



Imperial Oil

Imperial Oil Limited
237 Fourth Ave SW
PO Box 2480 Station M
Calgary AB T2P 3M9

John Bertrand
Team Leader
Environmental Services

Tel: (403) 237-3429
Fax: (403) 237-2237

Oct 03, 2014

Eddie T. Dillon
Chairperson – Inuvialuit Water Board
Inuvik, NT
P.O Box 2531

Dear Mr. Dillon:

Re: N7L1-1836 – BAR-C – Barium Guideline Modification

Further to the Inuvialuit Water Board letter of September 11, 2014 and our further correspondence, please find attached the updated Table E for the BAR-C Remedial Action Plan (WorleyParsons, 2013) showing the updated barium guidelines. As noted previously, the modifications to the barium guideline do not affect the content of the Monitoring Plan or QA/QC Plan for this work.

If there are any other questions, or if additional information is required, please feel free to contact me at (403) 237-3429.

Yours truly,



John Bertrand
Team Leader, Imperial Oil Environmental Services

Attachments:
- RAP – Table E



Table E Applicable Soil Remediation Criteria “DEW Line Plus Criteria”

Soil Designation	Description
(all values in mg/kg unless stated otherwise)	
Tier I	Soil containing at least one parameter at or above:
	Lead 200 to 499
	PCBs 1 to <5
Tier II	Soil containing at least one parameter at or above:
	Arsenic 30
	Cadmium 5
	Chromium 250
	Cobalt 50
	Copper 100
	Lead 500
	Mercury 2
	Nickel 100
	Zinc 500
	PCBs >5 and <50
	Barium 750 (Total); 250 (Extractable); 10,000 (True Total)
Type A PHCs	Soils containing lower mobility PHC fractions (C16-C50) greater than or equal to:
	F3+F4 20,000
Type B PHCs	Soils containing higher mobility PHC fractions (C6-C34).
	1) Within 30 m of a water body soil containing at least one parameter at or above:
	F1 1,290
	F2 330
	F1+F2+F3 330
	2) Soils more than 30 m from a water body containing at least one parameter at or above:
	F1+F2+F3 2,500 (<0.5 mbgs)
	F1+F2+F3 5,000 (>0.5 mbgs)

From: [Mardy Semmler](#)
To: "Freda Wilson"; "Liz Castaneda"
Cc: "Mark Cleveland"; "Emery Paquin"; mcleodm@nwtwb.com; "Louis Covello"; "Roger Connelly"
Subject: FW: N7L1-1836 - IOL - Bar C Barium Guidelines Mod Request
Date: October-03-14 4:05:38 PM
Attachments: [307074-00983-CA-REP-0003-TABLE E-BAR-C_ILA_0.pdf](#)
[Signed Copy.pdf](#)

Good Afternoon – submission from IOL with regard to the Barium Guideline Modifications. Mardy

From: Bertrand, John A [<mailto:john.a.bertrand@esso.ca>]
Sent: October-03-14 3:57 PM
To: Mardy Semmler (semmlerm@nwtwb.com)
Cc: 'Brolsma, Masten (Calgary) (Masten.Brolsma@WorleyParsons.com)'; Rahbani, Ramy
Subject: RE: IWB Response - Bar C Barium Guidelines Mod Request

Hello Mardy,

Please find attached the cover letter and the updated Table E. Should you have any other questions, please let me know.

John Bertrand

Team Leader
Environmental Services, Imperial
237 Fourth Avenue SW, PO Box 2480, Station M
Calgary, AB, Canada T2P 3M9 | Room 25061
john.a.bertrand@esso.ca P 403 237 3429 C 587 226 4368
imperialoil.ca | [Twitter](#) | [YouTube](#)

The information in this electronic message may be privileged and confidential and is intended only for the use of the individual(s) or entity(s) named above. If you are not the intended recipient, you are on notice that any unauthorized disclosure, copying, distribution, or taking any actions in reliance on the contents of this electronically transmitted material is prohibited.

From: Mardy Semmler [<mailto:semmlerm@nwtwb.com>]
Sent: Thursday, October 02, 2014 4:00 PM
To: 'Bertrand, John A'
Cc: Brolsma, Masten (Calgary)
Subject: RE: IWB Response - Bar C Barium Guidelines Mod Request

John

I think it would be better to send a cover letter with the updated Table E and identifying the RAP appendices it is replacing.

Hope this helps

Mardy

From: Bertrand, John A [<mailto:john.a.bertrand@esso.ca>]

Sent: October-01-14 4:45 PM
To: Mardy Semmler (semmlerm@nwtwb.com)
Cc: 'Brolsma, Masten (Calgary)' (Masten.Brolsma@WorleyParsons.com)
Subject: IWB Response - Bar C Barium Guidelines Mod Request

Mardy,

Thank you again for your punctual response regarding the barium guideline modification. Further to your letter of September 11, 2014 (attached), the Remedial Action Plan, Monitoring Plan and QA/QC Plan have been reviewed. No instances in the Monitoring Plan or QA/QC Plan were noted that would be affected by the modified barium guideline.

Regarding the RAP, the Alberta Barite guideline is referenced on page 9 (attached). Would it be sufficient to supply the IWB with an updated Table E showing all the now applicable Barite guidelines (see attached draft) or will the IWB require a full RAP including appendices in both electronic and paper copy?

John

John Bertrand

Team Leader
Environmental Services, Imperial
237 Fourth Avenue SW, PO Box 2480, Station M
Calgary, AB, Canada T2P 3M9 | Room 25061
john.a.bertrand@esso.ca P 403 237 3429 C 587 226 4368
imperialoil.ca | [Twitter](#) | [YouTube](#)

The information in this electronic message may be privileged and confidential and is intended only for the use of the individual(s) or entity(s) named above. If you are not the intended recipient, you are on notice that any unauthorized disclosure, copying, distribution, or taking any actions in reliance on the contents of this electronically transmitted material is prohibited.

From: Mardy Semmler [<mailto:semmlerm@nwtwb.com>]
Sent: Friday, September 12, 2014 4:16 PM
To: 'Bertrand, John A'
Cc: 'Stephen Charlie'; Brolsma, Masten (Calgary); 'Freda Wilson'; 'Liz Castaneda'
Subject: IWB Response - Bar C Barium Guidelines Mod Request

Good Afternoon John

Attached please find the signed response from the IWB with regard to the Bar C Barium Guideline Modification Request. The original will be put in the mail.

Thank you

Mardy

Mardy Semmler
Executive Director

Inuvialuit Water Board
Ph: 867-678-8609
Fax: 867-678-2943

From: Bertrand, John A [<mailto:john.a.bertrand@esso.ca>]
Sent: September-12-14 4:08 PM
To: Mardy Semmler (semmlerm@nwtwb.com); 'Freda Wilson'
Subject: Barite Guidelines

Mardy/Freda,

Just following up on the email Masten had sent to you w/r/t the barite guideline adjustment based on the AB regs outlined in the RAP – have you guys had a chance to review this? There really is no deviation from the RAP here as AB Barite guidelines are part of the RAP – we simply have more information now and can apply a different guideline as per the regs. The ILA has reviewed and approved the guideline update.

Look forward to hearing from you.

John

John Bertrand
Team Leader
Environmental Services, Imperial
237 Fourth Avenue SW, PO Box 2480, Station M
Calgary, AB, Canada T2P 3M9 | Room 25061
john.a.bertrand@esso.ca P 403 237 3429 C 587 226 4368
imperialoil.ca | [Twitter](#) | [YouTube](#)

The information in this electronic message may be privileged and confidential and is intended only for the use of the individual(s) or entity(s) named above. If you are not the intended recipient, you are on notice that any unauthorized disclosure, copying, distribution, or taking any actions in reliance on the contents of this electronically transmitted material is prohibited.

***** WORLEYPARSONS GROUP NOTICE ***** "This email is confidential. If you are not the intended recipient, you must not disclose or use the information contained in it. If you have received this email in error, please notify us immediately by return email and delete the email and any attachments. Any personal views or opinions expressed by the writer may not necessarily reflect the views or opinions of any company in the WorleyParsons Group of Companies."

***** WORLEYPARSONS GROUP NOTICE ***** "This email is confidential. If you are not the intended recipient, you must not disclose or use the information contained in it. If you have received this email in error, please notify us immediately by return email and delete the email and any attachments. Any personal views or opinions expressed by the writer may not necessarily reflect the views or opinions of any company in the WorleyParsons Group of Companies."