

Cossaboom, Carey C POA

From: Brownlee, Jeff [Jeff_Brownlee@dec.state.ak.us]
Sent: Friday, February 17, 2006 5:04 PM
To: Cossaboom, Carey C POA
Subject: FW: Comments on NE Cape Hydrocarbons
Importance: High

Hi Carey,

Here are some informal comments from our chemist on the Dr. Wang report. Let me know if you have any other questions.

Jeff

-----Original Message-----

From: Crapps, Earl
Sent: Friday, February 17, 2006 4:59 PM
To: Brownlee, Jeff
Subject: Comments on NE Cape Hydrocarbons
Importance: High

Following are my comments on the submitted paper by Zhendi Wang regarding the Northeast Cape Hydrocarbons.

The information presented is the standard scientific process or methods for forensic petroleum chemistry. I agree that non-specific (screening) methods were used for the most part and that the GC program was quick, thus co-eluting/unresolved compounds. However, the screening methods are sufficient for the intended purpose. A source identification through the utilization of the tiered specific methods is not necessary, as the spill source (diesel) and RP is known. Rather, the determination being made is whether the results are due to weathered diesel or to naturally occurring biogenics. This determination can be made based on chromatographic fingerprint recognition and comparison with the chromatographic pattern of the background samples. In fact, the laboratory identifies weathered diesel in one of the submitted sediment samples (29SD106 04NE29SD106) and the bell shaped pattern of a heavily weathered diesel fuel is readily apparent eluting between approximately 0.6 and 0.95 minutes. The compounds eluting after 1 minute are RRO and therefore not of concern, since none of the results are above cleanup levels. The post 1 minute patterns match that of naturally occurring biogenics as well as that of the background samples. As such, we do not agree with the statement that "the majority of the hydrocarbons in the sediment samples are petrogenic hydrocarbons." Rather, we agree with the laboratory interpretation that the hydrocarbons are naturally occurring biogenics. Additionally, from the Excel spreadsheet, it appears that BTEX, PAH, and GC/MS analyses with TICs were performed on the samples. Per his comment (4), this data was not provided to Mr. Wang. However, if interested it could be provided to him.

Again, we do not feel that the forensic "source identification" is necessary or applicable for the required site decision. The question is not one of source or RP identification, nor the amount of weathering that has occurred. The non-specific screening data submitted is sufficient to make a qualitative determination on the nature of the contamination, whether weathered petroleum fuel (diesel) is present or if the results are due primarily to naturally occurring biogenics.

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