

## Review Comment Table

<b>Board:</b>	SLWB
<b>Review Item:</b>	S13L1-007 Imperial Oil Norman Wells Operations 2017 Annual Water Use Report
<b>File(s):</b>	<a href="#">S13L1-007</a>
<b>Proponent:</b>	Imperial Oil Resources
<b>Document(s):</b>	<a href="#">Imperial Oil Norman Wells Operations 2017 Annual Water Use Report</a> (18.3 MB)
<b>Item For Review Distributed On:</b>	Apr 3 at 14:53 <a href="#">Distribution List</a>
<b>Reviewer Comments Due By:</b>	May 8, 2018
<b>Proponent Responses Due By:</b>	May 15, 2018
<b>Item Description:</b>	<p>Imperial Oil Resources N.W.T. Limited has submitted their 2017 Annual Water Use Report in accordance with Part B Condition 13 and Schedule 1 of Water Licence S13L1-007. Although formal Board approval is not required under the Licence, the Board must be satisfied that the Licensee has met the requirements of the Licence.</p> <p><b>Reviewers are invited to submit any questions and/or comments by May 8, 2018.</b></p>
<b>General Reviewer Information:</b>	All documents that have been uploaded to this review are also available on the public registry. If you have any questions or comments regarding this review or the Online Review System please contact Bonnie Bergsma at (867) 496-2778 or <a href="mailto:bonnie.bergsma@slwb.com">bonnie.bergsma@slwb.com</a> .
<b>Contact Information:</b>	Bonnie Bergsma

## Comment Summary

Environment and Climate Change Canada: Gabriel Bernard-Lacaille				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	General	<p><b>Comment</b> ECCC has reviewed in accordance with its mandate and doesn't have any comments at this time.</p> <p><b>Recommendation</b> Not applicable.</p>		

**GNWT - ENR: Central Email GNWT**

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
3	General File	<p><b>Comment</b> (<a href="#">doc</a>) ENR Letter with Comments, Recommendations and Attachment</p> <p><b>Recommendation</b></p>		
4	General File	<p><b>Comment</b> (<a href="#">doc</a>) Attachment: 2018 Metadata Template</p> <p><b>Recommendation</b></p>		
1	Topic 1: Water Quality Data	<p><b>Comment</b> Imperial Oil Norman Wells provided its 2017 water quality sampling results for Surveillance Network Program (SNP) Freshwater (Appendix A), SNP- Surface Water (Appendix B) and SNP- Groundwater (Appendix C) in a PDF format. However, the utility of this data is limited by third parties in its current format (i.e. pdf)</p> <p><b>Recommendation</b> 1) ENR recommends that Imperial Oil Norman Wells submit all water quality data associated with the SNP-Freshwater, SNP- Surface Water and SNP-Groundwater to the Board public registry in an accessible file type (e.g., csv or xls).</p>		Imperial has previously responded that they will use the template if directed by the Board.
2	Topic 2: Metadata	<p><b>Comment</b> ENR appreciates that Imperial Oil Norman Wells provided all monitoring sampling results in Appendices A, B, and C of the 2017 Annual Report. However, to ensure consistency among reporting by proponents, ENR encourages the use of a standard metadata template.</p>		The MVLWB Has not formally adopted this metadata template as a standard for all Licensees.

		<p>Metadata sets the context for the water quality data, providing a description of data that was collected as part of a water quality sampling program and includes field conditions and a description of laboratory analyses conducted. Metadata standards are required to ensure the proper use and interpretation of the data by the users. Also, as with the water quality data itself, ENR encourages that the metadata be available in an accessible file type.</p> <p><b>Recommendation</b> 1) ENR recommends that Imperial Oil Norman Wells complete the attached metadata template and provide it with the associated water quality data to the public registry in an accessible file type (e.g., csv or xls).</p>		
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**Sahtu Renewable Resource Board: Colin Macdonald**

<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response</b>	<b>Board Staff Response</b>
1	Water Use Report	<p><b>Comment</b> (Submitted after Due Date) These comments are late but I am submitting them in the hope that IOR may consider them in the next draft of the report.</p> <p><b>Recommendation</b> see below.</p>		Proponent did not respond to these comments as they were submitted after the due date. The questions are valid and should be considered for the 2018 Annual Report.
2	General Report	<p><b>Comment</b> (Submitted after Due Date) There were no withdrawals of water after February 2017 as production shut down due to Line 21 closure in 2016. Water</p>		

		<p>quality in CPF Inlet and Outlet are consistent. The report is missing details of some of the sources of surface water releases to the Mackenzie.</p> <p><b>Recommendation</b> See below</p>		
3	Table D	<p><b>Comment (Submitted after Due Date)</b> Text in May 27 Incident is incomplete.</p> <p><b>Recommendation</b> Re-write/correct text</p>		
4	Table 32	<p><b>Comment (Submitted after Due Date)</b> Noted that the concentrations of dissolved elements are greater than total elements for sodium, calcium and magnesium. The analysis of dissolved elements is an unnecessary expense.</p> <p><b>Recommendation</b> None. It may be time to re-consider the analysis of dissolved metals, as CCME guidelines are expressed as total metals.</p>		
5	Page 17 “Surface Water Runoff	<p><b>Comment (Submitted after Due Date)</b> It is unclear what the release of surface water from the sumps is. Is this production water? Surface water on the sumps?</p> <p><b>Recommendation</b> Provide explanation for SWROF sources in Section 5.1</p>		
6	Page 35 “	<p><b>Comment (Submitted after Due Date)</b> The dates in the Tables indicate that surface water chemistry is changing during the year, even though production has stopped. Is this due to some other process?</p> <p><b>Recommendation</b> As requested in the previous</p>		

		comment, provide explanation on the sources and releases of the surface water.		
7	Site TF 03-12-3	<p><b>Comment (Submitted after Due Date)</b> Table 2 indicates consistently high chloride levels which indicate an anthropogenic source (Section 7.2.1). Table 3 at TF 03-12-3 indicate all BTEX values &lt; DL but Table E-2 indicates a maximum value of 0.0017 mg/L and a median value the same as the other sites. The table indicates a total of 18 sites. Where are these other data? Where is this ground water discharging?</p> <p><b>Recommendation</b> The implications of the high chloride levels, the source of the contamination and where the groundwater is discharging should be discussed.</p>		
8	Tables E-2, E-3 and E-4	<p><b>Comment (Submitted after Due Date)</b> The data show minimum and maximum values &lt; DL, yet a median value of 0.0002 mg/L is reported.</p> <p><b>Recommendation</b> The median should be reported as one-half the detection limit and not as a quantifiable value.</p>		
9	Tables E-2, E-3 and E-4	<p><b>Comment (Submitted after Due Date)</b> Results of the M-K Test. It isn't clear if the M-K test can be used here. One of the assumption of M-K is independence between samples. It is also not clear how many observations are &lt;</p>		

	<p>DL, as both the minimum and maximum are &lt; DL. The slope in mg/L/y is 0.0, indicating no change through time.</p> <p><b>Recommendation</b> More discussion of the trend analysis, the data used for each site, the time sequence involved and the interpretation of the results should be provided.</p>		
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May 8, 2018

Bonnie Bergsma  
Regulatory Specialist  
Sahtu Land and Water Board  
Box 1,  
Fort Good Hope, NT  
X0E 0H0

Dear Ms. Bergsma,

**Re: Imperial Oil Resources NWT Ltd. (Imperial)  
Water Licence – S13L1-007  
2017 Annual Water Use Report - NW Operations  
Request for Comment**

The Department of Environment and Natural Resources (ENR), Government of the Northwest Territories has reviewed the report at reference based on its mandated responsibilities under the *Environmental Protection Act*, the *Forest Management Act*, the *Forest Protection Act*, the *Species at Risk (NWT) Act*, the *Waters Act* and the *Wildlife Act* and provides the following comments and recommendations for the consideration of the Board.

### **Topic 1: Water Quality Data**

#### **Comment(s):**

Imperial Oil Norman Wells provided its 2017 water quality sampling results for Surveillance Network Program (SNP) Freshwater (Appendix A), SNP- Surface Water (Appendix B) and SNP-Groundwater (Appendix C) in a PDF format. However, the utility of this data is limited by third parties in its current format (i.e. pdf)

#### **Recommendation(s):**

- 1) ENR recommends that Imperial Oil Norman Wells submit all water quality data associated with the SNP-Freshwater, SNP- Surface Water and SNP-Groundwater to the Board public registry in an accessible file type (e.g., csv or xls).

## Topic 2: Metadata

### Comment(s):

ENR appreciates that Imperial Oil Norman Wells provided all monitoring sampling results in Appendices A, B, and C of the 2017 Annual Report. However, to ensure consistency among reporting by proponents, ENR encourages the use of a standard metadata template. Metadata sets the context for the water quality data, providing a description of data that was collected as part of a water quality sampling program and includes field conditions and a description of laboratory analyses conducted. Metadata standards are required to ensure the proper use and interpretation of the data by the users. Also, as with the water quality data itself, ENR encourages that the metadata be available in an accessible file type.

### Recommendation(s):

- 1) ENR recommends that Imperial Oil Norman Wells complete the attached metadata template and provide it with the associated water quality data to the public registry in an accessible file type (e.g., csv or xls).

Comments and recommendations were provided by ENR technical experts in the Water Resources Division, NWT CIMP and the Sahtu Region and were coordinated and collated by the Environmental Assessment and Monitoring Section (EAM), Conservation, Assessment and Monitoring Division (CAM).

Should you have any questions or concerns, please do not hesitate to contact Patrick Clancy, Environmental Regulatory Analyst at (867) 767-9233 Ext: 53096 or email [patrick.clancy@gov.nt.ca](mailto:patrick.clancy@gov.nt.ca).

Sincerely,



Patrick Clancy  
Environmental Regulatory Analyst  
Environmental Assessment and Monitoring Section  
Conservation, Assessment and Monitoring Division  
Department of Environment and Natural Resources  
Government of the Northwest Territories

Att: 2018 Appendix A Example of Water Quality Sample Metadata Template