Rodriguez, Krystal (ECY)

From: Mindy Graddon <MGraddon@soundearthinc.com>
Sent: Wednesday, December 22, 2021 10:56 AM
To: Rodriguez, Krystal (ECY)
Cc: Chris Carter
Subject: RE: Castle & Cooke Aviation cleanup (ERTS 708791)
Attachments: Re: Soil Data questions; KClark Memo.pdf

Krystal,

Thank you for your email. We were able to confer with our laboratory that performed the analysis and the analytical method/process accounts for the lighter carbons. Friedman & Bruya explains this in the attached email and they also prepared the attached memo for another similar project. We recommend you contact Ecology's lab (Manchester) to provide better clarification on why the NWTPH-Dx analytical method is adequate for the known fuel type that was spilled. As for the potential for benzene, we have requested confirmation from the jet fuel supplier that the fuel used at the Castle and Cooke facility during the spill did not contain benzene. We will send you the documentation when we receive it. Let us know if the response from our lab will suffice to address Ecology's concerns with the analytical methods used.

Thanks,

Mindy Graddon, LG, PMP
Associate Geologist
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Seattle, WA 98102
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From: Rodriguez, Krystal (ECY) <krod461@ECY.WA.GOV>
Sent: Wednesday, December 8, 2021 10:08 AM
To: Mindy Graddon <MGraddon@soundearthinc.com>
Subject: RE: Castle & Cooke Aviation cleanup (ERTS 708791)

Hi Mindy,

I apologize for taking so long to get back to you about the requirements for analyzing soil samples at Castle & Cooke Aviation Property. As I explained on the phone, I had a family emergency that took me out of the office soon after we last spoke and for quite a bit of November.

To recap, at the end of October I contacted you about lab analysis conducted on soil samples because the soil samples collected during excavation activities had been analyzed for diesel-range organics but not gasoline-range. Jet A fuel is a middle distillate that carries some lighter hydrocarbon chains similar to gasoline (see page 94 of Ecology's Petroleum Guidance). Unless you can prove the absence of

shorter-than-C_{10} hydrocarbon chains through documentation of the actual product released, soil samples must be analyzed for gas-range organics either qualitatively or quantitatively to prove a successful cleanup (per MTCA Table 830-1). If GRO are present, a lab must analyze confirmation soil samples quantitatively for BTEX and GRO compounds not covered by NWTPH-Dx. The Castle & Cooke Aviation Property is not currently eligible for a no further action recommendation, because the GRO data is missing.

I understand there's been a change of ownership on this property so I hope you can work with the former and current owner to collect this additional information. The bulk of the work has been done; we just need the last 1% to close this out. With a No Further Action at the Initial Investigation stage of MTCA, the site can remain off Ecology's contaminated sites.

Please let me know how you SoundEarth will move forward and if you have any questions.

Krystal

From: Rodriguez, Krystal (ECY)
Sent: Monday, October 25, 2021 4:40 PM
To: 'Mindy Graddon' <MGraddon@soundearthinc.com>
Subject: Castle & Cooke Aviation cleanup (ERTS 708791)

Hi Mindy,

I just left you a message. I'd like to speak with you about doing a bit more sampling on the Castle & Cooke Aviation property in order to aim for a no further action determination. Ecology recommends having soil samples analyzed for all ranges of petroleum hydrocarbons and BTEX, which doesn't appear to have been done.

Let me know when you have time to talk this week.

Krystal

DEPARTMENT OF ECOLOGY
State of Washington

Krystal Rodriguez | Toxics Cleanup Program | Department of Ecology
UST Inspector/Initial Investigator/SHA Ranking Specialist
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To request copies of Ecology records, visit the Public Records Request Center.

Attention: All of Ecology's offices are closed to walk-in service; however, I can be reached by email or phone.

From: Michael Erdahl
To: Mindy Graddon
Cc: Chris Carter
Subject: Re: Soil Data questions
Date: Thursday, December 9, 2021 8:24:23 AM
Attachments: image001.jpg
KClark Memo.pdf

Good morning Mindy,

These chromatograms are consistent with the most common jet fuel, Jet A, a middle distillate. NWTPH-Dx is the proper method to analyze for that material.

To answer your question—The samples with NWTPH-Dx detections will have corresponding smaller NWTPH-Gx detections associated with them. However, all middle distillates (such as diesel and heating oil) will also have gasoline range detections to fuel boiling range overlap.

This is the key to the path you are going down: It would actually be incorrect to run for gasoline and add that concentration to the NWTPH-Dx concentrations. It would be biasing the concentrations high by adding the two products together. The reason is that the calibrations labs run for Dx exclude the earliest (gasoline range) boiling compounds, but still are calculated as the total concentration of the created standard. Therefore, calibrations (and all of the subsequent sample calculations) are, in essence, a ratio calibration including about 90% of the material and extrapolating it out as 100%. To suddenly add the gasoline range compounds would add an additional 10%, making the total concentration 110% of the actual concentration at the site.

I've coordinated with the DOE reps through their Manchester lab with this very issue. I've attached a memo I drafted for one project in question to give you a little more background. Feel free to steal the text from the memo to add to your report or ask me for any further clarification.

Michael Erdahl
Senior Project Manager
Friedman and Bruya
(206) 285-8282 x 247
(206) 446-5926 (cell)

From: Mindy Graddon
Sent: Wednesday, December 8, 2021 10:49 AM
To: Michael Erdahl

Cc: Chris Carter
Subject: Soil Data questions

Hi Mike,

I have an obscure question. The attached data is for soil samples we collected from a remedial excavation of a jet fuel spill. Do you have any background laboratory information or review from the chromatograms that indicates if there is any gasoline range concentrations in these samples? Or would a sample need to be collected to obtain any GRPH information?

Thank you for any help you can provide in the next week or so.

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August 28, 2013

Department of Ecology

RE: Project

Dear M:

The question of how to report the NWTPH-Dx results has arisen at this site in particular due to several different types of fuel contaminants. The primary intent of the NWTPH-Dx method is to identify and quantitate the samples against the correct fuel product. To facilitate this, the consultant will note the suspected contaminant of concern for each sampling point on the submitted chain of custody.
Friedman and Bruya, Inc. will analyze the sample against that standard as well as the method default of diesel no.2 and motor oil.

For contaminants that are identifiable by the laboratory, i.e. heating oil, motor oils, or fuel oil no. 6, F&BI will quantitate the sample against the appropriate standard. To assist in the identification of petroleum products, F&BI maintains a large fuel fingerprint library and will also analyze daily standards of diesel no. 2, motor oil, and fuel oil no. 6.

For contaminants not easily identified, diesel and motor oil ranges will be quantitated and reported with a qualifier indicating it does not resemble the fuel standard used for calibration. In this situation, the two ranges should be added together to calculate the total TPH value for that sample.

In addition, a range that is affected by overlap from a high concentration from another range will be qualified as not being indicative of the fuel standard, i.e. a residual range detection caused by an elevated heating oil concentration. This will prevent a concentration from being double counted and biasing results incorrectly high.

These are the techniques used by Manchester Environmental Laboratory to most precisely quantitate the concentration of fuel contaminated sample.

Alternatively, F&BI can report the compounds as quantified in each carbon range as defined by the laboratory, but this could potentially overestimate concentrations for

products that are prone to overlapping into other ranges as described above.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Senior Project Manager
Friedman and Bruya, Inc.

Enclosures
c: Steve Germiat, Mingta Lin