/L	0.920	20.0
2051-24-3	209-DeCB	J	1.66	pg/L	0.960	20.0
1336-36-3	Total PCB Congeners	J	28.1	pg/L	6.68	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		1040	2000	pg/L	52.1	(5%-145%)
13C-3-MoCB		1160	2000	pg/L	57.8	(5%-145%)
13C-4-DiCB		1380	2000	pg/L	68.8	(5%-145%)
13C-15-DiCB		2260	2000	pg/L	113	(5%-145%)
13C-19-TrCB		1910	2000	pg/L	95.5	(5%-145%)
13C-37-TrCB		2120	2000	pg/L	106	(5%-145%)
13C-54-TeCB		1350	2000	pg/L	67.5	(5%-145%)
13C-77-TeCB		2500	2000	pg/L	125	(10%-145%)
13C-81-TeCB		2530	2000	pg/L	127	(10%-145%)
13C-104-PeCB		1560	2000	pg/L	78.2	(10%-145%)
13C-105-PeCB		1750	2000	pg/L	87.3	(10%-145%)
13C-114-PeCB		1700	2000	pg/L	84.8	(10%-145%)
13C-118-PeCB		1690	2000	pg/L	84.5	(10%-145%)
13C-123-PeCB		1770	2000	pg/L	88.7	(10%-145%)
13C-126-PeCB		1780	2000	pg/L	89.2	(10%-145%)
13C-155-HxCB		1640	2000	pg/L	82.0	(10%-145%)
13C-156-HxCB	C	3200	4000	pg/L	80.0	(10%-145%)
13C-157-HxCB	C156L					
13C-167-HxCB		1640	2000	pg/L	82.2	(10%-145%)
13C-169-HxCB		1790	2000	pg/L	89.5	(10%-145%)
13C-188-HpCB		1510	2000	pg/L	75.4	(10%-145%)
13C-189-HpCB		1510	2000	pg/L	75.7	(10%-145%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	12019813			**Matrix:**	WATER
Client Sample:	QC for batch 35954				
Client ID:	MB for batch 35954			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/23/2017 12:18	**Analyst:**	MLS	**Instrument:**	HRP875
Data File:	d23oct17a-4			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1520	2000	pg/L	75.9	(10%-145%)
13C-205-OcCB		1950	2000	pg/L	97.6	(10%-145%)
13C-206-NoCB		2220	2000	pg/L	111	(10%-145%)
13C-208-NoCB		1870	2000	pg/L	93.4	(10%-145%)
13C-209-DcCB		2230	2000	pg/L	112	(10%-145%)
13C-28-TrCB		1230	2000	pg/L	61.5	(5%-145%)
13C-111-PeCB		1930	2000	pg/L	96.5	(10%-145%)
13C-178-HpCB		1960	2000	pg/L	98.0	(10%-145%)

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:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	12019814			**Matrix:**	WATER
Client Sample:	QC for batch 35954				
Client ID:	LCS for batch 35954			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/23/2017 09:59	**Analyst:**	MLS	**Instrument:**	HRP875
Data File:	d23oct17a-2			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB		464	pg/L	5.28	20.0
2051-62-9	3-MoCB		495	pg/L	5.58	20.0
13029-08-8	4-DiCB		470	pg/L	14.2	20.0
2050-68-2	15-DiCB		559	pg/L	15.3	20.0
38444-73-4	19-TrCB		489	pg/L	6.64	20.0
38444-90-5	37-TrCB		499	pg/L	12.2	20.0
15968-05-5	54-TeCB		957	pg/L	2.48	20.0
32598-13-3	77-TeCB		927	pg/L	9.12	20.0
70362-50-4	81-TeCB		1030	pg/L	8.74	20.0
56558-16-8	104-PeCB		1010	pg/L	1.54	20.0
32598-14-4	105-PeCB		1130	pg/L	9.62	20.0
74472-37-0	114-PeCB		1020	pg/L	9.20	20.0
31508-00-6	118-PeCB		1000	pg/L	8.90	20.0
65510-44-3	123-PeCB		993	pg/L	8.78	20.0
57465-28-8	126-PeCB		1110	pg/L	10.7	20.0
33979-03-2	155-HxCB		1150	pg/L	1.16	20.0
38380-08-4	156-HxCB	C	2260	pg/L	7.66	40.0
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		1140	pg/L	5.82	20.0
32774-16-6	169-HxCB		1080	pg/L	6.60	20.0
74487-85-7	188-HpCB		1000	pg/L	2.02	20.0
39635-31-9	189-HpCB		1040	pg/L	2.86	20.0
2136-99-4	202-OcCB		1510	pg/L	1.64	20.0
74472-53-0	205-OcCB		1410	pg/L	2.98	20.0
40186-72-9	206-NoCB		1390	pg/L	2.12	20.0
52663-77-1	208-NoCB		1520	pg/L	1.52	20.0
2051-24-3	209-DeCB		1580	pg/L	1.18	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		947	2000	pg/L	47.4	(15%-145%)
13C-3-MoCB		1160	2000	pg/L	57.8	(15%-145%)
13C-4-DiCB		1330	2000	pg/L	66.6	(15%-145%)
13C-15-DiCB		2090	2000	pg/L	104	(15%-145%)
13C-19-TrCB		1820	2000	pg/L	91.0	(15%-145%)
13C-37-TrCB		2050	2000	pg/L	103	(15%-145%)
13C-54-TeCB		1280	2000	pg/L	64.0	(15%-145%)
13C-77-TeCB		2400	2000	pg/L	120	(40%-145%)
13C-81-TeCB		2390	2000	pg/L	119	(40%-145%)
13C-104-PeCB		1630	2000	pg/L	81.3	(40%-145%)
13C-105-PeCB		1740	2000	pg/L	86.9	(40%-145%)
13C-114-PeCB		1700	2000	pg/L	84.9	(40%-145%)
13C-118-PeCB		1690	2000	pg/L	84.3	(40%-145%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	12019814			**Matrix:**	WATER
Client Sample:	QC for batch 35954				
Client ID:	LCS for batch 35954			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/23/2017 09:59	**Analyst:**	MLS	**Instrument:**	HRP875
Data File:	d23oct17a-2			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-123-PeCB		1780	2000	pg/L	89.1	(40%-145%)
13C-126-PeCB		1750	2000	pg/L	87.7	(40%-145%)
13C-155-HxCB		1660	2000	pg/L	82.9	(40%-145%)
13C-156-HxCB	C	3310	4000	pg/L	82.8	(40%-145%)
13C-157-HxCB	C156L					
13C-167-HxCB		1720	2000	pg/L	86.0	(40%-145%)
13C-169-HxCB		1810	2000	pg/L	90.6	(40%-145%)
13C-188-HpCB		1580	2000	pg/L	78.8	(40%-145%)
13C-189-HpCB		1570	2000	pg/L	78.5	(40%-145%)
13C-202-OcCB		1600	2000	pg/L	79.8	(40%-145%)
13C-205-OcCB		2000	2000	pg/L	100	(40%-145%)
13C-206-NoCB		2290	2000	pg/L	115	(40%-145%)
13C-208-NoCB		1920	2000	pg/L	96.2	(40%-145%)
13C-209-DeCB		2260	2000	pg/L	113	(40%-145%)
13C-28-TrCB		1200	2000	pg/L	59.9	(15%-145%)
13C-111-PeCB		1900	2000	pg/L	94.9	(40%-145%)
13C-178-HpCB		2000	2000	pg/L	100	(40%-145%)

Comments:

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

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	12019815			**Matrix:**	WATER
Client Sample:	QC for batch 35954				
Client ID:	LCSD for batch 35954			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/23/2017 11:08	**Analyst:**	MLS	**Instrument:**	HRP875
Data File:	d23oct17a-3			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB		445	pg/L	4.36	20.0
2051-62-9	3-MoCB		517	pg/L	4.92	20.0
13029-08-8	4-DiCB		471	pg/L	12.5	20.0
2050-68-2	15-DiCB		548	pg/L	15.0	20.0
38444-73-4	19-TrCB		486	pg/L	6.98	20.0
38444-90-5	37-TrCB		496	pg/L	14.4	20.0
15968-05-5	54-TeCB		956	pg/L	2.84	20.0
32598-13-3	77-TeCB		908	pg/L	6.82	20.0
70362-50-4	81-TeCB		1010	pg/L	6.24	20.0
56558-16-8	104-PeCB		987	pg/L	1.24	20.0
32598-14-4	105-PeCB		1100	pg/L	8.90	20.0
74472-37-0	114-PeCB		998	pg/L	8.62	20.0
31508-00-6	118-PeCB		964	pg/L	7.94	20.0
65510-44-3	123-PeCB		970	pg/L	8.44	20.0
57465-28-8	126-PeCB		1070	pg/L	9.98	20.0
33979-03-2	155-HxCB		1090	pg/L	1.08	20.0
38380-08-4	156-HxCB	C	2180	pg/L	6.16	40.0
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		1120	pg/L	4.50	20.0
32774-16-6	169-HxCB		1060	pg/L	5.22	20.0
74487-85-7	188-HpCB		982	pg/L	1.50	20.0
39635-31-9	189-HpCB		1030	pg/L	2.92	20.0
2136-99-4	202-OcCB		1480	pg/L	2.04	20.0
74472-53-0	205-OcCB		1380	pg/L	2.14	20.0
40186-72-9	206-NoCB		1360	pg/L	3.42	20.0
52663-77-1	208-NoCB		1510	pg/L	2.44	20.0
2051-24-3	209-DeCB		1550	pg/L	1.22	20.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		922	2000	pg/L	46.1	(15%-145%)
13C-3-MoCB		1060	2000	pg/L	53.2	(15%-145%)
13C-4-DiCB		1290	2000	pg/L	64.3	(15%-145%)
13C-15-DiCB		1950	2000	pg/L	97.5	(15%-145%)
13C-19-TrCB		1770	2000	pg/L	88.7	(15%-145%)
13C-37-TrCB		1980	2000	pg/L	99.2	(15%-145%)
13C-54-TeCB		1340	2000	pg/L	67.1	(15%-145%)
13C-77-TeCB		2400	2000	pg/L	120	(40%-145%)
13C-81-TeCB		2390	2000	pg/L	119	(40%-145%)
13C-104-PeCB		1550	2000	pg/L	77.7	(40%-145%)
13C-105-PeCB		1730	2000	pg/L	86.4	(40%-145%)
13C-114-PeCB		1670	2000	pg/L	83.7	(40%-145%)
13C-118-PeCB		1690	2000	pg/L	84.5	(40%-145%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	1709F81	**Client:**	HALL001	**Project:**	HALL00117
Lab Sample ID:	12019815			**Matrix:**	WATER
Client Sample:	QC for batch 35954				
Client ID:	LCSD for batch 35954			**Prep Basis:**	As Received
Batch ID:	36029	**Method:**	EPA Method 1668C		
Run Date:	10/23/2017 11:08	**Analyst:**	MLS	**Instrument:**	HRP875
Data File:	d23oct17a-3			**Dilution:**	1
Prep Batch:	35954	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	17-OCT-17	**Prep Aliquot:**	1000 mL		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-123-PeCB		1730	2000	pg/L	86.7	(40%-145%)
13C-126-PeCB		1790	2000	pg/L	89.4	(40%-145%)
13C-155-HxCB		1560	2000	pg/L	78.0	(40%-145%)
13C-156-HxCB	C	3150	4000	pg/L	78.8	(40%-145%)
13C-157-HxCB	C156L					
13C-167-HxCB		1620	2000	pg/L	81.1	(40%-145%)
13C-169-HxCB		1760	2000	pg/L	88.1	(40%-145%)
13C-188-HpCB		1470	2000	pg/L	73.5	(40%-145%)
13C-189-HpCB		1490	2000	pg/L	74.6	(40%-145%)
13C-202-OcCB		1480	2000	pg/L	74.0	(40%-145%)
13C-205-OcCB		1960	2000	pg/L	97.9	(40%-145%)
13C-206-NoCB		2220	2000	pg/L	111	(40%-145%)
13C-208-NoCB		1830	2000	pg/L	91.6	(40%-145%)
13C-209-DeCB		2200	2000	pg/L	110	(40%-145%)
13C-28-TrCB		1270	2000	pg/L	63.3	(15%-145%)
13C-111-PeCB		1840	2000	pg/L	92.0	(40%-145%)
13C-178-HpCB		1910	2000	pg/L	95.7	(40%-145%)

Comments:

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

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Greensburg, PA 15601
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1709F81
Pace Project No.: 30231771

Sample: 1709F81-001L Rio Grande-South- **Lab ID: 30231771001** Collected: 09/28/17 09:00 Received: 10/03/17 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	**22.8 ± 5.05 (1.97) C:NA T:NA**	pCi/L	10/05/17 19:17	12587-46-1	
Adjusted Gross Alpha	EPA 900.0	**20.9 ± NA (NA) C:NA T:NA**	pCi/L	10/24/17 12:57		
Total Uranium	ASTM D5174-97	**2.87 ± 0.119 (0.193) C:NA T:NA**	ug/L	10/23/17 14:05	7440-61-1	

Sample: 1709F81-003L Rio Grande-North- **Lab ID: 30231771002** Collected: 09/27/17 12:00 Received: 10/03/17 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	**4.27 ± 1.42 (1.48) C:NA T:NA**	pCi/L	10/05/17 19:17	12587-46-1	
Adjusted Gross Alpha	EPA 900.0	**2.91 ± NA (NA) C:NA T:NA**	pCi/L	10/24/17 12:57		
Total Uranium	ASTM D5174-97	**2.01 ± 0.084 (0.193) C:NA T:NA**	ug/L	10/23/17 14:17	7440-61-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1709F81
Pace Project No.: 30231771

QC Batch: 274298
QC Batch Method: ASTM D5174-97
Analysis Method: ASTM D5174-97
Analysis Description: D5174.97 Total Uranium KPA
Associated Lab Samples: 30231771001, 30231771002

METHOD BLANK: 1349015
Matrix: Water
Associated Lab Samples: 30231771001, 30231771002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Total Uranium	0.085 ± 0.005 (0.193) C:NA T:NA	ug/L	10/10/17 16:39	

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: 1709F81
Pace Project No.: 30231771

QC Batch: 274175 Analysis Method: EPA 900.0
QC Batch Method: EPA 900.0 Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 30231771001, 30231771002

METHOD BLANK: 1348495 Matrix: Water
Associated Lab Samples: 30231771001, 30231771002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	0.027 ± 0.617 (1.66) C:NA T:NA	pCi/L	10/06/17 09:05	

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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QUALIFIERS

Project: 1709F81
Pace Project No.: 30231771

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

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 (%)

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TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F81**

31-Oct-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-34213**	SampType:	**MBLK**	TestCode:	**EPA Method 1664B**					
Client ID:	**PBW**	Batch ID:	**34213**	RunNo:	**46101**					
Prep Date:	**10/4/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1466493**	Units:	**mg/L**			

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

Sample ID	**LCS-34213**	SampType:	**LCS**	TestCode:	**EPA Method 1664B**					
Client ID:	**LCSW**	Batch ID:	**34213**	RunNo:	**46101**					
Prep Date:	**10/4/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1466494**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	33.4	10.0	40.00	0	83.5	78	114			
Silica Gel Treated N-Hexane Extrac	13.4	10.0	20.00	0	67.0	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
PQL	Practical Quanitative Limit	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#: **1709F81**

31-Oct-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-34381**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**PBW**	Batch ID:	**34381**	RunNo:	**46397**					
Prep Date:	**10/12/2017**	Analysis Date:	**10/16/2017**	SeqNo:	**1478148**	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	**LLLCS-34381**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**BatchQC**	Batch ID:	**34381**	RunNo:	**46397**					
Prep Date:	**10/12/2017**	Analysis Date:	**10/16/2017**	SeqNo:	**1478149**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.55	1.0	0.5000	0	109	50	150			J
Magnesium	0.55	1.0	0.5000	0	111	50	150			J

Sample ID	**LCS-34381**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**LCSW**	Batch ID:	**34381**	RunNo:	**46397**					
Prep Date:	**10/12/2017**	Analysis Date:	**10/16/2017**	SeqNo:	**1478150**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.2	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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#: **1709F81**

31-Oct-17

Client: AMAFCA

Project: CMC

Sample ID	**1709F81-001HLLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**Rio Grande-South-2**	Batch ID:	**C46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470679**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.023	0.0010	0.02500	0.0009846	89.4	70	130			
Lead	0.013	0.00050	0.01250	0.0004747	97.5	70	130			

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**C46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470730**	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	94.1	85	115			
Lead	0.012	0.00050	0.01250	0	95.8	85	115			

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**C46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470734**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.00094	0.0010	0.001000	0	93.9	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.7	50	150			J

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**C46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470738**	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
PQL	Practical Quanitative Limit	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#: **1709F81**

31-Oct-17

Client: AMAFCA

Project: CMC

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46023**	RunNo: **46023**
Prep Date:	Analysis Date: **9/29/2017**	SeqNo: **1463151** 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: **R46023**	RunNo: **46023**
Prep Date:	Analysis Date: **9/29/2017**	SeqNo: **1463152** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	98.3	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
PQL	Practical Quanitative Limit	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#: **1709F81**

31-Oct-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-34138**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**34138**	RunNo:	**46131**					
Prep Date:	**9/29/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1467584**	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--34138**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**34138**	RunNo:	**46131**					
Prep Date:	**9/29/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1467585**	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-34138**	SampType:	**LCS**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSW**	Batch ID:	**34138**	RunNo:	**46131**					
Prep Date:	**9/29/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1467586**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	150	2.0	198.0	0	75.4	60.3	136			

Sample ID	**LCSD-34138**	SampType:	**LCSD**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSS02**	Batch ID:	**34138**	RunNo:	**46131**					
Prep Date:	**9/29/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1467587**	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	90.8	60.3	136	18.5	39.3	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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#: **1709F81**

31-Oct-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-34130**	SampType:	**MBLK**	TestCode:	**SM 9223B Fecal Indicator: E. coli MPN**					
Client ID:	**PBW**	Batch ID:	**34130**	RunNo:	**46014**					
Prep Date:	**9/28/2017**	Analysis Date:	**9/29/2017**	SeqNo:	**1462872**	Units:	**MPN/100mL**			

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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#: **1709F81**

31-Oct-17

Client: AMAFCA

Project: CMC

Sample ID **MB**	SampType: **MBLK**	TestCode: **SM 4500 NH3: Ammonia**
Client ID: **PBW**	Batch ID: **R46385**	RunNo: **46385**
Prep Date:	Analysis Date: **10/16/2017**	SeqNo: **1477737** 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: **R46385**	RunNo: **46385**
Prep Date:	Analysis Date: **10/16/2017**	SeqNo: **1477738** 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
PQL	Practical Quanitative Limit	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#: **1709F81**

31-Oct-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-34388**	SampType:	**MBLK**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**PBW**	Batch ID:	**34388**	RunNo:	**46373**					
Prep Date:	**10/12/2017**	Analysis Date:	**10/13/2017**	SeqNo:	**1477407**	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-34388**	SampType:	**LCS**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**LCSW**	Batch ID:	**34388**	RunNo:	**46373**					
Prep Date:	**10/12/2017**	Analysis Date:	**10/13/2017**	SeqNo:	**1477408**	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	100	90	110			

Sample ID	**1709F81-003FMS**	SampType:	**MS**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**Rio Grande-North-2**	Batch ID:	**34388**	RunNo:	**46373**					
Prep Date:	**10/12/2017**	Analysis Date:	**10/13/2017**	SeqNo:	**1477413**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	1.5	0.050	1.250	0.2770	95.1	90	110			D

Sample ID	**1709F81-003FMSD**	SampType:	**MSD**	TestCode:	**EPA Method 365.1: Total Phosphorous**					
Client ID:	**Rio Grande-North-2**	Batch ID:	**34388**	RunNo:	**46373**					
Prep Date:	**10/12/2017**	Analysis Date:	**10/13/2017**	SeqNo:	**1477414**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	1.5	0.050	1.250	0.2770	96.6	90	110	1.32	20	D

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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#: **1709F81**

31-Oct-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-34208**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**34208**	RunNo:	**46103**					
Prep Date:	**10/3/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1466592**	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-34208**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**34208**	RunNo:	**46103**					
Prep Date:	**10/3/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1466593**	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
PQL	Practical Quanitative Limit	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#: **1709F81**

31-Oct-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-34412**	SampType:	**MBLK**	TestCode:	**SM 4500 Norg C: TKN**					
Client ID:	**PBW**	Batch ID:	**34412**	RunNo:	**46404**					
Prep Date:	**10/14/2017**	Analysis Date:	**10/17/2017**	SeqNo:	**1478457**	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-34412**	SampType:	**LCS**	TestCode:	**SM 4500 Norg C: TKN**					
Client ID:	**LCSW**	Batch ID:	**34412**	RunNo:	**46404**					
Prep Date:	**10/14/2017**	Analysis Date:	**10/17/2017**	SeqNo:	**1478458**	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
PQL	Practical Quanitative Limit	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#: **1709F81**

31-Oct-17

Client: AMAFCA

Project: CMC

Sample ID	**MB-34153**	SampType:	**MBLK**	TestCode:	**SM 2540D: TSS**					
Client ID:	**PBW**	Batch ID:	**34153**	RunNo:	**46033**					
Prep Date:	**9/29/2017**	Analysis Date:	**10/2/2017**	SeqNo:	**1463367**	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-34153**	SampType:	**LCS**	TestCode:	**SM 2540D: TSS**					
Client ID:	**LCSW**	Batch ID:	**34153**	RunNo:	**46033**					
Prep Date:	**9/29/2017**	Analysis Date:	**10/2/2017**	SeqNo:	**1463368**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	96	4.0	91.10	0	105	84.63	120.75			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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: 1709F81 RcptNo: 1

Received By: Jackie Bolte 9/28/2017 1:40:00 PM

Completed By: Anne Thorne 9/28/2017 2:31:10 PM

Reviewed By: JO 09/29/17

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 ☐
   Approved by client.
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: 14 (<2 or >12 unless noted)
Adjusted? —
Checked by: AT 09/29/17

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	5.8	Good	Not Present			

Collaborative Monitoring Cooperative - Analyses List
Attach to Chain of Custody

Analyte (Bold indicates WQS)	CAS #	Fraction	Method #	MDL (ng/L)
Hardness (Ca + Mg)	NA	Total	200.7	2.4
Lead	7439-92-1	Dissolved	200.8	0.09
Copper	7440-50-8	Dissolved	200.8	1.06
Ammonia + organic nitrogen	7664-41-7	Total	350.1	31.32
Total Kjehldal Nitrogen	17778-88-0	Total	351.2	58.78
Nitrate + Nitrite	14797-55-8	Total	353.2	10.17
Polychlorinated biphenyls (PCBs)	1336-36-3	Total	1668	0.014
Tetrahydrofuran (THF)	109-99-9	Total	8260C	7.9
bis(2-Ethylhexyl)phthalate	117-81-7	Total	8270D	0.2
Dibenzofuran	132-64-9	Total	8270D	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	Total	8270D	0.2
Benzo(b)fluoranthene	205-99-2	Total	8270D	0.1
Benzo(k)fluoranthene	207-08-9	Total	8270D	0.1
Chrysene	218-01-9	Total	8270D	0.2
Benzo(a)pyrene	50-32-8	Total	8270D	0.3
Dibenzo(a,h)anthracene	53-70-3	Total	8270D	0.3
Benzo(a)anthracene	56-55-3	Total	8270D	0.2
Dieldrin	60-57-1	Total	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 — num			SM 9223B	
pH			SM 4500	
Phosphorus		Dissolved	365.1	100
Phosphorus		Total	365.1	100
Chromium IV		Total	3500Cr C-2011	100

Chain-of-Custody Record

Client: AMAFCA

Mailing Address: 2600 Prospect

Phone #: 884-2215

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: 5.8

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 - enumer.	See Attached sheet			Air Bubbles (Y or N)
AT 09/28/17																						
9/28/17	0900	AQ	Rio Grande - South - 2017 0928			-005 -001												X	X			
9/27/17	1200	AQ	Rio Grande - North - 2017 0927			-006 -002													X			
			Trip Blank			-004 ~~-003~~																
						AT 09/28/17																

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/28/17	1340			9/28/17	1340
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.

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

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 02, 2017

Pre-storm Rio Grnade South - Isleta Dam location

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

RE: CMC OrderNo.: 1709F32

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/27/2017 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1709F32**
Date Reported: **10/2/2017**

CLIENT: AMAFCA
Client Sample ID: Isleta Dam
Project: CMC
Collection Date: 9/27/2017 12:00:00 PM
Lab ID: 1709F32-001
Matrix: AQUEOUS
Received Date: 9/27/2017 3:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **SMS**	
E. Coli	2359	10.00		MPN/100mL	10	9/28/2017 6:51:00 PM	34113

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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: 1709F32 RcptNo: 1

Received By: Erin Melendrez 9/27/2017 3:00:00 PM

Completed By: Sophia Campuzano 9/27/2017 3:27:13 PM

Reviewed By: ENM 9/27/17@ 1535

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	7.1	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA - CMC

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: 7.1

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)	Enumeration				Air Bubbles (Y or N)
			ENM 9/27/17			1709F32																
9/27	12:00	AQ	Isleta Dam			-001												X				

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/27	3:00	PJC		9/27/17	1500
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

October 02, 2017

Pre-storm results for multiple locations

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

RE: E Coli Study OrderNo.: 1709F30

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 3 sample(s) on 9/27/2017 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1709F30**
Date Reported: **10/2/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: E Coli Study
Lab Order: 1709F30

Lab ID: 1709F30-001 **Collection Date:** 9/27/2017 1:20:00 PM
Client Sample ID: ABQ-RD-EAST **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **SMS**	
E. Coli	1565	10.00		MPN/100mL	10	9/28/2017 6:51:00 PM	34113

Lab ID: 1709F30-002 **Collection Date:** 9/27/2017 1:30:00 PM
Client Sample ID: ABQ-RC-I25 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **SMS**	
E. Coli	1723	10.00		MPN/100mL	10	9/28/2017 6:51:00 PM	34113

Lab ID: 1709F30-003 **Collection Date:** 9/27/2017 12:50:00 PM
Client Sample ID: ABQ-DD-WEST **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **SMS**	
E. Coli	82.3	1.000		MPN/100mL	1	9/28/2017 6:51:00 PM	34113

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting 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: 1709F30 RcptNo: 1

Received By: Erin Melendrez 9/27/2017 3:00:00 PM

Completed By: Sophia Campuzano 9/27/2017 3:22:59 PM

Reviewed By: ENM 9/27/17 @ 535

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	7.1	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: E. coli Study

Project #:

Project Manager: Patrick Chavez

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 7.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	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 Enumeration				Air Bubbles (Y or N)
			ENM 9/27/17			1709F30																
9/27	1:20	AQ	ABQ-RD-EAST			-001												X				
9/27	1:30	"	ABQ-RG-I25			-002												X				
9/27	12:50	"	ABQ-DD-West			-003												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/27	3:08	PJC		9/27/17	1500
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.

ATTACHMENT 2

FY 2018 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 2018 (July 2017 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 7/27/17 and 7/28/17
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:*** 10/26/17

- -

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”). Also, three parameters are listed in the Lab Report Analytical Notes – Tetrahydrofuran, Benzidine, and Dieldrin – all were not detected. All three are not listed in the reportable compounds tables.

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

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 10/26/17

- -

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:*** 10/26/17

- -

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	7/27/17	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA of this and verified with HEAL. BHI added note to the lab report.
Rio Grande North	7/27/17	Tetrahydrofuran not found along numerical results.	Analytical notes state that Tetrahydrofuran was not included in the list of reportable compounds. Compound was not detected.
Rio Grande North	7/27/17	Benzidine and Dieldrin not found along numerical results.	Analytical notes state that Benzidine and Dieldrin were not included in the list of reportable compounds. Compounds were not detected.

*Note – HEAL Lab report order numbers – 1707E46 and 1707E07

Total number of occurrences: 3

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 10/26/17

- -

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:*** 10/26/17

- -

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.
*Note – Lab reports lists pH with hold time flag. Database uses field data reported pH, so this is hold time is not applicable.
Total number of occurrences: 0

☒ **Step 6 Completed** ***Initials:*** SJG ***Date:*** 10/26/17

- -

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:*** 10/26/17

****

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

10/26/17

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 2018 (July 2017 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande South – 7/28/17
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:*** 10/26/17

- -

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"). Also, three parameters are listed in the Lab Report Analytical Notes – Tetrahydrofuran, Benzidine, and Dieldrin – all were not detected. All three are not listed in the reportable compounds tables..

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

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 10/26/17

- -

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:*** 10/26/17

- -

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 South	7/28/17	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA of this and verified with HEAL. BHI added note to the lab report.
Rio Grande South	7/28/17	Hexavalent Chromium and COD for Rio Grande South incorrectly labeled in lab report as Rio Grande North	Confirmed lab results and monitoring location with HEAL. BHI added note to the lab report.
Rio Grande South	7/28/17	Tetrahydrofuran not found along numerical results.	Analytical notes state that Tetrahydrofuran was not included in the list of reportable compounds. Compound was not detected.
Rio Grande South	7/28/17	Benzidine and Dieldrin not found along numerical results.	Analytical notes state that Benzidine and Dieldrin were not included in the list of reportable compounds. Compounds were not detected.

*Note – HEAL Lab report order number – 1707E46

Total number of occurrences: 1

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 10/26/17

- -

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:*** 10/26/17

- -

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.
*Note – Lab reports lists pH with hold time flag. Database uses field data reported pH, so this is hold time is not applicable.
Total number of occurrences: **0**

☒ **Step 6 Completed** ***Initials:*** SJG ***Date:*** 10/26/17

- -

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 RGN Form.

Total number of occurrences: 0

☒ **Step 7 Completed** ***Initials:*** SJG ***Date:*** 10/26/17

****

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

10/26/17

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 2018 (Sept 2017 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 9/27/17 and 9/28/17
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:*** 12/27/17

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:*** 12/27/17

- -

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:*** 12/27/17

- -

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	9/27/17	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA of this and verified with HEAL. BHI added note to the lab report.

*Note – HEAL Lab report order numbers – 1709F09 (E. coli on 9/27/17) and 1709F81(remaining parameters)

Total number of occurrences: 1

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 12/27/17

- -

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:*** 12/27/17

- -

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.
*Note – Lab reports lists pH with hold time flag. Database uses field data reported pH, so this is hold time is not applicable.
Total number of occurrences: 0

☒ **Step 6 Completed** ***Initials:*** SJG ***Date:*** 12/27/17

- -

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:*** 12/27/17

****

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

12/27/17

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 2018 (Sept 2017 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande South – 9/28/17
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:*** 12/27/17

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:*** 12/27/17

- -

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:*** 12/27/17

- -

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 South	9/28/17	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA of this and verified with HEAL. BHI added note to the lab report.

*Note – HEAL Lab report order number – 1709F81

Total number of occurrences: 1

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 12/27/17

- -

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:*** 12/27/17

- -

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.
*Note – Lab reports lists pH with hold time flag. Database uses field data reported pH, so this is hold time is not applicable.
Total number of occurrences: 0

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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?*
_____	_____	_____	_____	_____	_____		_____
_____	_____	_____	_____	_____	_____		_____

Total number of occurrences: 0

☒ **Step 7 Completed** ***Initials:*** SJG ***Date:*** 12/27/17

****

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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

12/27/17

Data Verifier/Validator Signature Date

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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	
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Er	Rejected-Incubation temperature < 34.5 or >38.0° Celsius	
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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 FROM DBS&A RELATED TO SEPTEMBER 27-28, 2017, SAMPLE COLLECTION AND GROSS ALPHA ANALYTICAL RESULT

Bohannan Huston

Engineering
Spatial Data
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MEMORANDUM

DATE: July 3, 2018

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

FROM: Craig Hoover, PE
Sarah Ganley, PE

SUBJECT: **CMC Wet Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and Reporting FY 2018 Dry Season (November 1, 2017 to June 30, 2018) Task 28 Memo**

Notification of In-Stream Water Quality Exceedances

No CMC samples were able to be collected in the FY 2018 dry season (November 1, 2017 to June 30, 2018). Therefore, there are no in-stream water quality exceedances to report for the Compliance Monitoring Cooperative (CMC) monitoring program.

Overview of Stormwater Monitoring Activity

Bohannan Huston, Inc. (BHI) has been tasked to perform water quality services for the CMC Stormwater Data Verification, Database, and Reporting for the Wet Weather Stormwater Quality Monitoring Program for Fiscal Year (FY) 2018 (July 1, 2017 to June 30, 2018). The scope of work for this task includes data verification of the stormwater laboratory analysis results, compiling the analysis results into a database, and calculating the E. coli loading to compare with the Waste Load Allocation (WLA) for the qualifying storm events. The stormwater compliance monitoring is being conducted separately by Daniel B. Stephens & Associates, Inc. (DBS&A) and is not a part of this 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 a minimum of seven (7) storm events be sampled at both the Rio Grande North and Rio Grande South locations (refer to Figure 1, page 3 with at least three (3) events in the wet season and two (2) events in the dry season. Four (4) samples were collected in FY 2017 toward the WSB MS4 Permit requirements – three (3) in the wet season and one (1) in the dry season. In addition, two (2) samples were collected during the FY 2018 wet season (July 1, 2017 to October 31, 2017); reporting for these samples is in the February 2, 2018, CMC Wet Season, Wet Weather Stormwater Monitoring Memo. No CMC samples were able to be collected in the FY 2018 dry season (November 1, 2017 to June 30, 2018). Therefore, one (1) dry season storm event remains to be sampled by the CMC

to meet WSB MS4 Permit requirements. The CMC samples obtained to date are summarized in Table 1 below:

Table 1: CMC Sample Summary
Compared to WSB MS4 Requirements

No. of Storm Events Required to Sample	CMC-WSB MS4 Permit Required Samples per Season	FY (Date) Sample Obtained at Rio Grande North and Rio Grande South
1	#1 Wet Season	FY 2017 (8/10/2016)
2	#2 Wet Season	FY 2017 (9/12/2016)
3	#3 Wet Season	FY 2017 (9/21/2016)
4	#1 Dry Season	FY 2017 (11/21/2016)
5	#2 Dry Season	Remaining Sample for CMC to Obtain
6	Any Season	FY 2018 (Wet Season - 7/27/2017)
7	Any Season	FY 2018 (Wet Season - 9/27/2017)

Stormwater Quality Database for CMC

As stated previously, there were no qualifying storm events sampled for the CMC during the FY 2018 dry season, wet weather monitoring. However, some details were added to the CMC Excel database regarding the Water Quality Criterion. This updated database is included with this memo.

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. For this Task, BHI has completed data entry related to the EPA CMC DMRs for the FY 2018 wet season. DMRs with this data are due to EPA on December 1, 2018, and these forms will be submitted to EPA by AMAFCA as the delegated data entry member for the CMC.

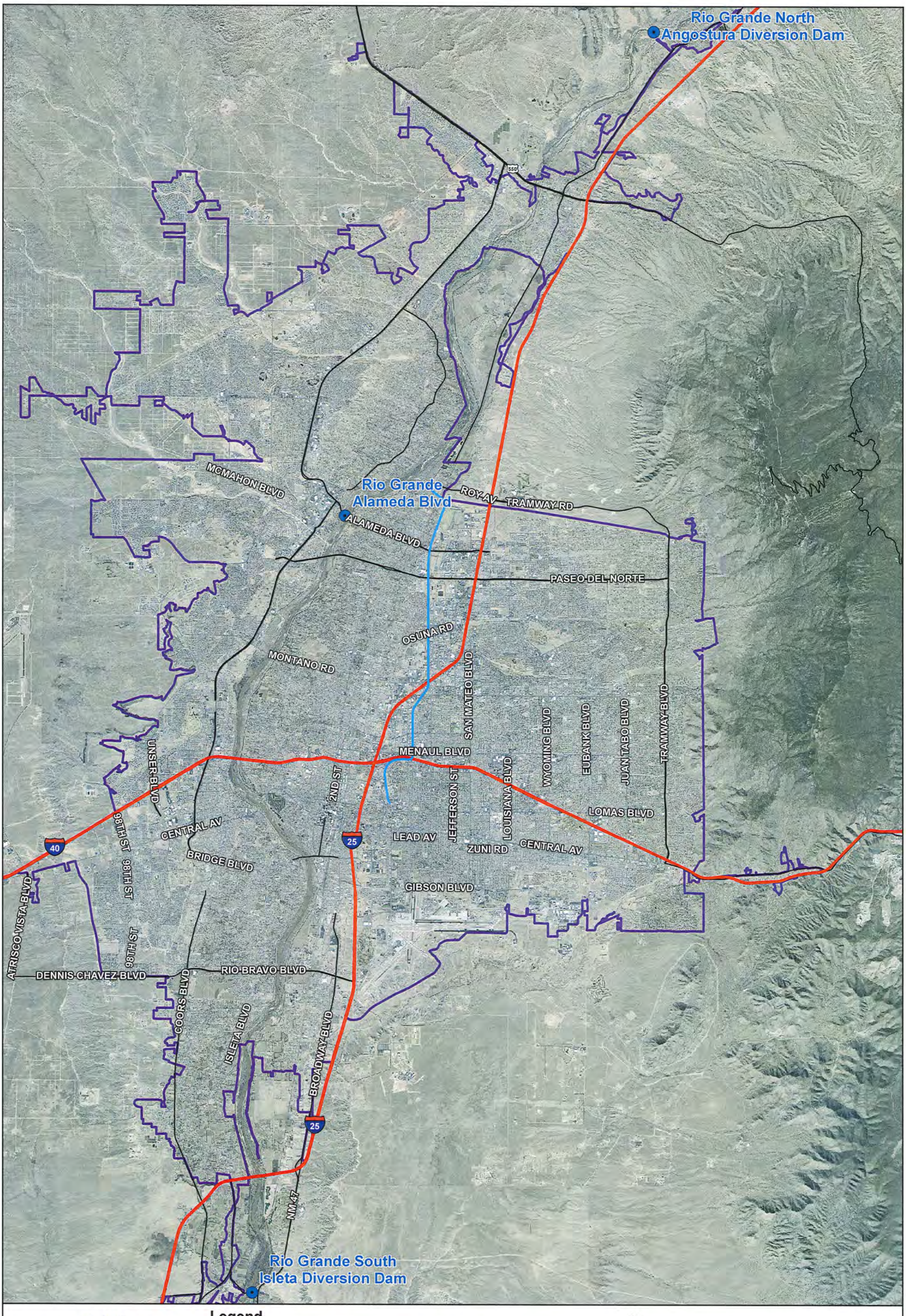
Conclusions and Planning

To summarize:

- With the two FY 2018 wet season samples, six (6) of the seven (7) required samples in the WSB MS4 Permit Wet Weather Monitoring section have been obtained. The CMC has met the required WSB MS4 Permit minimum of three (3) events during the wet season.
- Only one (1) dry season sample remains to be obtained to meet the WSB MS4 Permit requirements for the CMC members.

SG/le

Spreadsheet Included Separately: Excel CMC Spreadsheet updated with water quality criterion details.



Legend

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

N W E S

0 0.5 1 2

Miles

AMAFCA

Bohannan Huston
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CMC Monitoring

Figure 1
Monitoring Locations

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

DMR Copy of Record

Permit					
Permit #:	**NMR04A016**	**Permittee:**	ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY (AMAFCA)	**Facility:**	ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL (AMAFCA)
Major:	No	**Permittee Address:**	2600 PROSPECT AVENUE NE ALBUQUERQUE, NM 87107	**Facility Location:**	2600 PROSPECT AVENUE NE ALBUQUERQUE, NM 87107
Permitted Feature:	001 External Outfall	**Discharge:**	**001-W** RIO GRANDE (NORTH) - WET SEASON		
Report Dates & Status					
Monitoring Period:	**From 07/01/17 to 10/31/17**	**DMR Due Date:**	**12/01/18**	**Status:**	**NetDMR Validated**
Considerations for Form Completion					
SEASONAL MONITORING PERIODS ARE: WET SEASON = JULY 1-OCT. 31 & DRY SEASON = NOV. 1-JUNE 30. SEPARATE DMRS REQUIRED FOR EACH SEASON. DMRS TO BE SUBMITTED DUE DEC. 1ST, FOLLOWING END OF MONIT. PERIOD. PERMIT REQUIRES A MIN. OF 7 EVENTS PER LOC. PER PERMIT TERM (3 WET SEASON, 2 DRY SEASON & 2 PERMITTEE'S CHOICE).					
Principal Executive Officer					
First Name:	Jerry	**Title:**	Executive Engineer	**Telephone:**	505-884-2215
Last Name:	Lovato				
No Data Indicator (NODI)					
Form NODI:	--				

Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading						Quality or Concentration							# of Ex.	Frequency of Analysis	Sample Type
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units		Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units			
00010	Temperature, water deg. centigrade	1 - Effluent Gross	0	--	Sample							=	23.47	=	23.47	=	23.47	04 - deg C		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon DAILY MN		Req Mon DAILY AV		Req Mon DAILY MX	04 - deg C		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI																
00094	Conductivity	1 - Effluent Gross	0	--	Sample									=	247	=	247	11 - umho/cm		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	11 - umho/cm		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI																
00300	Oxygen, dissolved [DO]	1 - Effluent Gross	0	--	Sample							=	6.73	=	6.73			19 - mg/L		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon DAILY MN		Req Mon DAILY AV			19 - mg/L		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI																
00310	BOD, 5-day, 20 deg. C	1 - Effluent Gross	0	--	Sample									<	2	<	2	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00340	Oxygen demand, chem. [high level] [COD]	1 - Effluent Gross	0	--	Sample									=	19.9	=	19.9	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00400	pH	1 - Effluent Gross	0	--	Sample							=	7.37			=	7.37	12 - SU		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon MINIMUM				Req Mon MAXIMUM	12 - SU		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI																
00530	Solids, total suspended	1 - Effluent Gross	0	--	Sample									=	32	=	32	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00556	Oil & Grease	1 - Effluent Gross	0	--	Sample									=	5.17	=	5.17	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00625	Nitrogen, Kjeldahl, total [as N]	1 - Effluent Gross	0	--	Sample																
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI										B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection				
00630	Nitrite + Nitrate total [as N]	1 - Effluent Gross	0	--	Sample									=	0.05	=	0.05	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00665	Phosphorus, total [as P]	1 - Effluent Gross	0	--	Sample									=	0.062	=	0.062	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00666	Phosphorus, dissolved	1 - Effluent Gross	0	--	Sample									=	0.025	=	0.025	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
01032	Chromium, hexavalent [as Cr]	1 - Effluent Gross	0	--	Sample																
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI										B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection				
01040	Copper, dissolved [as Cu]	1 - Effluent Gross	0	--	Sample									=	1.1	=	1.1	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
01049	Lead, dissolved [as Pb]	1 - Effluent Gross	0	--	Sample																
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI										B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection				
34230	Benzo[b]fluoranthene	1 - Effluent Gross	0	--	Sample																
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS

					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34242	Benzo[k]fluoranthene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34247	Benzo[a]pyrene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34320	Chrysene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34403	Indeno[1,2,3-cd]pyrene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34526	Benzo[a]anthracene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34556	Dibenz[a,h]anthracene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
39032	Pentachlorophenol	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample								=	5.5	=	5.5	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
39100	Di[2-ethylhexyl] phthalate [DEHP]	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
					Sample																
39120	Benzidine	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
39380	Dieldrin	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample								=	0.0000001	=	0.0000001	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
39516	Polychlorinated biphenyls [PCBs]	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
					Sample								=	20	=	20	3Z - CFU/100mL		03/PT - Three Per Permit Term	GR - GRAB	
51040	E. coli	1 - Effluent Gross	0	--	Permit Req.									Req Mon DA GEOAV		Req Mon DAILY MX	3Z - CFU/100mL		03/PT - Three Per Permit Term	GR - GRAB	
					Value NODI																
					Sample								=	181	=	181	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
70295	Solids, total dissolved	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
					Sample								=	2.06	=	2.06	17 - pCi/L		03/PT - Three Per Permit Term	CP - COMPOS	
80029	Alpha gross radioactivity	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	17 - pCi/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
					Sample																
81302	Dibenzofuran	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
81607	Tetrahydrofuran	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Wet Season Sample Date: 07/27/2017. This data applies to the CMC. EPA has approved this process for CMC members that delegate authority to AMAFCA. DMR data applies to following permits: NMR04A001; NMR04A002; NMR04A003; NMR04A004; NMR04A006; NMR04A007; NMR04A008; NMR04A010; NMR04A013; NMR04A015 and NMR04A016.

Attachments

No attachments.

Report Last Saved By

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY (AMAFCA)

User:	SGANLEYBHI
Name:	Sarah Ganley
E-Mail:	sganley@bhinc.com
Date/Time:	2018-03-29 09:30 (Time Zone: -05:00)

Report Last Signed By

User:	JLOVATO22
Name:	Jerry Lovato
E-Mail:	jlovato@amafca.org

Date/Time: 2018-10-05 13:59 (Time Zone: -05:00)

DMR Copy of Record

Permit					
Permit #:	**NMR04A016**	**Permittee:**	ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY (AMAFCA)	**Facility:**	ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL (AMAFCA)
Major:	No	**Permittee Address:**	2600 PROSPECT AVENUE NE ALBUQUERQUE, NM 87107	**Facility Location:**	2600 PROSPECT AVENUE NE ALBUQUERQUE, NM 87107
Permitted Feature:	002 External Outfall	**Discharge:**	**002-W** RIO GRANDE (SOUTH) - WET SEASON		
Report Dates & Status					
Monitoring Period:	**From 07/01/17 to 10/31/17**	**DMR Due Date:**	**12/01/18**	**Status:**	**NetDMR Validated**
Considerations for Form Completion					
SEASONAL MONITORING PERIODS ARE: WET SEASON = JULY 1-OCT. 31 & DRY SEASON = NOV. 1-JUNE 30. SEPARATE DMRS REQUIRED FOR EACH SEASON. DMRS TO BE SUBMITTED DUE DEC. 1ST, FOLLOWING END OF MONIT. PERIOD. PERMIT REQUIRES A MIN. OF 7 EVENTS PER LOC. PER PERMIT TERM (3 WET SEASON, 2 DRY SEASON & 2 PERMITTEE'S CHOICE).					
Principal Executive Officer					
First Name:	Jerry	**Title:**	Executive Engineer	**Telephone:**	505-884-2215
Last Name:	Lovato				
No Data Indicator (NODI)					
Form NODI:	--				

Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading						Quality or Concentration							# of Ex.	Frequency of Analysis	Sample Type
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units		Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units			
00010	Temperature, water deg. centigrade	1 - Effluent Gross	0	--	Sample							=	23.6	=	23.6	=	23.6	04 - deg C		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon DAILY MN		Req Mon DAILY AV		Req Mon DAILY MX	04 - deg C		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI																
00094	Conductivity	1 - Effluent Gross	0	--	Sample									=	361	=	361	11 - umho/cm		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	11 - umho/cm		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI																
00300	Oxygen, dissolved [DO]	1 - Effluent Gross	0	--	Sample							=	6.8	=	6.8			19 - mg/L		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon DAILY MN		Req Mon DAILY AV			19 - mg/L		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI																
00310	BOD, 5-day, 20 deg. C	1 - Effluent Gross	0	--	Sample									=	2	=	2	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00340	Oxygen demand, chem. [high level] [COD]	1 - Effluent Gross	0	--	Sample									=	15	=	15	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00400	pH	1 - Effluent Gross	0	--	Sample							=	8.13			=	8.13	12 - SU		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon MINIMUM				Req Mon MAXIMUM	12 - SU		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI																
00530	Solids, total suspended	1 - Effluent Gross	0	--	Sample									=	63	=	63	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00556	Oil & Grease	1 - Effluent Gross	0	--	Sample									=	3.7	=	3.7	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00625	Nitrogen, Kjeldahl, total [as N]	1 - Effluent Gross	0	--	Sample									=	0.84	=	0.84	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00630	Nitrite + Nitrate total [as N]	1 - Effluent Gross	0	--	Sample									=	0.88	=	0.88	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00665	Phosphorus, total [as P]	1 - Effluent Gross	0	--	Sample									=	0.33	=	0.33	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
00666	Phosphorus, dissolved	1 - Effluent Gross	0	--	Sample									=	0.25	=	0.25	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
01032	Chromium, hexavalent [as Cr]	1 - Effluent Gross	0	--	Sample																
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI										B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection				
01040	Copper, dissolved [as Cu]	1 - Effluent Gross	0	--	Sample									=	1.2	=	1.2	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI																
01049	Lead, dissolved [as Pb]	1 - Effluent Gross	0	--	Sample																
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI										B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection				
34230	Benzo[b]fluoranthene	1 - Effluent Gross	0	--	Sample																
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS

					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
34242	Benzo[k]fluoranthene	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
34247	Benzo[a]pyrene	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
34320	Chrysene	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
34403	Indeno[1,2,3-cd]pyrene	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
34526	Benzo[a]anthracene	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
34556	Dibenz[a,h]anthracene	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
39032	Pentachlorophenol	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
39100	Di[2-ethylhexyl] phthalate [DEHP]	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
39120	Benzidine	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
39380	Dieldrin	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
39516	Polychlorinated biphenyls [PCBs]	1 - Effluent Gross	0	--	Sample								=	0.0000002	=	0.0000002	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
51040	E. coli	1 - Effluent Gross	0	--	Sample								=	235.9	=	235.9	3Z - CFU/100mL		03/PT - Three Per Permit Term	GR - GRAB	
					Permit Req.									Req Mon DA GEOAV		Req Mon DAILY MX	3Z - CFU/100mL		03/PT - Three Per Permit Term	GR - GRAB	
					Value NODI																
70295	Solids, total dissolved	1 - Effluent Gross	0	--	Sample								=	248	=	248	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
80029	Alpha gross radioactivity	1 - Effluent Gross	0	--	Sample								=	2.15	=	2.15	17 - pCi/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	17 - pCi/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
81302	Dibenzofuran	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
81607	Tetrahydrofuran	1 - Effluent Gross	0	--	Sample																
					Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Wet Season Sample Date: 07/28/2017. This data applies to the CMC. EPA has approved this process for CMC members that delegate authority to AMAFCA. DMR data applies to following permits: NMR04A001; NMR04A002; NMR04A003; NMR04A004; NMR04A006; NMR04A007; NMR04A008; NMR04A010; NMR04A013; NMR04A015 and NMR04A016.

Attachments

No attachments.

Report Last Saved By

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY (AMAFCA)

User:	SGANLEYBHI
Name:	Sarah Ganley
E-Mail:	sganley@bhinc.com
Date/Time:	2018-03-29 12:01 (Time Zone: -05:00)

Report Last Signed By

User:	JLOVATO22
Name:	Jerry Lovato
E-Mail:	jlovato@amafca.org

Date/Time: 2018-10-05 13:59 (Time Zone: -05:00)

DMR Copy of Record

Permit					
Permit #:	**NMR04A016**	**Permittee:**	ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY (AMAFCA)	**Facility:**	ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL (AMAFCA)
Major:	No	**Permittee Address:**	2600 PROSPECT AVENUE NE ALBUQUERQUE, NM 87107	**Facility Location:**	2600 PROSPECT AVENUE NE ALBUQUERQUE, NM 87107
Permitted Feature:	001 External Outfall	**Discharge:**	**001-WA** RIO GRANDE (NORTH) - WET SEASON		
Report Dates & Status					
Monitoring Period:	**From 07/01/17 to 10/31/17**	**DMR Due Date:**	**12/01/18**	**Status:**	**NetDMR Validated**
Considerations for Form Completion					
SEASONAL MONITORING PERIODS ARE: WET SEASON = JULY 1-OCT. 31 & DRY SEASON = NOV. 1-JUNE 30. SEPARATE DMRS REQUIRED FOR EACH SEASON. DMRS TO BE SUBMITTED DUE DEC. 1ST, FOLLOWING END OF MONIT. PERIOD. PERMIT REQUIRES A MIN. OF 7 EVENTS PER LOC. PER PERMIT TERM (3 WET SEASON, 2 DRY SEASON & 2 PERMITTEE'S CHOICE).					
Principal Executive Officer					
First Name:	Jerry	**Title:**	Executive Engineer	**Telephone:**	505-884-2215
Last Name:	Lovato				
No Data Indicator (NODI)					
Form NODI:	--				

Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading						Quality or Concentration						# of Ex.	Frequency of Analysis	Sample Type
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units		Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units		
00010	Temperature, water deg. centigrade	1 - Effluent Gross	0	--	Sample							=	16.3	=	16.3	=	16.3	04 - deg C		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon DAILY MN		Req Mon DAILY AV		Req Mon DAILY MX	04 - deg C		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI															
00094	Conductivity	1 - Effluent Gross	0	--	Sample									=	103.4	=	103.4	11 - umho/cm		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	11 - umho/cm		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI															
00300	Oxygen, dissolved [DO]	1 - Effluent Gross	0	--	Sample							=	7.13	=	7.13			19 - mg/L		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon DAILY MN		Req Mon DAILY AV			19 - mg/L		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI															
00310	BOD, 5-day, 20 deg. C	1 - Effluent Gross	0	--	Sample									=	2	=	2	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00340	Oxygen demand, chem. [high level] [COD]	1 - Effluent Gross	0	--	Sample									=	20.5	=	20.5	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00400	pH	1 - Effluent Gross	0	--	Sample							=	7.83			=	7.83	12 - SU		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon MINIMUM				Req Mon MAXIMUM	12 - SU		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI															
00530	Solids, total suspended	1 - Effluent Gross	0	--	Sample									=	260	=	260	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00556	Oil & Grease	1 - Effluent Gross	0	--	Sample															
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI										B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection			
00625	Nitrogen, Kjeldahl, total [as N]	1 - Effluent Gross	0	--	Sample									=	0.84	=	0.84	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00630	Nitrite + Nitrate total [as N]	1 - Effluent Gross	0	--	Sample									=	0.2	=	0.2	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00665	Phosphorus, total [as P]	1 - Effluent Gross	0	--	Sample									=	0.28	=	0.28	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00666	Phosphorus, dissolved	1 - Effluent Gross	0	--	Sample									=	0.029	=	0.029	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
01032	Chromium, hexavalent [as Cr]	1 - Effluent Gross	0	--	Sample															
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI										B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection			
01040	Copper, dissolved [as Cu]	1 - Effluent Gross	0	--	Sample									=	0.95	=	0.95	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
01049	Lead, dissolved [as Pb]	1 - Effluent Gross	0	--	Sample															
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI										B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection			
34230	Benzo[b]fluoranthene	1 - Effluent Gross	0	--	Sample															
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS

					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34242	Benzo[k]fluoranthene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34247	Benzo[a]pyrene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34320	Chrysene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34403	Indeno[1,2,3-cd]pyrene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34526	Benzo[a]anthracene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34556	Dibenz[a,h]anthracene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
39032	Pentachlorophenol	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample								=	3.06	=	3.06	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
39100	Di[2-ethylhexyl] phthalate [DEHP]	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
					Sample																
39120	Benzidine	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
39380	Dieldrin	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample								=	0.0000002	=	0.0000002	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
39516	Polychlorinated biphenyls [PCBs]	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
					Sample								=	733	=	733	3Z - CFU/100mL		03/PT - Three Per Permit Term	GR - GRAB	
51040	E. coli	1 - Effluent Gross	0	--	Permit Req.									Req Mon DA GEOAV		Req Mon DAILY MX	3Z - CFU/100mL		03/PT - Three Per Permit Term	GR - GRAB	
					Value NODI																
					Sample								=	225	=	225	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
70295	Solids, total dissolved	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
					Sample								=	2.91	=	2.91	17 - pCi/L		03/PT - Three Per Permit Term	CP - COMPOS	
80029	Alpha gross radioactivity	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	17 - pCi/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
					Sample																
81302	Dibenzofuran	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
81607	Tetrahydrofuran	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Wet Season Sample Date: 09/27/2017. This data applies to the CMC. EPA has approved this process for CMC members that delegate authority to AMAFCA. DMR data applies to following permits: NMR04A001; NMR04A002; NMR04A003; NMR04A004; NMR04A006; NMR04A007; NMR04A008; NMR04A010; NMR04A013; NMR04A015 and NMR04A016.

Attachments

No attachments.

Report Last Saved By

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY (AMAFCA)

User:	SGANLEYBHI
Name:	Sarah Ganley
E-Mail:	sganley@bhinc.com
Date/Time:	2018-03-29 10:02 (Time Zone: -05:00)

Report Last Signed By

User:	JLOVATO22
Name:	Jerry Lovato
E-Mail:	jlovato@amafca.org

Date/Time: 2018-10-05 13:59 (Time Zone: -05:00)

DMR Copy of Record

Permit					
Permit #:	**NMR04A016**	**Permittee:**	ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY (AMAFCA)	**Facility:**	ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL (AMAFCA)
Major:	No	**Permittee Address:**	2600 PROSPECT AVENUE NE ALBUQUERQUE, NM 87107	**Facility Location:**	2600 PROSPECT AVENUE NE ALBUQUERQUE, NM 87107
Permitted Feature:	002 External Outfall	**Discharge:**	**002-WA** RIO GRANDE (SOUTH) - WET SEASON		
Report Dates & Status					
Monitoring Period:	**From 07/01/17 to 10/31/17**	**DMR Due Date:**	**12/01/18**	**Status:**	**NetDMR Validated**
Considerations for Form Completion					
SEASONAL MONITORING PERIODS ARE: WET SEASON = JULY 1-OCT. 31 & DRY SEASON = NOV. 1-JUNE 30. SEPARATE DMRS REQUIRED FOR EACH SEASON. DMRS TO BE SUBMITTED DUE DEC. 1ST, FOLLOWING END OF MONIT. PERIOD. PERMIT REQUIRES A MIN. OF 7 EVENTS PER LOC. PER PERMIT TERM (3 WET SEASON, 2 DRY SEASON & 2 PERMITTEE'S CHOICE).					
Principal Executive Officer					
First Name:	Jerry	**Title:**	Executive Engineer	**Telephone:**	505-884-2215
Last Name:	Lovato				
No Data Indicator (NODI)					
Form NODI:	--				

Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading						Quality or Concentration						# of Ex.	Frequency of Analysis	Sample Type
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units		Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units		
00010	Temperature, water deg. centigrade	1 - Effluent Gross	0	--	Sample							=	15.2	=	15.2	=	15.2	04 - deg C		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon DAILY MN		Req Mon DAILY AV		Req Mon DAILY MX	04 - deg C		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI															
00094	Conductivity	1 - Effluent Gross	0	--	Sample									=	192.2	=	192.2	11 - umho/cm		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	11 - umho/cm		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI															
00300	Oxygen, dissolved [DO]	1 - Effluent Gross	0	--	Sample							=	7.23	=	7.23			19 - mg/L		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon DAILY MN		Req Mon DAILY AV			19 - mg/L		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI															
00310	BOD, 5-day, 20 deg. C	1 - Effluent Gross	0	--	Sample									=	5	=	5	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00340	Oxygen demand, chem. [high level] [COD]	1 - Effluent Gross	0	--	Sample									=	36.2	=	36.2	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00400	pH	1 - Effluent Gross	0	--	Sample							=	7.92			=	7.92	12 - SU		03/PT - Three Per Permit Term	GR - GRAB
					Permit Req.								Req Mon MINIMUM				Req Mon MAXIMUM	12 - SU		03/PT - Three Per Permit Term	GR - GRAB
					Value NODI															
00530	Solids, total suspended	1 - Effluent Gross	0	--	Sample									=	810	=	810	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00556	Oil & Grease	1 - Effluent Gross	0	--	Sample															
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI										B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection			
00625	Nitrogen, Kjeldahl, total [as N]	1 - Effluent Gross	0	--	Sample									=	1.7	=	1.7	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00630	Nitrite + Nitrate total [as N]	1 - Effluent Gross	0	--	Sample									=	0.46	=	0.46	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00665	Phosphorus, total [as P]	1 - Effluent Gross	0	--	Sample									=	0.74	=	0.74	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
00666	Phosphorus, dissolved	1 - Effluent Gross	0	--	Sample									=	0.08	=	0.08	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
01032	Chromium, hexavalent [as Cr]	1 - Effluent Gross	0	--	Sample															
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI										B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection			
01040	Copper, dissolved [as Cu]	1 - Effluent Gross	0	--	Sample									=	0.98	=	0.98	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
01049	Lead, dissolved [as Pb]	1 - Effluent Gross	0	--	Sample									=	0.47	=	0.47	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS
					Value NODI															
34230	Benzo[b]fluoranthene	1 - Effluent Gross	0	--	Sample															
					Permit Req.										Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS

					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34242	Benzo[k]fluoranthene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34247	Benzo[a]pyrene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34320	Chrysene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34403	Indeno[1,2,3-cd]pyrene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34526	Benzo[a]anthracene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
34556	Dibenz[a,h]anthracene	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
39032	Pentachlorophenol	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
39100	Di[2-ethylhexyl] phthalate [DEHP]	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
39120	Benzidine	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
39380	Dieldrin	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample								=	0.000001	=	0.000001	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
39516	Polychlorinated biphenyls [PCBs]	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
					Sample								=	6131	=	6131	3Z - CFU/100mL		03/PT - Three Per Permit Term	GR - GRAB	
51040	E. coli	1 - Effluent Gross	0	--	Permit Req.									Req Mon DA GEOAV		Req Mon DAILY MX	3Z - CFU/100mL		03/PT - Three Per Permit Term	GR - GRAB	
					Value NODI																
					Sample								=	260	=	260	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
70295	Solids, total dissolved	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	19 - mg/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
					Sample								=	20.9	=	20.9	17 - pCi/L		03/PT - Three Per Permit Term	CP - COMPOS	
80029	Alpha gross radioactivity	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	17 - pCi/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI																
					Sample																
81302	Dibenzofuran	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					
					Sample																
81607	Tetrahydrofuran	1 - Effluent Gross	0	--	Permit Req.									Req Mon DAILY AV		Req Mon DAILY MX	28 - ug/L		03/PT - Three Per Permit Term	CP - COMPOS	
					Value NODI									B - Below Detection Limit/No Detection		B - Below Detection Limit/No Detection					

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Wet Season Sample Date: 09/28/2017. This data applies to the CMC. EPA has approved this process for CMC members that delegate authority to AMAFCA. DMR data applies to following permits: NMR04A001; NMR04A002; NMR04A003; NMR04A004; NMR04A006; NMR04A007; NMR04A008; NMR04A010; NMR04A013; NMR04A015 and NMR04A016.

Attachments

No attachments.

Report Last Saved By

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY (AMAFCA)

User:	SGANLEYBHI
Name:	Sarah Ganley
E-Mail:	sganley@bhinc.com
Date/Time:	2018-03-29 12:05 (Time Zone: -05:00)

Report Last Signed By

User:	JLOVATO22
Name:	Jerry Lovato
E-Mail:	jlovato@amafca.org

Date/Time: 2018-10-05 13:59 (Time Zone: -05:00)