



REPORT

Water Licence N5L8 - 1841 Updated Management Plans

Tuktoyaktuk Base Remediation, Inuvialuit Settlement Region, Northwest Territories

Submitted to:

Inuvialuit Water Board

151 Mackenzie Road
Mack Travel Building, 2nd Floor
P.O. Box 2531
Inuvik, NT X0E 0T0

Submitted by:

WSP Canada Inc.

237 - 4 Avenue SW, Suite 3300, Calgary, Alberta T2P 4K3

+1 403 299 5600

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1.0 INTRODUCTION

WSP Canada Inc. (WSP), on behalf of Imperial Oil Limited (Imperial), has been conducting remediation activities at the former Tuktoyaktuk Exploration Logistics Base Camp in Tuktoyaktuk, Northwest Territories (Tuk Base or the Site) since the summer of 2019. Water Licence N5L8-1841 (Water Licence) was granted by the Inuvialuit Water Board (IWB) to Imperial in association with the remediation and demolition activities (the Project) at the Site. The Water Licence was renewed on 20 June 2025 with an expiry date of 30 September 2029.

WSP and Imperial are proposing to continue remediation activities through September 2029. As per Part B, Condition 12 of the Water Licence, the sections below summarize the revisions/updates to the management plans.

2.0 PROJECT SCHEDULE

The Project schedule has been revised due to the findings from the 2019 to 2025 field seasons. The revised Project schedule is within the extension to the Project received by the Environmental Impact Screening Committee (Registry File 03/19-01) on 15 October 2024, a copy of which was provided to the IWB with the Water Licence renewal in 2025. This has impacted several of the plans for the Project, though the overall approach to the work remains unchanged.

The timeline and summary of activities that were completed between 2019 and 2025 are as follows.

- July 2019 to September 2019: Began soil and landfill excavation activities, on-site soil treatment in the engineered Soil Treatment Cells, stripped and regraded the former airstrip, dewatered top metre of the Former Sewage Lagoon, retrieved and stockpiled concrete pads.
- January 2020 to March 2020: Completed ice road construction and maintenance, contaminated soil transportation for off-site disposal at Tervita Northern Rockies Landfill in British Columbia, scrap metal transportation for off-site disposal at the Inuvik Solid Waste Disposal Facility, transported salvaged concrete pads to Tuktoyaktuk for re-use.
- July 2020 to September 2020: Continued soil and landfill excavations, on-site soil treatment in the engineered Soil Treatment Cells, dewatered and partly backfilled the Former Sewage Lagoon, dewatered and backfilled the North Landfill ponds, removed surface soil and graded the South Dock, completed test pitting and constructed the engineered soil storage areas (ESSA) 1, 2 and 3.
- March 2021: Completed ice road construction and maintenance, hauled-in clean backfill material (from the Inuvialuit Settlement Region) and completed repairs on the exterior of the North Dock.
- July 2021 to September 2021: Completed soil excavations, except the South Landfill, northeast concrete slab salvage, partial Former Sewage Lagoon decommissioning, North Dock repair, North Dock foreshore stabilization, partial South Dock removal, surface debris removal and test pitting at the South Landfill to confirm the extent.
- October 2021 to June 2022: No activities.
- July 2022 to September 2022: Maintained and repaired the Site to meet the conditions of the IWB Water Licence, completed South Dock sheet pile removal, treated the soil piles in the Soil Treatment Cell, completed Former Sewage Lagoon decommissioning, collected permafrost depths from 69 test pits in the South Landfill and initiated site reclamation at select areas of the Site.

- October 2022 to June 2023: No activities.
- July 2023 to September 2023: Maintained and repaired the Site to meet the conditions of the IWB Water Licence, including maintenance of ESSAs and engineered Soil Treatment Cell and monitoring and maintenance of the water management structures associated with these areas.
- October 2023 to June 2024: No activities.
- July 2024 to September 2024: Maintained and repaired the Site to meet the conditions of the IWB Water Licence, including maintenance of ESSAs and engineered Soil Treatment Cell and monitoring and maintenance of the water management structures associated with these areas.
- October 2024 to June 2025: No activities.
- July 2025 to September 2025: Maintained and repaired the Site to meet the conditions of the Water Licence, including maintenance of ESSAs and engineered Soil Treatment Cell and monitoring and maintenance of the water management structures associated with these areas.
- October 2025 to June 2026: No activities.

The updated Project schedule proposed for completing the remaining activities between June 2026 and September 2029 is as follows.

- June 2026 to October 2026: Complete South Landfill excavation, sample the ESSA 1, backfill subsided areas and grade the Former Sewage Lagoon, remove steel and wood pilings, repair or decommission select groundwater monitoring wells and thermistors, excavate soil and geotextile from the Former South Dock, assess debris identified downslope (off lease) from the North Landfill, maintain and repair the Site, as needed.
- December 2026 to April 2027: Ice road construction, from the Hamlet of Tuktoyaktuk across Tuktoyaktuk Harbour to the Site, to allow site access for the crew and equipment and off-site transport of contaminated soil and debris/other waste and surplus materials for disposal at an approved facility. Removal of wood wharf piles with a drill rig or excavator.
- June 2027 to October 2027: Site access for personnel and equipment via barge and crew boats. Concrete pad removal, baseline soil sampling, scraping and stockpiling of contaminated soil and/or debris/waste (if work not completed in Summer 2026 season), reclamation/grading.
- December 2027 to April 2028: Ice road construction, from the Hamlet of Tuktoyaktuk across Tuktoyaktuk Harbour to the Site, to allow site access for the crew and equipment and off-site transport of contaminated soil and debris/other waste and surplus materials for disposal at an approved facility.
- June 2028 to October 2028: Site access for personnel and equipment via barge and crew boats. Baseline soil sampling, scraping and stockpiling of contaminated soil and/or debris/waste (if work not completed in Summer 2027 season), reclamation/grading.
- December 2028 to April 2029: Ice road construction, from the Hamlet of Tuktoyaktuk across Tuktoyaktuk Harbour to the Site, to allow Site access for the crew and equipment and off-site transport of contaminated soil and debris/other waste and surplus materials for disposal at an approved facility.

- June 2029 to September 2029: Site access for personnel and equipment via barge and crew boats. Final baseline soil sampling below areas where contaminated soil was located during winter hauling; scraping and disposal of soil by barge (if required), final site grading, demobilization by barge, initiation of monitoring program as per the Reclamation, Closure and Monitoring Plan.

The change in schedule has also been reflected in changes to other plan documents for the Project as presented below.

3.0 SPILL CONTINGENCY PLAN

Table A below summarizes the revisions that were made to the IWB-approved Spill Contingency Plan previously amended by WSP (2025). The changes made have not altered the Spill Contingency Plan's intended purpose.

Table A: Updates to the Spill Contingency Plan

Update	Section	Page
Updated site location details and Imperial contact information	1.0	1
Added additional details on site location and history	1.1	1
Moved details in Sections 1.2.1 to 1.2.6 to new Sections 2.1 to 2.5	2.1 to 2.5	2 and 3
Added details on gasoline, diesel, propane and sewage storage	3.1 to 3.4	3 to 5
Added new Section 3.7 on fuel transfers	3.7	5 and 6
Updated Table A: Spill Response Contact List	4.2	7
Updated equipment anticipated to be on-site	8.1.5	16 and 17
Updated references	12.0	19
Deleted former Section 7.2	n/a	n/a
Replaced Figures 1 and 2	Figures	n/a

Note: n/a – not applicable

The amended Spill Contingency Plan is provided in Appendix A.

4.0 WASTE MANAGEMENT PLAN

Table B summarizes the revisions that were made to the IWB-approved Waste Management Plan previously amended by WSP (2025). The changes made have not altered the Waste Management Plan's intended purpose.

Table B: Updates to the Waste Management Plan

Update	Section	Page
Updated site location details and added details on the purpose of the Waste Management Plan	1.0	1
Added additional details on site location and history	1.1	1
Deleted Section 1.3 Objectives and added Section 2.0 Project Summary, with subsections 2.1 to 2.5	2.0 to 2.5	1 to 3
Updated contaminated soil volumes in Section 5.4	5.4	6
Added details on barrels to Section 5.7	5.7	7
Updated Tervita to Secure Energy in Section 8.1.1	8.1.1	9
Updated greywater and sewage handling	8.3	9
Updated Table A: Anticipated Waste Streams	9.0	10 and 11
Updated references	10.0	12
Replaced Figures 1 and 2	Figures	n/a
Updated waste acceptance letters	Appendix D	n/a

The amended Waste Management Plan is provided in Appendix B.

5.0 EROSION AND SEDIMENT CONTROL PLAN

Table C below summarizes the revisions that were made to the IWB-approved Erosion and Sediment Control Plan previously amended by WSP (2025). The changes made have not altered the Erosion and Sediment Control Plan's intended purpose.

Table C: Updates to the Erosion and Sediment Control Plan

Update	Section	Page
Added additional details on site location and history	1.1	1
Added new Section 2.0 Project Summary, and edits to subsections 2.1 to 2.5	2.0 to 2.5	1 to 3
Updated references	5.0	5
Replaced Figures 1 and 2	Figures	n/a

The amended Erosion and Sediment Control Plan is provided in Appendix C.

6.0 REMEDIAL ACTION PLAN

The Remedial Action Plan (RAP) prepared by Advisian (2019) details how environmental contamination attributed to past Imperial operations at the Site will be remediated to meet regulatory standards. The RAP was approved by the IWB in July 2019 and a revision to the RAP was approved by the IWB in June 2020. As the schedule presented in Tables P and Q of the RAP (Advisian 2019) was preliminary in nature and subject to change, the following updated project schedule is proposed for completing remediation activities between 2026 and 2029.

- June 2026 to October 2026: Complete South Landfill excavation, sample the ESSA 1, backfill subsided areas and grade the Former Sewage Lagoon, remove steel and wood pilings, repair or decommission select groundwater monitoring wells and thermistors, excavate soil and geotextile from the Former South Dock, assess debris identified downslope (off lease) from the North Landfill, maintain and repair the Site, as needed.
- December 2026 to April 2027: Ice road construction, from the Hamlet of Tuktoyaktuk across Tuktoyaktuk Harbour to the Site, to allow site access for the crew and equipment and off-site transport of contaminated soil and debris/other waste and surplus materials for disposal at an approved facility. Removal of wood wharf piles with a drill rig or excavator.
- June 2027 to October 2027: Site access for personnel and equipment via barge and crew boats. Concrete pad removal, baseline soil sampling, scraping and stockpiling of contaminated soil and/or debris/waste (if work not completed in Summer 2026 season), reclamation/grading.
- December 2027 to April 2028: Ice road construction, from the Hamlet of Tuktoyaktuk across Tuktoyaktuk Harbour to the Site, to allow site access for the crew and equipment and off-site transport of contaminated soil and debris/other waste and surplus materials for disposal at an approved facility.
- June 2028 to October 2028: Site access for personnel and equipment via barge and crew boats. Baseline soil sampling, scraping and stockpiling of contaminated soil and/or debris/waste (if work not completed in summer 2027 season), reclamation/grading.
- December 2028 to April 2029: Ice road construction, from the Hamlet of Tuktoyaktuk across Tuktoyaktuk Harbour to the Site, to allow site access for the crew and equipment and off-site transport of contaminated soil and debris/other waste and surplus materials for disposal at an approved facility.
- June 2029 to September 2029: Site access for personnel and equipment via barge and crew boats. Final baseline soil sampling below areas where contaminated soil was located during winter hauling; scraping and disposal of soil by barge (if required), final site grading, demobilization by barge, initiation of monitoring program as per the Reclamation, Closure and Monitoring Plan.

The above updated schedule is provided as a memorandum to the original RAP prepared by Advisian (2019) and is provided in Appendix D.

7.0 PERMAFROST MONITORING PLAN

Table D summarizes the revisions that were made to the IWB-approved Permafrost Monitoring Plan previously amended by WSP (2025). The changes made have not altered the Permafrost Monitoring Plan's intended purpose.

Table D: Updates to the Permafrost Monitoring Plan

Update	Section	Page
Added new Section 1.1 and 1.2 on site location and history	1.1, 1.2	1
Added new Section 2.0 Project Summary, and edits to subsections 2.1 to 2.5	2.0 to 2.5	1 to 3
Removed Table A from former Section 2.1	3.2	3
Updated Table B to Table A, updated thermistor observation details for 2024 to 2025	4.0	6
Added re-vegetation details	4.1	6
Updated references	6.0	8
Replaced Figures 1 to 3	Figures	n/a

The amended Permafrost Monitoring Plan is provided in Appendix E.

8.0 DOCK REPAIR AND REMOVAL MONITORING PLAN

No updates were made to the Dock Repair and Removal Monitoring Plan last approved by the IWB on 20 June 2025.

9.0 RECLAMATION, CLOSURE AND MONITORING PLAN – TUK BASE

Table E below summarizes the revisions that were made to the IWB-approved Reclamation, Closure and Monitoring Plan previously amended by WSP (2025). The changes made have not altered the Reclamation, Closure and Monitoring Plan's intended purpose.

Table E: Updates to the Reclamation, Closure and Monitoring Plan

Update	Section	Page
Updated Section 1.1 and 1.2 on site location and history	1.1, 1.2	1
Updated Section 1.3, added site access and accommodation details	1.3	1 and 2
Added reference number and expiry dates to Table A	2.2	4
Added new Table C	3.2.3	8
Replaced Table D	3.2.4	9
Replaced Table E	3.2.5	9
Added two Special Designated Lands to Section 3.3.1	3.3.1	10
Updated accommodation and fuel storage information	4.6.1, 4.6.2	16
Updated the work completed between 2019 and 2025, and planned schedule to 2029	4.8	17 to 19
Updated references	6.0	21 and 22
Replaced Figures 1 and 2	Figures	n/a

The amended Reclamation, Closure and Monitoring Plan is provided in Appendix F.

10.0 WILDLIFE MANAGEMENT AND MONITORING PLAN

Table F below summarizes the revisions that were made to the IWB-approved Wildlife Management and Monitoring Plan previously amended by WSP (2025). The changes made have not altered the Wildlife Management and Monitoring Plan's intended purpose.

Table F: Updates to the Wildlife Management and Monitoring Plan

Update	Section	Page
New Title: Wildlife Management and Monitoring Plan	Title Page	Cover
Added Section 1.1 and 1.2 on site location and history, removed Section 2.0	1.1, 1.2	1
Added new Section 2.0 Project Summary, and edits to subsections 2.1 to 2.5	2.0 to 2.5	1 to 3
Replaced Section 3.0 with current information	3.0	3 to 10
Added new Section 4.0	4.0	11
Added new Sections 5.1 and 5.2	5.1, 5.2	11 to 13
Updated references	7.0	17 to 19
Replaced Figures 1 and 2	Figures	n/a

The amended Wildlife Management and Monitoring Plan is provided in Appendix G.

11.0 EMERGENCY RESPONSE PLAN

Table G below summarizes the revisions that were made to the IWB-approved Emergency Response Plan previously amended by WSP (2025). The changes made have not altered the Emergency Response Plan's intended purpose.

Table G: Updates to the Emergency Response Plan

Update	Section	Page
Added new Section 1.0, 1.1, 1.2 and 2.0	1.0, 1.1, 1.2, 2.0	1 to 3
Corrected Tuk Base site location and updated contacts in Table B and C	5.1	8 and 9
Added muster point description and corrected helicopter landing location, new Section 5.2.1	5.2, 5.2.1	9 and 10
Added new Sections 5.3.2	5.3.2	11 and 12
Updated Section 6.0 and Table D	6.0	12
Added details to Section 8.8	8.8	23
Updated references	11.0	25
Replaced Figures 1 and 2	Figures	n/a

The amended Emergency Response Plan is provided in Appendix H.

12.0 INCINERATOR MANAGEMENT PLAN

No updates were made to the Incinerator Monitoring Plan last approved by the IWB on 20 June 2025.

13.0 REFERENCES

Advisian. 2019. Imperial Tuk Base Remedial Action Plan. 30 October 2019.

WSP (WSP Canada Inc.). 2025. N5L8 – 1841 Tuk Base Plans Update Summary, Tuktoyaktuk Explorations Logistics Base Camp, Tuktoyaktuk, Northwest Territories. 25 March 2025.

14.0 LIMITATION OF LIABILITY, SCOPE OF REPORT AND THIRD PARTY RELIANCE

This report has been prepared and the work referred to in this report has been undertaken by WSP Canada Inc. for Imperial Oil Limited. It is intended for the sole and exclusive use of Imperial Oil Limited, its affiliated companies and partners and their respective insurers, agents, employees and advisors (collectively, "Imperial Oil").

Any use, reliance on or decision made by any person other than Imperial Oil based on this report is the sole responsibility of such other person. Imperial Oil and WSP Canada Inc. make no representation or warranty to any other person with regard to this report and the work referred to in this report, and they accept no duty of care to any other person or any liability or responsibility whatsoever for any losses, expenses, damages, fines, penalties or other harm that may be suffered or incurred by any other person as a result of the use of, or reliance on, any decision made or any action taken based on this report or the work referred to in this report.

The investigation undertaken by WSP Canada Inc. with respect to this report and any conclusions or recommendations made in this report reflect WSP Canada Inc.'s judgement based on the site conditions observed at the time of the site inspection on the date(s) set out in this report, and on information available at the time of preparation of this report. This report has been prepared for specific application to this site and it is based, in part, upon visual observation of the site, subsurface investigation at discrete locations and depths, and specific analysis of specific chemical parameters and materials during a specific time interval, all as described in this report.

Unless otherwise stated, the findings cannot be extended to previous or future site conditions, portions of the site which were unavailable for direct investigation, subsurface locations which were not investigated directly, or chemical parameters, materials or analysis which were not addressed. Substances other than those addressed by the investigation described in this report may exist within the site, substances addressed by the investigation may exist in areas of the site not investigated and concentrations of substances addressed which are different than those reported may exist in areas other than the locations from which samples were taken.

If site conditions or applicable standards change or if any additional information becomes available at a future date, modifications to the findings, conclusions and recommendations in this report may be necessary.

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Signature Page

WSP Canada Inc.



Stephanie Villeneuve
Environmental Scientist
WSP Canada Inc.
902-476-5769
stephanie.villeneuve@wsp.com



Virginia Anderson
Project Manager
WSP Canada Inc.
250-469-4795
virginia.anderson@wsp.com



Brian Suen
National Director (Remediation)
WSP Canada Inc.
604-358-5348
brian.suen@wsp.com

SV/VA/BS/dj

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