Message

From: Tong-Argao, Sania [Tong-Argao.Sania@epa.gov]
Sent: 6/28/2017 4:18:16 PM
To: Johnson, Chris [chris.johnson@ncdenr.gov]; Strynar, Mark [Strynar.Mark@epa.gov]
CC: Medina-Vera, Myriam [Medina-Vera.Myriam@epa.gov]; Buckley, Timothy [Buckley.Timothy@epa.gov]; Satterwhite, Dana [dana.satterwhite@ncdenr.gov]; Huffman, David J [david.huffman@ncdenr.gov]; Karoly, Cyndi [cyndi.karoly@ncdenr.gov]; Culpepper, Linda [linda.culpepper@ncdenr.gov]
Subject: RE: Discussion for sampling and analysis in Wilmington & Fayetteville

Hi Chris,

Thank you for sharing your field sampling SOP with us. Mark will be able to reference it in his QAPP. No problem about not having a project plan associated with the project. For any modifications made to the field sampling SOP (e.g., the augmentation that you may be doing based on what Andrew Lindstrom sent), just be sure to document those changes so it's clear how samples were collected.

A point of clarification, Mark will be writing a QAPP as per EPA policy using the Decatur, Alabama document as reference. I spoke with him this morning about it. I am not expecting a QAPP from NC DEQ. A QA project plan is documentation of a study's plan. Since sample collection has already commenced, what would be helpful to Mark would be documentation of the 'what' and 'how' of sample collection by NC DEQ. Any information that may speak to what samples were collected and how they were collected, sample integrity, site characteristics that may affect the samples, chain-of-custody procedures, etc. can be included. This isn't a QAPP, but documentation about the sample collection portion of the project that may or may not have an effect on sample analysis or sample analysis outcomes. I hope this clarification helps so there is no unnecessary duplication of efforts.

Thanks,
Sania
(919) 541-1397

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]
Sent: Wednesday, June 28, 2017 10:39 AM
To: Tong-Argao, Sania <Tong-Argao.Sania@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>
Cc: Medina-Vera, Myriam <Medina-Vera.Myriam@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Satterwhite, Dana <dana.satterwhite@ncdenr.gov>; Huffman, David J <david.huffman@ncdenr.gov>; Karoly, Cyndi <cyndi.karoly@ncdenr.gov>; Culpepper, Linda <linda.culpepper@ncdenr.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington & Fayetteville

The most recent field sampling SOP is attached. This is the basis for field sampling activities in the Intensive Survey Branch. We are augmenting with information in the documentation provided by Andrew Lindstrom. There is no project plan associated with this work to my knowledge. If someone in the Division office has access to this sort of documentation, perhaps Linda could provide information in that regard.

We are preparing to create a QAPP based on the Georgia document discussed during our conference call yesterday. I imagine that Mark is in transit back from the Athens lab and can provide info when he gets opportunity.

Thank you.

Chris Johnson
NC DEQ-DWR
Water Sciences Section

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From: Tong-Argao, Sania [mailto:Tong-Argao.Sania@epa.gov]
Sent: Tuesday, June 27, 2017 3:29 PM
To: Johnson, Chris <chris.johnson@ncdenr.gov>; Strynar, Mark <Strynar.Mark@epa.gov>
Cc: Medina-Vera, Myriam <Medina-Vera.Myriam@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Satterwhite, Dana <dana.satterwhite@ncdenr.gov>; Huffman, David J <david.huffman@ncdenr.gov>; Karoly, Cyndi <cyndi.karoly@ncdenr.gov>; Culpepper, Linda <linda.culpepper@ncdenr.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington & Fayetteville

Hello Chris - Thank you for your reply and thanks to Linda for the supplied information as well. Due the nature of this project having the urgent need to collect samples immediately and in a short timeframe, it is understood that a formal QA project plan will be developed as soon as practical. I will be helping Mark with this, and he will incorporate the fact that NC DEQ has an existing SOP that is being used for sample collection. A copy of the NC DEQ SOP used for sample collection will be appreciated when it's available. Can you provide the title of the SOP so that Mark can reference it? Also, although you don't have a formal project plan for this project, is there any project plan that you are following (even if it's not specific to this particular project)? If so, a reference (e.g., title and approval date) and copy of it would be great. Other than that, I believe Mark has the info needed for development of the QA documentation on EPA's end.

Mark – As discussed, we'll meet tomorrow to work on the QA planning documentation for this project. We should be able to walk through the QAPP elements and get something together so that you can move forward with the sample analyses in a timely manner.

Thanks,
Sania
541-1397

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]
Sent: Monday, June 26, 2017 2:03 PM
To: Tong-Argao, Sania <Tong-Argao.Sania@epa.gov>
Cc: Strynar, Mark <Strynar.Mark@epa.gov>; Medina-Vera, Myriam <Medina-Vera.Myriam@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Satterwhite, Dana <dana.satterwhite@ncdenr.gov>; Huffman, David J <david.huffman@ncdenr.gov>; Karoly, Cyndi <cyndi.karoly@ncdenr.gov>; Culpepper, Linda <linda.culpepper@ncdenr.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington & Fayetteville

Sania, I am forwarding responses from Linda Culpepper below (in red) that will hopefully be of aid to Mark.

We do not have a formal project plan for this project. Our existing SOPs are used during our sampling events. I forwarded a copy of the EPA sampling plan, sent to me last week by Andrew Lindstrom, to the two regional offices when the EPA sampling kits were delivered. I also forwarded your bullet points regarding information to be included on the field sheets. The regional samplers were asked to follow the EPA plan as closely as possible during weeks two and three. We are putting together an outline of our sampling protocol at this time. David Huffman, the QA officer in the Water Quality Section is helping put this together and it will be forwarded to you when complete. We hope that this can suffice as an addendum to the existing QAPP for your laboratory. If insufficient, we can craft formal documentation based on these notes. If that is needed, it would be helpful to see the format that EPA uses for QAPPs. Our existing sampling SOP is many years old and is currently being updated by the new WQ QA officer. The procedure is unchanged in essence, but equipment brands, etc., are being edited and the SOP is currently in preliminary draft form.

If I've misunderstood any of your questions or haven't addressed them to your satisfaction, let me know and I will work on them further.

It was a pleasure to meet all of you on Friday and I hope to get back to the facility when there is less urgency of timing than was the case that day.

Chris Johnson
NC DEQ-DWR
Water Sciences Section

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From: Tong-Argao, Sania [mailto:Tong-Argao.Sania@epa.gov]
Sent: Friday, June 23, 2017 2:11 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>; Johnson, Chris <chris.johnson@ncdenr.gov>
Cc: Medina-Vera, Myriam <Medina-Vera.Myriam@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

Hello Mark and Chris,

Thank you for bringing this to my attention and for reaching out to make sure that proper QA documentation is in place. Please see below for my thoughts and follow up questions.

- I agree with Mark that it's important to include the quality control (QC) samples such as trip blanks and spikes whenever possible.

- **Question from Chris**: *Mark, can you tell me about the requirement related to the QAPP? Is this something that needs to be "customized" for the particular project or is it a copy of our standard sampling procedure? Does EPA need a copy of the QAPP before testing begins?*

  Sania's reply: I understand that the NC DEQ is responsible for sample collection whereas EPA is responsible for sample analysis.

  Chris - *Can you please confirm that the 'standard sampling procedure' will be the standard operating procedure (SOP) used to collect samples? Also, is there a separate QAPP that outlines the other aspects of the particulars of this project (e.g., the who, what, when, where, and why of the project)? Please do send copy of both the NC DEQ standard sampling procedure as well as QAPP so that we may have a copy of the documentation that reflects the QA plan for the sample collection portion of the project.*

  Note that the EPA requirement for QA project plans (QAPPs) is to have an approved QAPP in place prior to the start of sample collection and/or sample analysis. QAPPs are project specific so that the who, what, when, where, why, and how of a project can be documented as the plan to follow for a particular project. This doesn't mean that things won't or can't change. The key is to document the plan prior to the start of the project via an approved QAPP and to be sure to document any changes to the plan during the project.

  In this case, the scope of EPA's work is with the sample analysis only. It is understood that NC DEQ is responsible for the sample collection and that NC DEQ has their own SOP and QAPP associated with the project (to be confirmed after receipt of these documents). *To help ensure QA documentation is complete on EPA's side of the house, I recommend an addendum to Mark's existing QAPP.* As Mark stated, the NC DEQ standard sampling procedure as well as existing QAPP can be referenced, and any detail that is unique to this project can also be outlined in the addendum for sample analysis such as reference to the specific analysis SOPs to be used.

  Mark - To give you an idea of what info to include in the addendum, below is a brief list. Please let me know if you'd like to discuss what to include.

Why (Project Background) – Why is this project being conducted? Basically, what's the issue at hand and what do you want to accomplish (i.e., project goals/objectives)?

Project is being conducted to determine current values for GenX and related constituents in the Cape Fear River Basin sampling points as follow up to replicate analysis conducted by Sun et. al. reported in 2016 with Dr. Knappe and Mark Strynar. Sampling and analysis conducted in 2013-2014 indicated the presence of GenX thought to be released by the Chemours chemical manufacturing plant in Fayetteville, NC along with several other constituents. NC Department of Health and Human Services is in need of current data on the level of GenX in the river basin and drinking water systems downstream to evaluate human exposure in regard to health screening level(s) for public consumption. Information on additional ether constituents will be used to compare past levels with current concentrations as health studies continue to be evaluated.

What/When/Where (Project Description) - Summarize work to be performed and expected products. What is the project schedule? Where are samples going to be collected, what types of samples are going to be collected, and how many samples do you plan to collect? You will want to specify NC DEQ's specific role and EPA's specific role in the project (i.e., EPA is receiving samples from NC DEQ who will follow their own protocols and QA plans.).

North Carolina Division of Water Resources staff in the Fayetteville and Wilmington Regional Offices will conduct water sampling in accordance with QAPP at locations in the Cape Fear River basin at: Chemours outfall 002; Bladen Bluff - water intake, finished water, and well; Lower Cape Fear Water and Sewer Authority intake; International Paper intake; International Paper finished water; Cape Fear Public Utility Authority finished water; Pender County public utility finished water; Brunswick County public utility finished water; Cape Fear Public Utility Aquifer Storage and Recovery well; and Wrightsville Beach water supply well.

Two grab samples will be collection on Mondays at each of the Fayetteville locations and on Thursdays at each the Wilmington locations during each of the three weeks beginning June 19, June 26 and July 3, 2017 to determine current concentrations of GenX and related ether chemicals in the River basin. One set of samples will be shipped to Test America in Colorado for GenX analysis, and one set of samples will be delivered to the EPA ORD lab in RTP, NC for GenX and related compounds analysis to replicate analysis conducted in the Sun et al. report which included Dr. Knappe and Mark Strynar. Data will be used by the Department of Health and Human Services to evaluate human exposure in comparison to health screening level(s) for GenX and other related compounds as health study information is available. EPA ORD will follow their own protocols and QA plans.

How (Sampling Methods/Sample Handling & Custody/Analytical Methods/Data Management) – Reference relevant SOPs.

Hope this helps,
Sania
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Sania W. Tong Argao
Quality Assurance Manager
Exposure Methods & Measurement Division (EMMD)
National Exposure Research Laboratory
U.S. EPA - Office of Research & Development

109 T.W. Alexander Drive, MD: E205-01
Research Triangle Park, NC 27711
Phone: (919) 541-1397 Fax: (919) 541-0239
E-mail: Tong-Argao.Sania@epa.gov
~~~~~~

From: Strynar, Mark
Sent: Friday, June 23, 2017 7:08 AM
To: Johnson, Chris <chris.johnson@ncdenr.gov>
Cc: Tong-Argao, Sania <Tong-Argao.Sania@epa.gov>; Medina-Vera, Myriam <Medina-Vera.Myriam@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

Chris,

I will let our QA staff answer that question for you. We have a QAPP that covers lab analysis. Also we have analysis SOPs referenced in our QAPP. I believe they would like to reference your QAPP, perhaps generic, and sampling SOP in our QAPP if it exists.

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]
Sent: Thursday, June 22, 2017 9:47 AM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

Mark, can you tell me about the requirement related to the QAPP? Is this something that needs to be "customized" for the particular project or is it a copy of our standard sampling procedure? Does EPA need a copy of the QAPP before testing begins? Etc…

Chris Johnson
NC DEQ-DWR
Water Sciences Section

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From: Strynar, Mark [mailto:Strynar.Mark@epa.gov]
Sent: Thursday, June 22, 2017 9:24 AM
To: Johnson, Chris <chris.johnson@ncdenr.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Cc: Karoly, Cyndi <cyndi.karoly@ncdenr.gov>; Culpepper, Linda <linda.culpepper@ncdenr.gov>; Satterwhite, Dana <dana.satterwhite@ncdenr.gov>; Brantley, Mark <mark.brantley@ncdenr.gov>; West, Steve <steve.west@ncdenr.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

Okay. My cell is Ex. 6 Personal Privacy (PP) if you have any issues. I get in at 7 AM. Can we shoot for 9 AM in case I do not get finished prepping today.

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]
Sent: Thursday, June 22, 2017 9:21 AM
To: Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Cc: Karoly, Cyndi <cyndi.karoly@ncdenr.gov>; Culpepper, Linda <linda.culpepper@ncdenr.gov>; Satterwhite, Dana <dana.satterwhite@ncdenr.gov>; Brantley, Mark <mark.brantley@ncdenr.gov>; West, Steve <steve.west@ncdenr.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

I would like to come as early as possible in order to get the kits to Fayetteville. Perhaps before lunch if possible.

Chris Johnson
NC DEQ-DWR
Water Sciences Section

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From: Strynar, Mark [mailto:Strynar.Mark@epa.gov]
Sent: Thursday, June 22, 2017 9:16 AM
To: Johnson, Chris <chris.johnson@ncdenr.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Cc: Karoly, Cyndi <cyndi.karoly@ncdenr.gov>; Culpepper, Linda <linda.culpepper@ncdenr.gov>; Satterwhite, Dana <dana.satterwhite@ncdenr.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

Chris,

I am working to get this done today. Let me know when you will be available to come and get sample container tomorrow.

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]
Sent: Thursday, June 22, 2017 8:25 AM
To: Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Cc: Karoly, Cyndi <cyndi.karoly@ncdenr.gov>; Culpepper, Linda <linda.culpepper@ncdenr.gov>; Satterwhite, Dana <dana.satterwhite@ncdenr.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

Thanks for the reply, Mark.

I received word from the Wilmington RO and it looks like they will need 16 bottles to finish out their projected sampling. I haven't heard from the Fayetteville office, but based on what we've received from then for the first sampling event, I would think they need approximately 12 bottles to finish up. This is all based on the sampling being done this week.

Given the tight time frame for next week's sampling, we will probably need to drive the sample kits down to Fayetteville tomorrow afternoon if possible. I would also like to deliver the first set to you if we receive Wilmington's set in time. Either way, if there is any way we can have the sample kits ready tomorrow I would have time to get them to the samplers.

Thanks once again for your help on this project.

Chris Johnson
NC DEQ-DWR
Water Sciences Section

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From: Strynar, Mark [mailto:Strynar.Mark@epa.gov]
Sent: Thursday, June 22, 2017 6:50 AM
To: Johnson, Chris <chris.johnson@ncdenr.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

One change Chris. I had wishful thinking. I am actually working on Friday and am not off. I will be here.

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]
Sent: Wednesday, June 21, 2017 4:39 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

I will find out the number. Let me contact the regional folks. Thank you.

Chris Johnson
NC DEQ-DWR
Water Sciences Section

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From: Strynar, Mark [mailto:Strynar.Mark@epa.gov]
Sent: Wednesday, June 21, 2017 4:09 PM
To: Johnson, Chris <chris.johnson@ncdenr.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

I am off Friday but we could have them prepared for your visit to pick up. How many sample bottles do you need? We typically replicate sample 10% of the samples and have a trip blank and a high and low trip spike as well.

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]
Sent: Wednesday, June 21, 2017 1:53 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

It may be better if you could supply this material. Based on our conversation, the 1L bottles are preferable and we don't carry that size. Can we pick them up when we bring the first delivery? We may be able to get over there on Friday if that works with your schedules.

Chris Johnson
NC DEQ-DWR
Water Sciences Section

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From: Strynar, Mark [mailto:Strynar.Mark@epa.gov]
Sent: Wednesday, June 21, 2017 1:50 PM
To: Johnson, Chris <chris.johnson@ncdenr.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

We could provide sample bottles if they are needed. In addition we have always included trip blanks and spikes with our assays for QA/QC purposes. We should strongly consider doing so in any future sampling efforts.

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]
Sent: Wednesday, June 21, 2017 11:45 AM
To: Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Cc: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

Good morning. Wondering if you could clarify a question from the conference call yesterday. Will your laboratory be providing sample bottles and preservative for future sampling events? Also, I see from your 2009 SOP that blanks and spikes were mandated for the coolers. If you require those, will they be provided? We aren't able to make the spikes since they can't be confirmed by analysis.

Thanks for your help.

Chris Johnson
NC DEQ-DWR
Water Sciences Section

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From: Lindstrom, Andrew [mailto:Lindstrom.Andrew@epa.gov]
Sent: Wednesday, June 21, 2017 8:04 AM
To: Johnson, Chris <chris.johnson@ncdenr.gov>
Cc: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

Chris,

Great.

Please let me know if I can help in any way as we proceed with this project.

We're very grateful for your help with coordinating this effort.

Thank you very much,

Andy

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]
Sent: Tuesday, June 20, 2017 3:39 PM
To: Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

Received. Thank you.

Chris Johnson
NC DEQ-DWR
Water Sciences Section

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From: Lindstrom, Andrew [mailto:Lindstrom.Andrew@epa.gov]
Sent: Tuesday, June 20, 2017 2:57 PM
To: Buckley, Timothy <Buckley.Timothy@epa.gov>; Johnson, Chris <chris.johnson@ncdenr.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Medina-Vera, Myriam <Medina-Vera.Myriam@epa.gov>; Karoly, Cyndi <cyndi.karoly@ncdenr.gov>; Culpepper, Linda <linda.culpepper@ncdenr.gov>
Cc: Jones, Nick <nick.jones@ncdenr.gov>; Perez, Helen I <helen.perez@ncdenr.gov>; Satterwhite, Dana <dana.satterwhite@ncdenr.gov>
Subject: RE: Discussion for sampling and analysis in Wilmington

All,

I've attached a copy of the field collection protocol that we have been using for PFAS compounds including GenX.

The shipping address and storage conditions are specified on page 6.

Please let us know if you have any questions.

Thank you very much,

Andy

-----Original Appointment-----
From: Buckley, Timothy
Sent: Tuesday, June 20, 2017 1:20 PM
To: chris.johnson@ncdenr.gov; Allenbach, Becky; Strynar, Mark; Medina-Vera, Myriam; cyndi.karoly@ncdenr.gov; linda.culpepper@ncdenr.gov
Cc: Lindstrom, Andrew; Jones, Nick; Perez, Helen I; Satterwhite, Dana
Subject: Discussion for sampling and analysis in Wilmington
When: Tuesday, June 20, 2017 2:00 PM-2:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Teleconference: Call in: 1 866 299 3188; Code: 9195412454

Thank you all for making time for this discussion. I know that there is a lot of pressure to move quickly on this project. ORD/NERL is happy to provide analytical support. To guide our involvement/effort, I am hoping that collectively we can provide answers to the following questions.

1. What question are we attempting to address with this sampling effort?
2. What is the sampling design?
3. What is the status and timeline of the QAPP?
4. Given split sample analysis (contract lab and NERL lab), how will differences in reported concentrations be managed?
5. What is the plan for communicating results and who has the lead?
6. What is the project timeline?
7. Do we need on-going coordination meetings?