From: Malcolm Field
To: Nancy Rumrill
Cc: David Albright; Robert Whittier
Subject: Re: Fw: SRB at Seep 3
Date: 03/09/2012 10:39 AM

Hi,

The scans appear to show that SRB may be finally arriving. Particularly, revealing are the apparent increases with time (e.g., Seep 3 on Feb. 10 and on Feb 20). However, the concentrations are so low and only two recoveries so far so we don't want to get too excited yet. I'll feel much better if concentrations continue to rise to stronger levels and, of course, if we eventually see a true breakthrough curve shape.

Cheers,

Malcolm

▼ Nancy Rumrill---03/09/2012 12:30:36 PM--- Nancy

From: Nancy Rumrill/R9/USEPA/US
To: Malcolm Field/DC/USEPA/US@EPA
Cc: David Albright/R9/USEPA/US@EPA
Date: 03/09/2012 12:30 PM
Subject: Fw: SRB at Seep 3

Nancy

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Nancy Rumrill
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U.S. Environmental Protection Agency, Region 9
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----- Forwarded by Nancy Rumrill/R9/USEPA/US on 03/09/2012 09:30 AM -----

From: Robert Whittier <whittier@hawaii.edu>
To: Nancy Rumrill/R9/USEPA/US@EPA
Date: 03/09/2012 01:13 AM
Subject: SRB at Seep 3

Nancy,

As I stated in the voice mail, we may be seeing rhodamine at Seep 3 in the south seep group. The concentration is very low, about 0.04 ppb. I did a

syncronous scan and compared seep samples with some MDL samples I had prepared to evaluate the presence of rhodamine. The graph shows the fluorescence intensity at various exitation wavelengths. The emission wavelength is 20 nm greater than the excitation wavelength. Here is a brief explanation of each trace:

- Seep 5_2/20/12 is the scan of a sample collected at Seep 5 in the south seep group. This sample appears to have no dye.
- Seep 3_2/10/12 is the scan of a sample collected at Seep 3. This sample does appear to have dye at a concentration greater than 0.02 ppb.
- Seep 3_2/20/12 appears to have the highest dye concentration at about 0.04 ppb.
- Seep wtr_no-dye is a composite of seep samples collected prior to the rhodamine injection. No dye was added to this sample.
- seep wtr_0.01ppb SRB is a MDL sample where a pre-dye injection seep water composite was tagged to a rhodamine concentration of 0.01 ppb.
- seep wtr_0.02ppb SRB is a MDL sample where a pre-dye injection seep water composite was tagged to a rhodamine concentration of 0.02 ppb.

The falling limb of the fluorescein peak interferes with the low level rhodamine peaks, but at concentrations of 0.02 ppb and higher it appears that the rhodamine signal can be picked up. Please share this with Malcom to get his take.

Thanks,
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{attachment: "syns - Scan_3-7- 12.pdf" deleted by Malcolm Field/DC/USEPA/US}