

September 27, 2024

Office of the Regulator of Oil and Gas Operations (OROGO)  
 4th Floor Northwest Tower  
 5201 – 50<sup>th</sup> Avenue  
 Yellowknife NT  
 X1A 3S9  
 Email: [OROGO@gov.nt.ca](mailto:OROGO@gov.nt.ca)

*Sent Via Email*

**Attention: Pauline de Jong, Executive Director, OROGO**

**Re: Operations Authorization OA-2021-003-SUN: Variation Request with Supporting Documents**  
 (Tweed Lake M-47 (WID1476), Tweed Lake A-67 (WID1555), and Bele O-35 (WID1600) Wells)

Dear Pauline de Jong:

As a follow-up to our May 31, 2021 Operations Authorization (OA) application and Decision for OA-2021-003-SUN issued October 7, 2022 for the project, Suncor has prepared a concordance table of updates in accordance with the OROGO *Application Guidelines and Interpretation Notes – Well Suspensions and Abandonments (OROGO February 15, 2021)*.<sup>1</sup> The intent of this submission is to provide supporting information for a variance request # 3 for OA-2021-003-SUN.

OPERATIONS AUTHORIZATION PROJECT DESCRIPTION UPDATES – CONCORDANCE TABLE

OA Application (OA-2021-003-SUN)	Comments / Updates	Concordance/Information
OA Application Form – completed and signed	No updates required.	Refer to section 1, Attachment 1
Declaration Form	Updated form provided.	Refer to section 2, Attachment 2
Confirmation of Benefits Plan Approval	No updates required.	Refer to section 3
Proof of Financial Responsibility	No updates required.	Refer to section 4
Description of proposed activities, execution plan for conducting activities, and schedule.	Updated abandonment methodologies provided.	Refer to section 5, Attachment 3
Safety Plan	Addendum provided.	Refer to section 6, Attachment 4
Environmental Protection Plan	Addendum provided.	Refer to section 7, Attachment 5
Contingency Plan (Emergency Response Plan)	Addendum provided.	Refer to section 8
Audited Financial Statements	No updates required.	Refer to section 9 - 12
Quarterly Financial Statements		
Proof of Insurance		
Preliminary Screening Information		
Engagement Record and Engagement Plan	No updates required.	Refer to section 13

**1. OA Application Form**

No update proposed, as per the January 18, 2023, Decision: Variation OA-2021-003-SUN, Suncor’s current OA expires November 1, 2025 (Attachment 1).

<sup>1</sup> [2021-02-15 - application guidelines and interpretation notes - well suspension and abandonment.pdf \(gov.nt.ca\)](https://www.orogo.gov.nt.ca/2021-02-15-application-guidelines-and-interpretation-notes-well-suspension-and-abandonment.pdf)

## 2. Declaration Form

As per Section 15(3) of the Oil and Gas Operations Act (OGOA), with the proposed equipment update from a service rig to the use of a heli-portable wireline unit, the previously signed declaration dated May 31, 2021, has been updated (Attachment 2).

## 3. Confirmation of Benefits Plan Approval

No update proposed. The Minister's approval of the Benefits Plan relating to the Colville Lake abandonment project was received February 14, 2022.

## 4. Proof of Financial Responsibility

No update proposed to the conservative financial instrument submitted in April 2022.

In the May 31, 2021, application, Suncor provided financial instrument representing a worst credible risk scenario for both Tathlina N-18 and the three Colville Lake wells (Tweed Lake M-47, Tweed Lake A-67, Bele O-35). The downhole operations and surface abandonment for Tathlina was via a heli-portable operation where fuel supplied in drums on the lease would be limited.

Due to the volume of fuel and location of the lease, Tathlina N-18 had significantly less risk than previously proposed Colville Lake winter abandonment operations. As the proposed plan is to complete all remaining three abandonments in a manner similar to Tathlina N-18, the proof of financial responsibility adequately covers the updated operations as there is no wastewater, vehicle spill or cement risks. The wellbore fluid return is fresh water and will be disposed of off-site using totes. This is considered minimal risk due to fluid characteristics and volume of 1 m<sup>3</sup> per tote.

## 5. Project Description

As per the January 18, 2023, Decisions: Variations to ACW-2021-SUN-M-47-WID1476, ACW-2021-SUN-A-67-WID1555 and ACW-2021-SUN-O-35-WID1600, Suncor's current well approval for the three ACWs Variation #1 expires November 1, 2025 (Attachment 3).

Updated abandonment completions programs related to for Tweed Lake M-47 (WID1476), Tweed Lake A-67 (WID1555), and Bele O-35 (WID1600) wells were submitted on September 9, 2024.

Whereas the primary program activities were planned to take place during a winter operation with a service rig, the program activities are updated and proposed to take place in spring/summer 2025 with a heli-portable wireline unit. Suncor is proposing the following activity updates:

- Spring/Summer/Fall 2024
  - Pressure test production casing, surface casing vent flow (SCVF) and gas migration test.
  - Site inspections, access by helicopter for logistics/planning.
  - Community engagement.
  - Meetings with regulators.
- Winter 2024/2025
  - Material and equipment shipment to laydown area (as was proposed near Colville Lake airport).
- Spring/Summer 2025
  - Downhole abandonments with heli-portable wireline unit (approx. 15 days on-site for each well).
  - Surface abandonment of wells (cut-and-cap).

- Removal of surface infrastructure (wellhead).
- Concurrent reclamation.

The intent of this submission is to provide supporting information for a variance request #3 for OA-2021-003-SUN, for ACW-2021-SUN-M-47-WID1476, ACW-2021-SUN-A-67-WID1555 and ACW-2021-SUN-O-35-WID1600 (Attachment 3).

## **6. Safety Plan – Project Specific Information Updates**

A detailed Safety Plan was included with the initial OA submission. With the updated ACW abandonment methodology from a proposed service rig to the use of a heli-portable wireline unit, safety plan updates related to project specific information have been included (Attachment 4). All operations will comply with Suncor's management systems. These safety systems are in place to assess hazards, mitigate risk and ensure that the effects from a potential emergency are minimized through activation of Emergency Response Plans. These systems have been submitted to OROGO as a part of the initial Operations Authorization application.

## **7. Environmental Protection Plan**

An Environmental Protection Plan (EPP) covering the abandonment operations for the four wells, including Tathlina and the three wells in the Colville Lake was included in the initial submission. The footprint of the proposed activities has been reduced and are limited to the abandonment of the existing well infrastructure. Activities will be limited to within the existing lease boundaries. The expected operations are not anticipated to have a material effect on the environment. An addendum has been provided to address the updated scope of work (Attachment 5).

## **8. Contingency Plan (Emergency Response Plan)**

An Emergency Response Plan (with Contingency) covering the abandonment operations for the four wells, including Tathlina and the three wells in the Colville Lake was included in the initial submission. Suncor has a comprehensive corporate emergency management program in place to ensure that the company is properly prepared for the safe and well-coordinated response to potential incidents. An addendum has been provided to address the updated scope of work (Attachment 5).

## **9. Audited Financial Statements**

No update proposed.

## **10. Quarterly Financial Statements**

No update proposed.

## **11. Proof of Insurance**

No update proposed.

## **12. Preliminary Screening Information**

No update proposed

### 13. Engagement Record and Engagement Plan

No update proposed. The Minister's approval of the benefits plan, which included approval of the engagement plan relating to the Colville Lake abandonment project was received February 14, 2022. Engagement is ongoing for the project.

#### Application to Vary OA-2021-003-SUN, Information Request No. 7, September 17, 2024

##### Preamble:

Based on Suncor's request for extension dated September 9, 2024, OROGO understands that Suncor has not staged any equipment to Colville Lake or elsewhere in the NWT to complete the well abandonments by March 31, 2025.

##### Request:

Please provide:

- A detailed explanation why Suncor chose not to stage equipment to complete its abandonments in the Sahtu Settlement Area in winter 2024 as approved.
- A description of how Suncor intends to meet the March 31, 2025, abandonment deadline in the event its request for an extension is not approved.
- A detailed explanation why Suncor is requesting an extension due to the lack of available heli-portable equipment when it has not yet received approval to conduct heli-portable operations.
- A comprehensive description of all efforts Suncor has made to complete the well abandonments by the current deadline of March 31, 2025.

##### Response:

Suncor's reason for not placing equipment in the Sahtu Area in the winter of 2024 was due to the lack of an agreement with Colville Lake and a local working partner (Rowes Construction). In addition, Suncor must satisfy multiple authorizations, licences and permits in parallel and believes that, as required pursuant to the requirements of the GNWT ITI approved Benefits Plan, in order to be successful in entering the K'asho Got'ine District within the Sahtu Region and completing the abandonment work in the region, a collaborative approach is required.

As noted in our July 14, 2024, response to SIR #5, from 2021 to 2022 Suncor was in consultation with NRC Energy, a partnership with the Behdzi Ahda' First Nation and Pentastar Transportation Group of Companies/Northwell Oilfield Services that was created to provide local civil and support services. When that partnership dissolved in 2022, Suncor was given a strong indication from Behdzi Ahda' First Nation that they were looking for a new civil and support services partnership as they were keen to provide Suncor with local resourcing/equipment services.

As a result of the dissolution of the previous partnership, Suncor was not able to source equipment to build roads for the previously approved winter operations. In the collaborative spirit of the GNWT ITI approved Benefits Plan, while Suncor allowed time for Behdzi Ahda' First Nation to establish a new partnership in 2023, Suncor chose a sensible way of moving forward that was intended to satisfy all regulatory requirements by re-evaluating the abandonment methodology starting with a detailed geological review in 2023. The February 21, 2024, decision to revise the Suspended Well Compliance Assessment for these wells in order to remove the requirement for remedial isolation of the uncemented portion of the wellbore allowed Suncor and the local community to move forward with updating a proposal for a heli-abandonment methodology. In this regard, Suncor believed that the request for an


administrative extension was prudent. Suncor faced the additional uncertainty attributable to the fact that OROGO had not advised Suncor of its position with respect to the requirement to isolate groundwater behind the surface casing. OROGO's decision was granted late in the winter and did not allow Suncor enough time to complete the required engineering and to secure the necessary services before the winter roads were removed. Due to barging restrictions Suncor was also not able to stage equipment in spring 2024. Colville Lake has subsequently aligned with a new working partner (Rowes Construction) and Suncor is working to secure services from the community that are required for a spring/summer operation.

These wells are compliant with the suspension requirements established in the Well Suspension and Abandonment Guidelines and Interpretation Notes (Abandonment Guidelines). They were last inspected in 2024, including gas migration testing. No concerns were identified. Suncor notes that with the recent inspections, there is reassurance that a further extension is not a risk to the environment or human safety. Further delaying the abandonment does not increase a risk for the wells themselves or the spring 2025 scheduled abandonment operations. Suncor is confident that the present partnership available with local service companies can support the fall 2024 activities that includes the construction of a laydown area development, and the shipment of supplies and materials, ahead of the spring/summer 2025 abandonment. Suncor respectfully requests that OROGO accept the request for an extension to our abandonment deadline from March 31, 2025 to October 31, 2025.

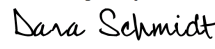
How Suncor intends to meet the spring/summer 2025 timeline is outlined in the Execution Plan. Suncor is not in a position to complete the abandonment operations before the current deadline of March 31<sup>st</sup> 2025. In addition to the details provided above, heli abandonment operations during winter months are not feasible or acceptable from operational and risk perspective.

We trust that the addendums provided will satisfy your current requirements and provides suitable documentation for your records to provide confirmation of Variance #3 for OA-2021-003-SUN, for the abandonment activities relating to ACW-2021-SUN-M-47-WID1476, ACW-2021-SUN-A-67-WID1555 and ACW-2021-SUN-O-35-WID1600. If you have any further questions or concerns, please do not hesitate to contact us.

Thank you,

DocuSigned by:  
  
2D440765B6C747D...

**Greg Heffel**  
Specialist Engineering – Completions  
**Suncor Energy Inc.**  
[gheffel@suncor.com](mailto:gheffel@suncor.com)

DocuSigned by:  
  
53E3D15DBBFC4D1...

**Dara Schmidt**  
Development Lead - Legacy Properties  
**Suncor Energy Inc.**  
[daraschmid@suncor.com](mailto:daraschmid@suncor.com)

ATTACHMENT 1:  
DECISION VARIATION TO OA-2021-003-SUN (JANUARY 18, 2023)



**OPERATIONS AUTHORIZATION**

Subject to the terms listed below, operations authorization **OA-2021-003-SUN variation #1** is granted under Section 10 of the *Oil and Gas Operations Act* and Part 2 of the *Oil and Gas Drilling and Production Regulations* to

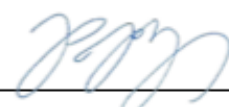
Company Name	Operating Licence #
Suncor Energy Inc.	NWT-OL-2014-008
Responsible Officer	
Chris Moger, Surface Landman	

for

Scope of Work	Region
Abandonment of the Tweed Lake M-47 (WID1475), Tweed Lake A-67 (WID1555), and Bele O-35 (WID1600) wells	Sahtu

This authorization, originally issued on October 7, 2022, has been varied by the Regulator of its delegate under Section 10(6) of the *Oil and Gas Operations Act*.

This authorization expires on **November 1, 2025**.

Issued at	Issued on
Yellowknife, Northwest Territories	January 18, 2023
Issued by	Signature
Pauline de Jong, Regulator	

### Additional Terms

1. Suncor Energy Inc. shall cause the approved work and activities to be conducted in accordance with the requirements of the *Oil and Gas Operations Act* and the *Oil and Gas Drilling and Production Regulations*, as well as any other acts or legislation as may apply.
2. Suncor Energy Inc. shall cause the approved work and activities to be conducted in accordance with any guidelines and/or interpretation notes issued by the Regulator under section 18 of the *Oil and Gas Operations Act*.
3. Suncor Energy Inc. shall cause the approved work and activities to be conducted in accordance with the specifications, standards and other information referred to in its application dated May 31, 2021, and subsequent submissions.
4. Suncor Energy Inc. shall request approval from the Regulator prior to undertaking any change to or deviation from the authorized work or activities, including but not limited to key personnel, the safety plan, the environmental protection plan and contingency plans.
5. Suncor Energy Inc. shall submit to OROGO consolidated safety, environmental protection and contingency plans by November 9, 2022. These plans should include the respective concordance tables, updated information and finalized organizational chart with key personnel names and contact information.
6. Pursuant to section 67 of the *Oil and Gas Drilling and Production Regulations*, Suncor Energy Inc. is approved to conduct controlled venting and/or flaring as part of well kill operations at a maximum daily flow rate of 29.9 E<sup>3</sup>m<sup>3</sup>/day for a maximum daily duration of 4.0 hours per day. Suncor Energy Inc. shall include the volume and composition of any amount of flared and/or vented gas in its daily report to OROGO. Flaring and/or venting of any volume, daily volume rate and/or duration greater than the approved maximum daily flow shall be reported to OROGO as an incident under section 75 of the *Oil and Gas Drilling and Production Regulations*.
7. Suncor Energy Inc. shall provide all staff and contractors for this program with its Emergency Response Plan and the OROGO 24-hour Incident Reporting phone number (867-445-8551) prior to commencing any work or activity.
8. Suncor Energy Inc. shall submit to OROGO an updated operator contact list for this program prior to any work or activity.

ATTACHMENT 2:  
DECLARATION BY APPLICANT - UPDATE



**DECLARATION BY APPLICANT**

Applicant Suncor Energy Inc.


Title of Application OA-2021-003-SUN Variation #1  
Abandonment of the Tweed Lake M-47 (WID1475), Tweed Lake  
A-67 (WID 1555) and Bele O-35 (WID 1600) wells.

Pursuant to subsection 15(1) of the *Oil and Gas Operations Act*, the Applicant declares that in respect of the above-referenced Application:

- a) the equipment and installations that are to be used in the work or activity to be authorized are fit for the purposes for which they are to be used, the operating procedures relating to them are appropriate for those uses, and the personnel who are to be employed in connection with them are qualified and competent for their employment; and,
- b) the Applicant shall ensure, so long as the work or activity that is authorized continues, that the equipment and installations continue to be fit for the purposes for which they are used, the operating procedures continue to be appropriate for those uses, and the personnel continue to be so qualified and competent.

Dated this 27<sup>th</sup> day of September 2024.

Signature of Responsible Officer

DocuSigned by:  
  
2D440765B6C747D...

Name and Title of Officer

Stephen Weatherhead, Director Completions Engineering

Please complete this declaration and enclose with the application to the Office of the Regulator of Oil and Gas Operations for an authorization under paragraph 10(1)(b) of the *Oil and Gas Operations Act*.

# ATTACHMENT 3A: DECISION VARIATION #1 TO ACW-2021-SUN-M-47-WID1476, ACW-2021-SUN-A-67-WID1555 AND ACW-2021-SUN-O-35-WID1600 (JANUARY 18, 2023)



### WELL APPROVAL

Subject to the terms listed below, well approval **ACW-2021-SUN-M-47-WID1476 variation #1** is granted under Section 10 of the *Oil and Gas Operations Act* and Part 2 of the *Oil and Gas Drilling and Production Regulations* to

Company Name	Operating Licence #
Suncor Energy Inc.	NWT-OL-2014-008
Responsible Officer	Operations Authorization #
Matt Crockett, Completions Engineer	OA-2021-003-SUN

for

Well Name and Well ID#	
Tweed Lake M-47 (WID1476)	
Type of Work	Region
Abandonment	Sahtu

This approval, originally issued on October 17, 2022, has been varied by the Regulator or its delegate under Section 10(6) of the *Oil and Gas Operations Act*.

This approval expires on **November 1, 2025**.

Issued at	Issued on
Yellowknife, Northwest Territories	January 18, 2023
Issued by	Signature
Pauline de Jong, Regulator	



### WELL APPROVAL

Subject to the terms listed below, well approval **ACW-2021-SUN-O-35-WID1600 variation #1** is granted under Section 10 of the *Oil and Gas Operations Act* and Part 2 of the *Oil and Gas Drilling and Production Regulations* to

Company Name	Operating Licence #
Suncor Energy Inc.	NWT-OL-2014-008
Responsible Officer	Operations Authorization #
Matt Crockett, Completions Engineer	OA-2021-003-SUN

for

Well Name and Well ID#	
Bele O-35 (WID1600)	
Type of Work	Region
Abandonment	Sahtu

This approval, originally issued on October 17, 2022, has been varied by the Regulator or its delegate under Section 10(6) of the *Oil and Gas Operations Act*.

This approval expires on **November 1, 2025**.

Issued at	Issued on
Yellowknife, Northwest Territories	January 18, 2023
Issued by	Signature
Pauline de Jong, Regulator	

### WELL APPROVAL

Subject to the terms listed below, well approval **ACW-2021-SUN-A-67-WID1555 variation #1** is granted under Section 10 of the *Oil and Gas Operations Act* and Part 2 of the *Oil and Gas Drilling and Production Regulations* to

Company Name	Operating Licence #
Suncor Energy Inc.	NWT-OL-2014-008
Responsible Officer	Operations Authorization #
Matt Crockett, Completions Engineer	OA-2021-003-SUN

for

Well Name and Well ID#	
Tweed Lake A-67 (WID1555)	
Type of Work	Region
Abandonment	Sahtu

This approval, originally issued on October 17, 2022, has been varied by the Regulator or its delegate under Section 10(6) of the *Oil and Gas Operations Act*.

This approval expires on **November 1, 2025**.

Issued at	Issued on
Yellowknife, Northwest Territories	January 18, 2023
Issued by	Signature
Pauline de Jong, Regulator	

ATTACHMENT 3B: EXECUTION PLANNING PROGRAM ADDENDUM  
OA VARIATION #3 REQUEST EXECUTION PLAN DESCRIPTION UPDATES



**NWT Facility**  
**SUNCOR TWEED LAKE M-47, A-67 & BELE O-35**  
**EXECUTION PLAN**  
**Wells Onshore**

**Rev #0**

**Corporate Head Office**  
Suncor Energy Inc.  
P.O. Box 2844, 150 - 6 Avenue S.W.  
Calgary, Alberta  
Canada T2P 3E3  
T: 403-296-8000

## I. OBJECTIVE

As per OROGO’s direction, the following wells must be abandoned within the Colville Lake Area prior to March 31, 2025 or otherwise specified by the regulator. A request was made September 9, 2024 to OROGO to extend the deadline to Oct 31, 2025, and is presently pending OROGO approval.

- TWEED LAKE M-47 (Well ID: 1476)
- TWEED LAKE A-67 (Well ID: 1555)
- PCI CANTERRA BELE O-35 (Well ID: 1600)

**Completions pre-abandonment testing:** Summer 2024.

**Abandonment:** May 2025 + contingency.

The objective is to mobilize supporting equipment in February 2025 for abandonment operations utilizing helicopter, wireline unit & water jet cutting tool during spring/summer months as per the **Well Suspension and Abandonment Guidelines** from OROGO. Suncor has obtained the required Land Use Permit for these wells (SS22A-001).

## II. PROJECT AREA

The three wells are located within the Colville Lake area in the Northwest Territories.

### PCI CANTERRA BELE O-35

UWI: 3000356640126150

Lat: 66 34’ 58.1357” N

Long: -126 21’ 34.10” W

### PCI CANTERRA TWEED LAKE A-67

UWI: 300A6767000125450

Lat: 66 56’ 11.6”

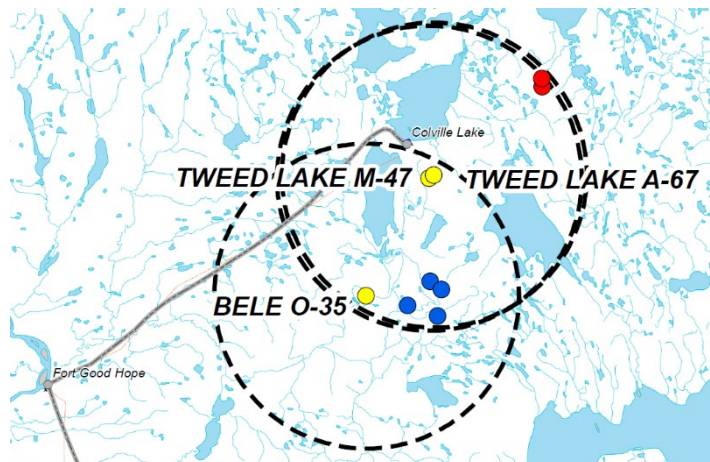
Long: -125 56’ 18.8”

### PCI CANTERRA TWEED LAKE M-47

UWI: 300M476700125450

Lat: 66 56’ 47.11”

Long: -125 54’ 9.42”



## III. GENERAL SCOPE

### 1. Scope planning & Surface Inspection at Field Level

To allow for the successful application to the regulators and the safe & efficient execution of the operations in the Colville Lake Area, Suncor requires engagement with local communities & officials, sourcing local equipment and workforce where possible, and gathering of operational data/field scouting (filtered water sources, laydown area, lease, environmental considerations, and EH&S). Regulatory requirements will include but may not be limited to:

- SLWB - Land Use Permit(s) & Water License(s)
- OROGO – Alter Condition of a Well (ACW) & Operation Authorization (OA)

**Proposed Schedule:** September 2024, 7 days including travel.

- Day 1 – Mobilization to Norman Wells

- Day 2 – Assessment of Bele O-45
- Day 3 – Assessment of Tweed Lake A-67
- Day 4 – Assessment of Tweed Lake M-47
- Day 5 – Contingency day 1
- Day 6 – Contingency day 2
- Day 7 – Demobilization

**Resource Equipment:**

- 1 Helicopter – A-Star B350
- 1 Emergency equipment / Spill Kit

**Resource Personnel:**

- 1 Suncor Personnel
- 1 Pilot
- 1 Wildlife Monitor
- 2 Environmental Assessment

## 2. Pressure and Gas Migration Testing (Completions)

In alignment of NWT OROGO Well Suspension and Abandonment Guidelines and Interpretation Notes, Gas migration and Surface casing vent flow testing is required prior to downhole abandonment.

**Schedule:** This was successfully completed in August 2024.

## 3. Abandonment Operations

Well to be completed as per the ACW and programs sent in on September 9, 2024, with the cut/cap of casing as per regulatory requirements for all three wells.

**Schedule:** February 2025 to February 2026.

- February 2025:
  - Mobilization of equipment including wireline unit, fuel, totes and supporting equipment.
- May/June 2025:
  - Heli-portable abandonment operations begin on or around May 15<sup>th</sup> for approx. 30 days.
    - Store inhibited wellbore fluids into totes with secondary containment for future winter transportation in the laydown yard in Colville Lake.
  - Surface casing cutting & sign install.
- February 2026
  - Transport of inhibited fluids from Colville Lake to approved location.

**Resource Equipment:**

- Laydown in Colville Lake w/ secondary containment
- Fuel Drums and/or tanks
- Pumps
- Onion & pumpkin tanks
- Spill kit
- Generators
- Water Jet Cutting Tool - Heli-portable
- Wireline Unit - Heli-portable (pictured)



***Resource Personnel:***

- 2 Suncor Wellsite Supervisor
- 1 Medic
- 1 Wildlife Monitor
- 2 loadmasters
- 1 pilot
- 3 operators (wireline unit)
- 2 operators (waterjet cutting tool)

**4. Signage Installation**

After completing the cut and cap, the abandoned well will be marked with a durable post and signage in accordance with OROGO's Well Suspension Guidelines and Interpretation Notes.

**IV. OTHER LOGISTICS/RESOURCES**

---

**1. Accommodations**

- With a peak resource of 12-15 personnel, Suncor will be evaluating to stage out of Norman Wells to support operations.

**2. Laydown**

- The main laydown to support the project will be situated in Colville Lake pending community approval.

**3. Water Source**

- Water requirements (filtered or potable water) will be provided by Colville Lake Community.

**4. Consumables**

- Fuel (Clear Diesel, Gasoline) will be source as available from Colville Lake. Jet Fuel requirements to be handled by Helicopter Vendor.

## V. CONTACTS

### SUNCOR PRIMARY CONTACTS

Name	Title/Location	Office	Cellular
Chris Moger	Surface Landman	(403) 296-4960	(403) 620-0281
Greg Hundseth	I&CR	(403) 880-5254	
Greg Heffel	Completions Engineer	(403) 296-5549	
Dara Schmidt	Regulatory & Project Lead	(403) 296-3006	
Paul Carpentier	Logistics Superintendent	(403) 296-6291	(587) 646-9482
Jonathan Koteles	Completions Superintendent	(403) 296-8916	(403) 510-7217

### REGULATORY, HEALTH, & SAFETY AGENCIES (To be updated prior to mobilization)

Name	Emergency #
GNWT (Office of the Regulator of Oil & Gas Operations)	1-867-920-8130 (24hr Spill Response) 1-867-445-8551 (incident Response) 1-867-767-9067
Sahtu Land & Water Board	1-867-598-2413
GNWT Infrastructure (Sahtu Region)	1-867-874-5000
GNWT Department of Lands	1-855-698-5263
NWT Environment & Natural Resources (Sahtu Regional)	1-867-587-2422 (Wildfire)
Forest Fire NWT	1-877-698-3473 (1-877-NWTFIRE)
Air Ambulance Service (Access Air)	Updated Pre-Mob
Great Slave Helicopter	1-867-873-2081
Hospital Yellowknife	1-867-669-4111

### SERVICE COMPANY CONTACTS (To be updated prior to mobilization)

Service Type	Company	Contact Name	Office Number	Cellular

END OF PROGRAM

ATTACHMENT 4:  
SAFETY PLAN PROJECT SPECIFIC INFORMATION - ADDENDUM

**OA-2021-003-SUN  
TWEED LAKE M-47, A-67 & BELE O-35  
Abandonment Program**

**Site Specific Safety Plan (SSSP)<sup>2</sup> Emergency Response Plan (ERP)  
& Contingency ERP - Addendum**

The purpose of this addendum to the Project Site Specific Safety Plan with Contingency is to demonstrate that Suncor Energy Inc. (Suncor) understand the regulatory expectations to conduct the operation.

The SSMP sets out the procedures, practices, resources and monitoring necessary to ensure effective safety management of the personnel, environment and equipment associated with the worksite for the duration of the program.

It is expected that all project personnel will meet or exceed the requirements described in the plan. Subcontractors are expected to comply with any additional regulatory requirements applicable to their work and must adhere to their own company policies and procedures.

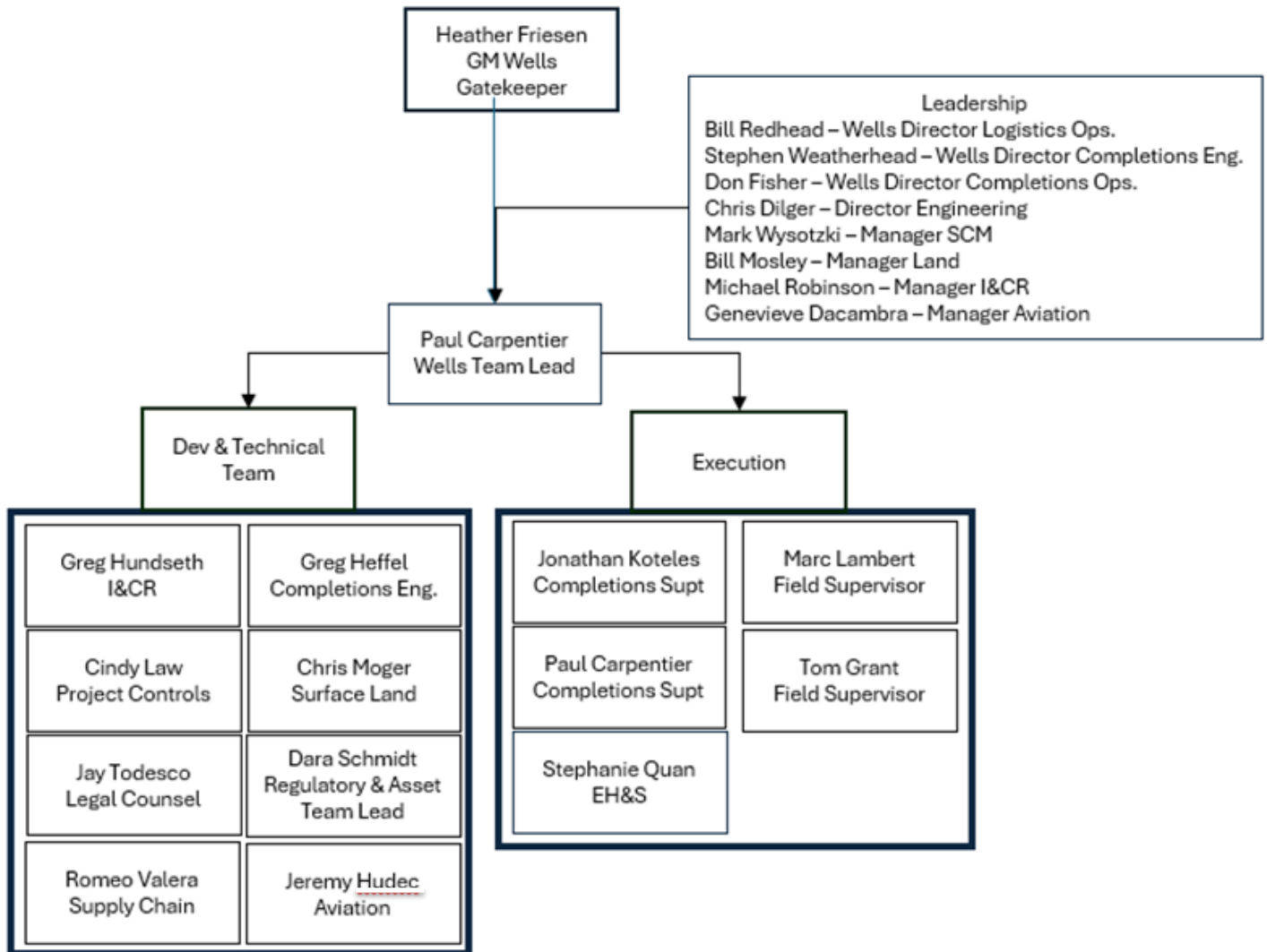
The intent of the Plan is to be a living document that will grow with the project to address hazards and controls. Any questions regarding intent or interpretation of this document may be directed to the Suncor Site Supervisor for clarification. All work is completed under the Operations Authorization OA-2021-003-SUN and the well specific ACWs.

SITE SPECIFIC SAFETY PLAN (SSSP), EMERGENCY RESPONSE PLAN (ERP) & CONTINGENCY ERP ADDENDUM  
PROJECT DESCRIPTION UPDATES – CONCORDANCE TABLE

Site Specific Safety Plan Section		Update/Comment
APP 1	Project Organization Structure	Updated structure, Attachment A4-1
APP 3	Risk Assessment	Updated risk assessment, Attachment A4-2
APP 8	Contingency Emergency Response	Updated project description, Attachment A4-3

<sup>2</sup> Suncor Energy Inc., NWT Facility Suncor Tweed Lake M-47, Tweed Lake A-67 & Bele O-35, Suncor Amaco Tathlina N-18, Abandonment Program – Safety Management Plan, Completions & Logistics (DCLL). Rev#0, May 20, 2021.

## ATTACHMENT A4-1: PROJECT ORGANIZATION STRUCTURE UPDATES (SEPTEMBER 9, 2024)



# ATTACHMENT A4-2: RISK ASSESSMENT UPDATES (SEPTEMBER 9, 2024)

Risk Context & Background	Risk Status	Risk Title	Risk Description / Statement	Inherent Consequence Receptor	Inherent Consequence Level	Inherent Likelihood Level	Inherent Risk Level	Inherent Risk Consequence & Likelihood Rationale	Controls / Safeguards	Residual Consequence Level	Residual Likelihood Level	Residual Risk Level	Residual Risk Consequence & Likelihood Rationale
Operational	Active	Completions Wireline rig or Logistics Water Jet cutting tool functioning correctly	With operations in a remote area, it is critical to have functioning equipment after transportation and staging for efficient operations		C3	L4	III	Financial: The inefficient use of the wireline unit or jet cutting tool will incur Non-Productive Time including helicopter minimums, crew staging, hotel, transport etc.	1. Operational Readiness Checkpoint including the startup and checks of the major equipment 2. Mobilization of redundancy equipment such as hoses, generators, spark plugs etc. 4. Requesting experienced crew members or equipment. 3. Review of lesson learn from Tathlina N-18 with similar issues in a much impactful remoteness	C3	L3	III	Following the Classification of the project, it does include operational readiness, which engage vendors to start up equipment prior to mobilization and ensure redundancy
Operational	Accept/Monitor	Forest Fires impacting our operations or safety of personnel	Forest Fires are impacting yearly NWT communities and potential operations	H&S: (Fatality potential) Financial: (Delay of program which cause financial impact)	C6	L3	I	H&S: Forest Fire has likelihood cause a or many fatalities when unmanaged due to smoke, heat, stranded w/ inoperable transportation etc.  Fin: The project may also be delayed due to nearby forest fires w/ Tathlina being an example	1. All Suncor equipment must be inspected for clear exhausts and hot surfaces from dry fuels. 2. No Smoking on Wellsites 3. Follow Emergency Response Plan (1-877-698-3473 NWT) 4. Great Slave Helicopter & Suncor Field Sup to monitor weather, smoke & fires from visuals and government reports. Chief Pilot have final call for evacuation and/or weather delays. 5. Suncor to have firefighting equipment (hand tools) at site as per regulations 6. Safing energized equipment prior to leaving site in case of evacuation 6. Review lessons learned from Tathlina N-18	C6	L1	II	With proper controls, the credible scenario falls into Financial impact due to delay of program midway and/or destroy the on lease equipment
Operational	Accept/Monitor	Helicopter Operation	Helicopter Operations may lead to multiple fatalities in the event of an unplanned landing	H&S: Multiple Fatalities on unplanned landing	C6	L5	I+	H&S: Helicopter Operations may result in multiple Fatalities during an unplanned landing in challenging remote areas.  H&S: Long Lining Operations & Drops may result in equipment falling at heights (LSR, SIFp)	1. Suncor Aviation to audit Great Slave Helicopter compliance to federal aviation standards including and not limited to competency, maintenance, hours of services etc. 2. Emergency Response Plan daily review with helicopter pilot & crew. 3. Review of JSA, Hazards, Risk Assessment w/ GSH & Crew. 4. Lifting & long lining plan is to be reviewed by dedicated and competent load masters & pilot 5. Exclusion zones (no-go) to be implemented around helicopter operations. 6. No loads paths shall go over personel on ground (Fail Safety). 7. Review and implement GSH Emergency Response Plan in case of emergency. 8. Wellsites & Laydown to be registered with NWT "Stars" equivalent. 9. Personnel loading/offloading shall have a completely shut down helicopter / rotors 10. GSH mgmt / chief pilot to be involve in the planning and execution w/ Suncor and vendors (weights, loads, distances etc.) - planned. 11. Emergency Mock Exercise on Day 1 of execution	C6	L3	I	Our highest risk based on C6 consequence. Great Slave Helicopter and Suncor Aviation has the expertise to mitigate the risk to an acceptable level.
Operational RSK.3334	Accept/Monitor	Wildlife Interaction	Operation are in a remote areas where wildlife interactions may cause a serious injury or fatality	H&S: Serious Injury or Fatality	C5	L4	I	H&S: Fatality or Serious Injury due to startling of wildlife (Bear, Muskox) within the vicinity of our operations	1. Wildlife Intermediate training with bear spray deployment. 2. Assessment of work area and wildlife risks utilizing helicopter prior to landing. 3. Wildlife Monitor in place to support deterrant operations (e.g. Bearscares). 4. All organic waste materials removed at end of day and disposed in approved facilities. 5. Follow Suncor standard - RHS00041 Wildlife Standard. 6. Report sightings to wellsite supervisor (logistics or completions)	C5	L3	II	

Risk Context & Background	Risk Status	Risk Title	Risk Description / Statement	Inherent Consequence Receptor	Inherent Consequence Level	Inherent Likelihood Level	Inherent Risk Level	Inherent Risk Consequence & Likelihood Rationale	Controls / Safeguards	Residual Consequence Level	Residual Likelihood Level	Residual Risk Level	Residual Risk Consequence & Likelihood Rationale
Operations	Accept/Monitor	Weather impacting operations	Unpredictable & Variability in weather in sub-alpine & montaneous weather may impact flight conditions spontaneously	H&S: Remote operations where evacuation to norman wells not possible (remote site). Financial: Delay of operations	C3	L4	III	H&S: Potential stranding of personnel due to weather condition changes (fog, smoke). Financial: Delay of project (weather days) while paying stand-by rates	1. Setup vendor for chartered flights from Colville Lake to Norman wells as emergency (CONFIRM IF POSSIBLE) 2. Ensure emergency shelter on sites w/ 24 hours dry food options? 3. GSH and Chief Pilot has say to evacuate due to weather and other emergencies as required. 4. GSH has emergency response plan to follow should there be weather event while on site. 5. Work to be planned prior to September due to probabilities of higher weather events	C3	L3	III	
Operations	Accept/Monitor	Water Jet Cutting Tool	Cutting of Casing w/ Nu'ave waterjet cutting tool may be challenging due to casing size, conducting cementing and other challenges	Financing	C2	L4	III	Financial: May require more days for operations per well, which impact helicopter & nu'ave time resulting in a cost of 100-300K potential	1. Nu'ave Waterjet Cutting operations to review wellsite files including casing size & photos - completed. Added double time contingency & water supply 2. Bring additional tools such as jack hammer to dismantle some of the cement bonding	C2	L3	IV	
Operations	Accept/Monitor	Remote Site Operations	Distance of Remote Wellsites may lead to increase response time of emergency services	Wellsite location is hell-access only: Incident Response Time / Medevac & Weather impacting flight return during worksite operations  Risk of Injury or death to worker due to working in remote locations. Reduced communications options and effectiveness. The risk is increased if the worker is subject to an injury or incident that causes reduced mobility, unconsciousness due to the time and effort required	C4	L4	II	H&S: Medical Treatment	1. Emergency Response Plan - Qualified Medic w/ equipment and resources - Great Slave Helicopter to ensure basket stretcher compatible w/ B212S. - Communicatin with Norman Wells Hospital (ensure waypoints in place. - Chief Pilot / Flight Crew responsible to ensure evacuation can happen (watch for adverse weather conditions) - Wellsite registered w/ Stars or similar (GSH is the operator in region). - Radios for communication required (Helicopter, Loadmaster, Wellsite supervisors) - All personnel to have Standard First Aid - Emergency Shelter available at wellsite - Satellite Phones, In Reach available w/ redundancy - Consideration in clothing to include bug net, insect repellent, rain gear, warm dry clothes, extra food etc.	C4	L2	III	
Operations		Competency of personnel in non-routine operations (RSK.4052 - Contractor Management	Competency of personnel w/ concurrent contractors & specialized equipment	Health & Safety	C5	L2	II	H&S: Single Fatality or SIFa Fin: C4-L5 (I)	1. Wells Onshore Best Pratices 2. Wells Integrated Risk Review w/ Vendors 3. Utilized experiences workforce similar to Tathlina N18 4. Procurement strategy w/ SCM to ensure satisfactory onboarding. 5. Field Review of Risk Assessment, JSA, Hazard ID, Scope of Work, FHSA, Critical Taks & Controls, CCA	C5	L2	II	
Operations	Accept/Monitor	Journey Management	Personnel to mobilize in Norman Wells & daily flights to wellsites	Health & Safety	C5	L3	II	Health & Safety	1. Wells Onshore Journey Management 2. Daily reports from Field to Supt 3. ERP actived when required	C5	L1	III	

Risk Context & Background	Risk Status	Risk Title	Risk Description / Statement	Inherent Consequence Receptor	Inherent Consequence Level	Inherent Likelihood Level	Inherent Risk Level	Inherent Risk Consequence & Likelihood Rationale	Controls / Safeguards	Residual Consequence Level	Residual Likelihood Level	Residual Risk Level	Residual Risk Consequence & Likelihood Rationale
Operations		H2S Release from Wellbore	Release of Significant H2S levels from wellbore due to contact during completions operations	H&S : SIFp	C5	L1	III	H&S: H2S risk in low due to the reservoir being non-sour and well being abandoned downhole.	1. Review Potential H2S or other specific hazards from wellbore 2. Review Working Around Infrastructure procedure 3. Critical Task - within 5m of wellbore 4. Personnel Gas Detection monitors on site 5. Hazard Assessment / Risk Review w/ Vendors 6. Review incident E-2022-0000005227 - Wellhead And Panel Damage 7. Handover document from Completions to Logistics	C5	L1	III	
Regulatory Environmental		NWT Reportable Spill impacting regulatory permits with SLWB	Storing of Inhibited fluids or other hazards such as Fuel spilling onto competent grounds		C3	L3	III	Reg / Env: Regulatory non compliance of Land Use Permit Env: Cleanup on-site of spills	1. Follow Site Specific ERP (Approved by OROGO) 2. Spill Kits as per requirements for fueling locations & totes. 3. Laydown for totes to be bermed/lined. 4. Handing over management of laydown/fluids to 3rd party (as a warehouse) where Suncor would not be liable. 5. Fueling of aviation provided to GSH at aerodrome - no involvement of Suncor 6. No fueling or storing of inhibited water within sensitive features including water bodies. 7. Pumping of any surfacewater from liner or site, must be tested to meet criteria	C3	L2	IV	
Operations		Surface Abandonment - Pulling of Casing - Stored Energy	Pulling of the tight casing in soil w/ helicopter (stored energy) which could result in a unexpected reaction to the helicopter	H&S - SIFp	C5	L2	II		1. Similar to Tathlina - use of Hydraulic & Hand tools to loosen casing prior to lifting. 2. GSH / NuWave has experience w/ scope 3. Cut casing in smaller pieces and/or twice 4. Review risk assessment w/ GSH	C5	L1	III	

## ATTACHMENT A4-3: PROJECT SPECIFIC EMERGENCY RESPONSE PLAN (ERP) - ADDENDUM

### Location:

The project is the permanent abandonment of three wells in the Sahtu region of the NWT, specifically in the vicinity of Colville Lake, NWT.

- Two wells are approximately 15 km southeast of the community of Colville Lake (M-47, A-67)
- One well is approximately 63 km southwest of the A-67 wellsite (O-35).
- All locations are only accessible by helicopter.

### Project Scope:

Permanent abandonment of the three specified wells in accordance with the Oil and Gas Drilling and Production Regulations and OROGO Well Suspension and Abandonment Guidelines and Interpretation Notes.

### Operational and Emergency Support:

- This operation will be supported with local resources from Norman Wells and Colville Lake. Specialized oilfield services (e.g. wireline) will be brought from Alberta.
- Helicopter support will be supplied from Norman Wells.
- Fixed wing support will be to/from Norman Wells (1800m asphalt) and Colville Lake (1200m gravel).
- Medevac would be by helicopter, or fixed wing to Norman Wells Hospital (or direct to Yellowknife/Edmonton) as required.

### Equipment Critical to the Safety of the Operation:

Wireline Unit

- The heli-portable wireline unit will be used to set plugs and related abandonment operations.

### Responsible Personnel:

- Paul Carpentier, Superintendent Logistics, Suncor Energy Inc. has overall responsibility and is accountable for the Project Site Specific Safety Plan.
- Stephen Weatherhead, Director Completions Engineering, Suncor Energy Inc. is responsible for implementing the well abandonment programs.

ATTACHMENT 5: ENVIRONMENTAL PROTECTION PLAN – ADDENDUM

**OA-2021-003-SUN  
TWEED LAKE M-47, A-67 & BELE O-35  
Abandonment Program  
Environmental Protection Plan<sup>3</sup> Addendum**

---

<sup>3</sup> EnviroSearch Ltd., OROGO Environmental Protection Plan, Suncor Tweed Lake M-47, Tweed Lake A-67 & Bele O-35 Abandonment and Reclamation Program Colville Lake, Sahtu Region, Northwest Territories. Prepared for Suncor. File No. 21NT0254, May 2021.

ENVIRONMENTAL PROTECTION PLAN PROJECT DESCRIPTION UPDATES – CONCORDANCE TABLE

Environmental Protection Plan Section	Update/Comment
<p>1</p> <p>“Program activities are planned for the summer and winter months depending on the tasks being undertaken between 2021 and 2023.”</p> <p>“Abandonment and reclamation activities include helicopter scouting for water sources and access road availability, pressure testing of surface casing, Surface Casing Vent Flow (SCVF) testing, Gas Migration testing, winter access and lease construction for minimal disturbance,”</p>	<p>Program activities are planned for fall 2024, winter 2024/2025 and spring/summer 2025.</p> <p>Abandonment and reclamation activities will be by helicopter operation and no longer include the need for winter access and lease construction.</p>
<p>4</p> <p>A summary of the identified hazards and mitigations provided in Suncor’s Environmental Risk Assessment of Worst Credible Scenario includes cement as a hazard.</p>	<p>Cement is an unlikely hazard with updated abandonment plans.</p> <ul style="list-style-type: none"> <li>• <i>In the May 31, 2021, application, Suncor provided a worst credible risk scenario for both Tathlina N-18 and the three Colville Lake wells (Tweed Lake M-47, Tweed Lake A-67, Bele O-35). Abandonment via helicopter was noted to have significantly less risk than previously proposed Colville Lake winter abandonment operations. As the proposed plan is to complete all remaining three abandonments in a manner similar to Tathlina N-18, the conservative Environmental Risk Assessment adequately covers the updated operations.</i></li> </ul>
<p>Organizational Structure</p>	<p>Updated structure as of September 1, 2024 (see below).</p>
<p>6</p>	

Paul Carpentier (Logistics) remains accountable for EPP execution with respect to the project. Tom Grant (Logistics Field Supervisor) is responsible for implementing the EPP. Their contact information remains unchanged.