

Cossaboom, Carey C POA

From: Geist, Lisa K POA
Sent: Thursday, February 02, 2006 11:00 AM
To: 'Rjscrudato@aol.com'; Cossaboom, Carey C POA
Cc: Jeff_Brownlee@dec.state.ak.us; chiarejr@potdams.edu
Subject: RE: NEC Phase IV Biogenic

Ron –

The simple answer to your question is there are no cleanup levels for *sediment* promulgated by the ADEC. The state has published a Technical Memorandum on Sediment Quality Guidelines (SQGs) (March 2004) to be used in screening sediment data, but these numbers are not equivalent to cleanup values, and they are not available for the petroleum fractions (e.g. DRO, GRO, RRO). Thus, we look at petroleum constituents such as BTEX and PAHs to evaluate the degree of contamination and the need for cleanup. The memo states: "SQGs should be utilized as a first tier screening for sediment evaluation at contaminated sites." There are many different sediment screening numbers that have been published over the years, and the state's memo recommends using a hierarchy of values starting with Threshold Effects Levels (TEL) and Probable Effects Levels (PEL) contained in the NOAA Screening Quick Reference Tables (SQuiRT). The memo concludes that a weight of evidence approach is recommended for final, site specific decisions in regards to sediment contamination. Note that the risk assessment did conduct a first tier screening using available reference values for sediment. A second tier analysis was also conducted which looked at risk to higher level receptors and it did not indicate any potential ecological risks at Site 29.

In the Phase IV report, as noted in the footnotes of that Table, the ADEC's default *soil* cleanup levels were used for comparison purposes with the sediment results. The five samples which contained estimated levels of DRO above the screening level were interpreted as biogenic. However, the sixth sample had an estimated concentration of DRO that was below the screening/cleanup level even though it was attributed to diesel. Perhaps a more accurate statement would have been, the DRO concentrations which exceeded the ADEC screening level of 250 mg/kg were attributed to biogenic compounds.

My point at the RAB meeting was, even if we made the assumption all the DRO (C10-C25) measured using the AK102 method was considered petrogenic, the levels in the Suqi River do not pose a significant risk to human health or the environment. The risk assessment did not differentiate between biogenic/petrogenic compounds. In contrast, we know there are much higher levels of contamination in the Drainage Basin, close to the Main Complex which exceed default *soil* cleanup levels and may pose a risk to human health or the environment.

I understand your concern regarding the inadequacy of sampling at Site 29.

Hope this helps.

--Lisa

From: Rjscrudato@aol.com [mailto:Rjscrudato@aol.com]
Sent: Wednesday, February 01, 2006 7:43 AM
To: Cossaboom, Carey C POA
Cc: Geist, Lisa K POA; Jeff_Brownlee@dec.state.ak.us; chiarejr@potdams.edu
Subject: NEC Phase IV Biogenic

Carey/Lisa:

I went back to the Phase IV NEC RI Report and in Section 5.1.5 it states:

"Analytical Results

2/10/2006

200-1f
 F10AK096903_03.01_0061_a

Table 5-14b summarizes the Site 29 sediment sample analytical results, and Table 5-14c summarizes the Site 29 water sample analytical results.

Sample 29SD105 contained 0.452 mg/Kg Aroclor 1260, a PCB. No other sediment samples contained detectable concentrations of PCBs. Five of the six sediment samples contained DRO at concentrations greater than the cleanup criterion. The DRO concentrations were attributed to biogenic compounds."

What are the cleanup levels for DRO in Site 29 and if doesn't matter whether the DRO is of biogen or petrogenic origin, why was the DRO incorrectly characterized as biogenic and not petrogenic??

We are equally concerned that the sampling of Site 29 was totally inadequate to asses the lateral and vertical distribution and concentrations of hydrocarbons in Site 29.

A
RonS