Fw: did we get the oil sample, and can we measure its viscosity for Marcia?

Judy J Nowakowski to Marcia K McNutt 06/01/2010 06:07 PM

Marcia,

USGS doesn't have the capability to measure the viscosity in-house. We could contract it out, but don't know how long that would take. Please let me know if you want us to pursue that.

Also, there was a glitch in getting the crude sample. We gave BP the wrong delivery address. They have the correct address now so I assume the sample is on the way.

Put that in your book about how not to run an oil spill. sigh...

Thanks

----- Forwarded by Judy J Nowakowski/DO/USGS/DOI on 06/01/2010 06:04 PM -----

From:	brosenbauer <brosenbauer@usgs.gov>
To:	Jeff W McCoy <jefmccoy@usgs.gov>
Cc:	brosenbauer <brosenbauer@usgs.gov>, Sonya A Jones <sajones@usgs.gov>, "Judy Nowakowski" <jnowakowski@usgs.gov>, Daniel Bizu <dabizu@usgs.gov>, Gregory B Mohrman <gmohrman@usgs.gov>, David W Reppert <dreppert@usgs.gov>
Date:	06/01/2010 04:37 PM
Subject:	Re: did we get the oil sample, and can we measure its viscosity for Marcia?

Jeff,

Sorry but we also do not measure viscosity. Viscosities of other GOM deep water crudes encompass a broad range (i.e. Thunder Horse, Southern Green Canyon, Mars) weighted to the more viscous side @20°C ~10 - 37 and @40°C ~6 - 17 cSt.

Bob R.

Bob Rosenbauer
US Geological Survey
345 Middlefield Road
Menlo Park, CA
650 329-4198

brosenbauer@usgs.gov

On Jun 1, 2010, at 12:51 PM, Jeff W McCoy wrote:

>
>
>
>
> Hi Sonja,
>
> The NWQL does not have a viscosity method. If Bob Rosenbauer's lab does
> not have the capability, we should be able to find a contract lab that can

> do the analysis.
>
> Thanks,
>
> Jeff
>
> Jeff McCoy
> Methods Research and Development Program
> National Water Quality Laboratory
> US Geological Survey
> P.O. Box 255857, Building 95
> Denver Federal Center
> Denver, CO 80225-0585
> (303) 236-3940
> jefmccoy@usgs.gov
>
>
>
>
> From: Sonya A Jones/WRD/USGS/DOI
>
> To: "Jeff McCoy" <jefmccoy@usgs.gov>
>
> Cc: "Judy Nowakowski" <jnowakowski@usgs.gov>
>
> Date: 06/01/2010 11:30 AM
>
> Subject: Fw: did we get the oil sample, and can we measure its viscosity
for Marcia?
>
>
>
>
>
> Any word on the samples? Can nwql do the viscosity analysis or would bob
> rosenbauer do that?
> ---
> Sent from my BlackBerry Wireless Handheld
>
>
> ----- Original Message -----
> From: Judy J Nowakowski
> Sent: 06/01/2010 12:42 PM EDT
> To: Sonya Jones
> Subject: did we get the oil sample, and can we measure its viscosity
> for Marcia?
> Hi Sonya,
>
> Did we get the oil sample? And if so, can we measure the viscosity for
> Marica's colleague at DOE?
>
> Thanks!
>
> ----- Forwarded by Judy J Nowakowski/DO/USGS/DOI on 06/01/2010 12:40 PM
> -----
>
> From: Marcia K McNutt/DO/USGS/DOI
>
> To: jnowakowski@usgs.gov
>
> Cc: Franklin.Shaffer@NETL.DOE.GOVFranklin.Shaffer@NETL.DOE.GOV

>
> Date: 06/01/2010 11:08 AM
>
> Subject: FW: info for CFD simulations
>
>
>
>
>
>
> Any chance of getting a viscosity from the oil samples that the USGS got or
> is getting?
>
> Marcia
>
> From: Franklin Shaffer <Franklin.Shaffer@NETL.DOE.GOV> [mailto:Franklin
> Shaffer <Franklin.Shaffer@NETL.DOE.GOV>]
> Sent: Tuesday, June 01, 2010 9:08 AM
> To: "Marcia K McNutt" <mcnutt@usgs.gov>
> Subject: Re: info for CFD simulations
>
> Marcia,
> If you could measure viscosity of the oil from the RITT samples, that would
> be most helpful.
> Thanks,
> Frank
>
>>>> "Marcia K McNutt" < mcnutt@usgs.gov> 6/1/2010 9:01 AM >>>
> Frank-
>
> USGS has received some physical samples of the oil. I think mostly for
> chemical analyses for toxicity but I will see what can be done to get
> physical measurements as well. The important poimt is these samples came
> directly from the RITT tool so they haven't been weathered.
>
> No promises, but I'll check to see what is possible. I know that we got
> less oil than we requested.
>
> Marcia
>
>
> ----- Original Message -----
> From: "Franklin Shaffer" [Franklin.Shaffer@NETL.DOE.GOV]
> Sent: 06/01/2010 08:50 AM AST
> To: pmbommer < pmbommer@mail.utexas.edu>; savas <
> savas@newton.berkeley.edu>; "pedro espina" < pedro.espina@nist.gov>;
> Bill.Lehr@noaa.gov; "'Steven T. Wereley'" < wereley@purdue.edu>; aaliseda <
> aaliseda@u.washington.edu>; rileyj < rileyj@u.washington.edu>; "Juan
> Lasheras" < lasheras@ucsd.edu>; Marcia Mc
> Cc: "George Richards" < George.Richards@NETL.DOE.GOV>; "Madhava Syamlal" <
> Madhava.Syamlal@NETL.DOE.GOV>; "Mehrdad Shahnam" <
> Mehrdad.Shahnam@NETL.DOE.GOV>
> Subject: info for CFD simulations
>
>
>
> ** High Priority **
>
> Plume Analysis Team:
> Some of my DOE colleagues have started doing CFD simulations of the oil
> leak jets. Now that we have more time to estimate the maximum oil flow

> rate, they might be able to finish their CFD simulations in time to aid our
> analysis. No promises, but they will give it their best shot.
>
> CFD will provide yet another independent estimation tool, and CFD will tell
> us what is happening inside the jets -- we cannot see or measure that now.
> By matching the CFD simulations with the BP videos and our PIV measurements
> on the outside of the jets, CFD will be able to tell use the velocity
> profile at the jet exit. At the exit we can calculate oil flow rate without
> worrying about entrainment of water into the jet.
>
> I believe they are starting by modeling an oil jet and a methane jet
> separately, directed horizontally and vertically. They started CFD
> simulations using properties of crude oil in water at 5000 ft. To do the
> CFD simulations correctly, they need better numbers for the following:
>
> * oil properties: viscosity, density, temperature
> * methane properties: viscosity, density, temperature
> * if possible, pressure just upstream of the jet exit
> * size of the jet exits
> * anything else you believe is pertinent
>
> Of course, we need this info for both the main jet at the bend-of-pipe and
> the riser exit.
>
> I have cc'd my colleagues who are leading the CFD effort so you can
> communicate with them directly. They are Drs. Madhava Syamlal, Mehrdad
> Shahnam, and Geo Richards.
>
> If you have any of this info, please send it to use as soon as possible!
>
> Thank you!
> Frank
>
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