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s.14

From: XT:Morrison, Geoff FLNR:IN
To: Zacharias, Mark ENV:EX
Subject: CBC radio "Eye opener" NRCan interview regarding testing of oil in water.
Date: Thursday, February 1, 2018 12:42:04 PM

Hi Mark

For your consideration, you might find this interesting to listen too.

<http://www.cbc.ca/radio/podcasts/alberta/calgary-eyeopener/>

Begin listing at the ~8:40 minute mark to hear NRCan's researcher (PhD) Heather Dettmen's comments – on the research NRCan has undertaken with respect to the behavior of dilbit in water. I think you may find it enlightening.

Geoff

Geoff Morrison | Manager of British Columbia Operations



Victoria : (778)265-3819 | Cell: (250) 634-4010 | Calgary: (403)776-1409 |
360 B Harbour Road, Victoria BC, V9A 3S1



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From: [Zacharias, Mark ENV:EX](#)
To: [Goederham, Coleen E ENV:EX](#)
Subject: Fwd: Front Matter | Spills of Diluted Bitumen from Pipelines: A Comparative Study of Environmental Fate, Effects, and Response | The National Academies Press
Date: Wednesday, February 7, 2018 11:13:23 AM

Can you print this report and also drop off the copy of the Royal Society of Canada report that is on my desk. Need both for tomorrow. Thanks!

Regards, Mark
s.17

Begin forwarded message:

From: <Mark.Zacharias@gov.bc.ca>
Date: February 6, 2018 at 5:08:39 PM PST
To: <Brian.Cotton@gov.bc.ca>, Caelie Frampton <Caelie.Frampton@gov.bc.ca>
Subject: Front Matter | Spills of Diluted Bitumen from Pipelines: A Comparative Study of Environmental Fate, Effects, and Response | The National Academies Press

<https://www.nap.edu/read/21834/chapter/1>

Regards, Mark
s.17

From: Kate Moran
To: [Zacharias, Mark ENV:EX](#)
Cc: [Jessica Stigant](#); [Kim Juniper](#); [Natalia Gartley-ONC](#)
Subject: Fwd: Susan Allen's MEOPAR Proposal: Dilbit Modelling
Date: Wednesday, February 7, 2018 10:31:41 AM
Attachments: [Allen_midoss-proposal-07nov17-2010.pdf](#)
[ATT00001.htm](#)

Mark,

I chatted with Kim about what we discussed at dinner last week. Marine Environmental Protection, Observation, and Response (MEOPAR) is a National Centre of Excellence that funds research in this area, based at Dalhousie. ONC partners with MEOPAR by jointly funding research of mutual interest. They also support special studies and workshops. We jointly with MEOPAR just awarded funds to UBC to conduct research that will integrate dilbit into oceanographic models. One option for you to consider is for us (ONC) to utilize our MEOPAR partnership (they support the national network of Canadian researchers that includes oil spill response experts) to tap into this resource either as a specific review, workshop, or both.

Natalia set up a call for us to discuss further on the 19th. Happy to talk sooner if necessary.

Best,
Kate

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From: [Lewis, Cameron F ENV:EX](#)
To: [Zacharias, Mark ENV:EX](#); [Morel, David P ENV:EX](#)
Subject: RE: CBC radio "Eye opener" NRCan interview regarding testing of oil in water.
Date: Thursday, February 1, 2018 1:08:20 PM

Yes, her comments were in clippings today too.

That has since been updated, according to Heather Dettman, who is a Natural Resources Canada scientist in Alberta. She says that she and her team have built substantially on the body of knowledge around this. That they've performed an open-tank test filled with water from North Saskatchewan River.

She said the data seems to indicate diluted bitumen tends to form a hardy slick on the water's surface -- a spill that can be somewhat contained, rather than dissolve into the water and end up coating river beds and marine life.

She said the misinformation is that diluted bitumen will sink. She said but it's not sinking. As for how easy or difficult it would be to clean up, she said if it doesn't sink, that would make it easier than previously thought. She said one of the major gaps in current understanding is the long-term effect of a bitumen spill. Specifically -- how long it would take before the spilled oil is no longer a threat to the environment?

From: Zacharias, Mark ENV:EX
Sent: Thursday, February 1, 2018 12:44 PM
To: XT:Morrison, Geoff FLNR:IN
Cc: Morel, David P ENV:EX; Lewis, Cameron F ENV:EX; Plecas, Bobbi ENV:EX
Subject: Re: CBC radio "Eye opener" NRCan interview regarding testing of oil in water.
Thanks Geoff

Regards, Mark
s.17

On Feb 1, 2018, at 12:42 PM, Morrison, Geoff <geoff.morrison@capp.ca> wrote:

Hi Mark

For your consideration, you might find this interesting to listen too.

<http://www.cbc.ca/radio/podcasts/alberta/calgary-eyeopener/>

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From: [XT:Morrison, Geoff FLNR:IN](#)
To: [Zacharias, Mark ENV:EX](#)
Subject: Re: CBC radio "Eye opener" NRCan interview regarding testing of oil in water.
Date: Friday, February 2, 2018 2:36:36 PM

Hi Mark:

Question, who will be on the scientific panel the province is organizing?

Academics and practitioners/experts?

Are you like at people like Kate Moran of Ocean Sciences and Heather Dettmen and the like?

When will that announcement be expected?

Geoff

From: Mark.Zacharias@gov.bc.ca
Sent: February 1, 2018 12:44 PM
To: geoff.morrison@capp.ca
Cc: David.Morel@gov.bc.ca; Cameron.Lewis@gov.bc.ca; Bobbi.Plecas@gov.bc.ca
Subject: Re: CBC radio "Eye opener" NRCan interview regarding testing of oil in water.

Thanks Geoff

Regards, Mark
s.17

On Feb 1, 2018, at 12:42 PM, Morrison, Geoff > wrote:

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From: [Zacharias, Mark ENV:EX](#)
To: [XT:Morrison, Geoff FLNR:IN](#)
Cc: [Morel, David P ENV:EX](#); [Lewis, Cameron F ENV:EX](#); [Plecas, Bobbi ENV:EX](#)
Subject: Re: CBC radio "Eye opener" NRCan interview regarding testing of oil in water.
Date: Thursday, February 1, 2018 12:43:58 PM

Thanks Geoff

Regards, Mark
s.17

On Feb 1, 2018, at 12:42 PM, Morrison, Geoff <geoff.morrison@capp.ca> wrote:

Hi Mark

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From: [Zacharias, Mark ENV:EX](#)
To: [XT:Morrison, Geoff FLNR:IN](#)
Subject: Re: CBC radio "Eye opener" NRCan interview regarding testing of oil in water.
Date: Friday, February 2, 2018 3:06:09 PM

Still collecting potential names if you know anyone good. Hopefully announce panel in next couple of weeks with intentions paper.

Regards, Mark
s.17

On Feb 2, 2018, at 2:36 PM, Morrison, Geoff <geoff.morrison@capp.ca> wrote:

Hi Mark:

Question, who will be on the scientific panel the province is organizing?

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Are you like at people like Kate Moran of Ocean Sciences and Heather Dettmen and the like?

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From: Mark.Zacharias@gov.bc.ca
Sent: February 1, 2018 12:44 PM
To: geoff.morrison@capp.ca
Cc: David.Morel@gov.bc.ca; Cameron.Lewis@gov.bc.ca; Bobbi.Plecas@gov.bc.ca
Subject: Re: CBC radio "Eye opener" NRCan interview regarding testing of oil in water.

Thanks Geoff

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s.17

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<<http://www.facebook.com/OilGasCanada>><<https://twitter.com/#!/OilGasCanada>><http://www.linkedin.com/groups?gid=2632445&trk=my_groups-b-grp-v>

<<https://www.youtube.com/user/cappvideos>><<http://appstore.capp.ca/oilsands>>

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s.12;s.14;s.13

From: [Zacharias, Mark ENV:EX](#)
To: [Gooderham, Coleen E ENV:EX](#)
Subject: Re: Front Matter | Spills of Diluted Bitumen from Pipelines: A Comparative Study of Environmental Fate, Effects, and Response | The National Academies Press
Date: Wednesday, February 7, 2018 11:28:10 AM

Thx. Can you print the whole report, not just chapter 1? Thx

Regards, Mark
s.17

On Feb 7, 2018, at 11:24 AM, Gooderham, Coleen E ENV:EX
<Coleen.Gooderham@gov.bc.ca> wrote:

Ok
Thank you
Coleen

From: Zacharias, Mark ENV:EX
Sent: Wednesday, February 7, 2018 11:13 AM
To: Gooderham, Coleen E ENV:EX
Subject: Fwd: Front Matter | Spills of Diluted Bitumen from Pipelines: A Comparative Study of Environmental Fate, Effects, and Response | The National Academies Press
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To: <Brian.Cotton@gov.bc.ca>, Caelie Frampton
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Subject: Front Matter | Spills of Diluted Bitumen from Pipelines:
A Comparative Study of Environmental Fate, Effects, and
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s.17

From: [Zacharias, Mark ENV:EX](#)
To: [Kate Moran](#)
Cc: [Jessica Stigant](#); [Kim Juniper](#); [Natalia Gartley-ONC](#)
Subject: Re: Susan Allen's MEOPAR Proposal: Dilbit Modelling
Date: Wednesday, February 7, 2018 10:42:50 AM

Thanks Kate for this.

Regards, Mark

s.17

On Feb 7, 2018, at 10:31 AM, Kate Moran <kmoran@uvic.ca> wrote:

Mark,

I chatted with Kim about what we discussed at dinner last week. Marine Environmental Protection, Observation, and Response (MEOPAR) is a National Centre of Excellence that funds research in this area, based at Dalhousie. ONC partners with MEOPAR by jointly funding research of mutual interest. They also support special studies and workshops. We jointly with MEOPAR just awarded funds to UBC to conduct research that will integrate dillbit into oceanographic models. One option for you to consider is for us (ONC) to utilize our MEOPAR partnership (they support the national network of Canadian researchers that includes oil spill response experts) to tap into this resource either as a specific review, workshop, or both.

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