## Investor Mining and Tailings Safety Initiative

This document must be read in conjunction with the Suncor Interpretation Document.

### Table: Dyke Summary

<table>
<thead>
<tr>
<th>Dyke</th>
<th>Ownership Structure</th>
<th>Dam Classification</th>
<th>Safety Directive (regulation)</th>
<th>Is the dam currently operated or closed as per currently approved Date of Initial Operation?</th>
<th>Is an adequate Closure Plan in place?</th>
<th>Most Recent Independent Expert Design, Construction, Operation, Maintenance, and/or Closure? Website link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyke 11A</td>
<td>Suncor</td>
<td>Extreme</td>
<td>Alberta Safety Directive</td>
<td>No - May 2013, Dam Breach Analysis/Inundation Study was completed</td>
<td>Yes</td>
<td><a href="https://www.aer.ca/providing-information/by-topic/dams">https://www.aer.ca/providing-information/by-topic/dams</a></td>
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<tr>
<td>Dyke 11B</td>
<td>Suncor</td>
<td>Extreme</td>
<td>Alberta Safety Directive</td>
<td>No - May 2013, Dam Breach Analysis/Inundation Study was completed</td>
<td>Yes</td>
<td><a href="https://www.aer.ca/providing-information/by-topic/dams">https://www.aer.ca/providing-information/by-topic/dams</a></td>
</tr>
<tr>
<td>Dyke 11C</td>
<td>Suncor</td>
<td>Extreme</td>
<td>Alberta Safety Directive</td>
<td>No - May 2013, Dam Breach Analysis/Inundation Study was completed</td>
<td>Yes</td>
<td><a href="https://www.aer.ca/providing-information/by-topic/dams">https://www.aer.ca/providing-information/by-topic/dams</a></td>
</tr>
<tr>
<td>Dyke 12</td>
<td>Suncor</td>
<td>Extreme</td>
<td>Alberta Safety Directive</td>
<td>No - May 2013, Dam Breach Analysis/Inundation Study was completed</td>
<td>Yes</td>
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</tr>
<tr>
<td>Dyke 13</td>
<td>Suncor</td>
<td>Extreme</td>
<td>Alberta Safety Directive</td>
<td>No - May 2013, Dam Breach Analysis/Inundation Study was completed</td>
<td>Yes</td>
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</tr>
<tr>
<td>Dyke 14</td>
<td>Suncor</td>
<td>Extreme</td>
<td>Alberta Safety Directive</td>
<td>No - May 2013, Dam Breach Analysis/Inundation Study was completed</td>
<td>Yes</td>
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<tr>
<td>Dyke 15</td>
<td>Suncor</td>
<td>Extreme</td>
<td>Alberta Safety Directive</td>
<td>No - May 2013, Dam Breach Analysis/Inundation Study was completed</td>
<td>Yes</td>
<td><a href="https://www.aer.ca/providing-information/by-topic/dams">https://www.aer.ca/providing-information/by-topic/dams</a></td>
</tr>
<tr>
<td>Dyke 16</td>
<td>Suncor</td>
<td>Extreme</td>
<td>Alberta Safety Directive</td>
<td>No - May 2013, Dam Breach Analysis/Inundation Study was completed</td>
<td>Yes</td>
<td><a href="https://www.aer.ca/providing-information/by-topic/dams">https://www.aer.ca/providing-information/by-topic/dams</a></td>
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<tr>
<td>Dyke 17</td>
<td>Suncor</td>
<td>Extreme</td>
<td>Alberta Safety Directive</td>
<td>No - May 2013, Dam Breach Analysis/Inundation Study was completed</td>
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<td>Dyke 18</td>
<td>Suncor</td>
<td>Extreme</td>
<td>Alberta Safety Directive</td>
<td>No - May 2013, Dam Breach Analysis/Inundation Study was completed</td>
<td>Yes</td>
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</tr>
<tr>
<td>Dyke 19</td>
<td>Suncor</td>
<td>Extreme</td>
<td>Alberta Safety Directive</td>
<td>No - May 2013, Dam Breach Analysis/Inundation Study was completed</td>
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Suncor has reviewed recent global failures like Mt. Polley and Brumadinho to assess what learnings can be applied to tailings management systems through our continuous improvement cycle. Learnings from these failures have reinforced Suncor’s focus on construction due diligence for all dam construction methods used at our sites. **Investor Mining and Tailings Safety Initiative communities and the environment e.g. buttressing, evacuation?**

Pond has reviewed recent global failures like Mt. Polley and Brumadinho to assess what learnings can be applied to tailings facility management. The first tier is our Tailings Facility Management System which outlines the management system related to the specifics of each tailings facility. (Refer to The Interpretation Document).
**Investor Mining and Tailings Safety Initiative**

This document must be read in conjunction with the Suncor’s Interpretation Document.

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### South Tailings Pond (STP) (In Pit Facility)

<table>
<thead>
<tr>
<th>Location</th>
<th>Date of Construction</th>
<th>Date of Initial Operation</th>
<th>Consequence</th>
<th>Dam Classification</th>
<th>Date of Dam Safety Reassessment</th>
<th>Date of Most Recent Independent Expert Review</th>
<th>Dam Safety Committee (stakeholder participation)</th>
<th>Great Sand Dune National Park and Preserve (stakeholder participation)</th>
<th>Alberta Energy Regulator (Important)</th>
<th>Website link</th>
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<tbody>
<tr>
<td>East In-Pit Boundary Dam</td>
<td>2007</td>
<td>1995</td>
<td>High</td>
<td>Extreme</td>
<td>2017</td>
<td>2018</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td><a href="https://www.aer.ca/providing-information/by-topic/dams">https://www.aer.ca/providing-information/by-topic/dams</a></td>
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### East In-Pit Tailings Pond (EIP) (In Pit Facility)

<table>
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<tr>
<th>Location</th>
<th>Date of Construction</th>
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### West In-Pit Tailings Pond (WIP) (In Pit Facility)

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<tr>
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### West In-Pit Tailings Pond (WIP) (Out of Pit Facility)

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<tr>
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<th>Alberta Energy Regulator (Important)</th>
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<tbody>
<tr>
<td>South Dyke (Out of Pit Facility)</td>
<td>2007</td>
<td>1995</td>
<td>High</td>
<td>Extreme</td>
<td>2017</td>
<td>2018</td>
<td>Yes</td>
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### Sand Dune Dam in Pit Facility

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<tr>
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### Sand Dune Dam Out of Pit Facility

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<th>Dam Classification</th>
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### Tailings Facilities

<table>
<thead>
<tr>
<th>Facility</th>
<th>Location</th>
<th>Ownership Structure</th>
<th>Active</th>
<th>Extent</th>
<th>Consequence</th>
<th>Dam Classification</th>
<th>Safety Directive</th>
<th>Date of Initial Operation</th>
<th>Dam and Canal Safety Directive</th>
<th>Website link</th>
</tr>
</thead>
<tbody>
<tr>
<td>West In-Pit Pond (Base Facility)</td>
<td>Alberta</td>
<td>Teck Resources Inc. &amp; Syncrude</td>
<td>active</td>
<td>Upstream</td>
<td>Yes</td>
<td>Extreme</td>
<td>Alberta Energy Regulator (regulation)</td>
<td>2007</td>
<td>Alberta Energy Regulator (regulation)</td>
<td><a href="https://www.aer.ca/providing-information/by-topic/dams">https://www.aer.ca/providing-information/by-topic/dams</a></td>
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Suncor has reviewed recent global tailings failures like Mt. Polley and Brumadinho to assess what learnings can be applied to tailings storage facilities with upstream dam construction, and taken steps necessary to protect local ecosystems and critical infrastructure. Suncor has taken this opportunity to re-examine the regulations that pertain to tailings storage facilities and has determined that they do not cover all aspects of the tailings management system. To that end, Suncor has recently revised Alberta’s Tailings Management Regulations to include additional tailings risk management requirements. Suncor’s Tailings Management System (TMS) provides a framework for assessing the risks associated with a tailings facility throughout its life cycle. It is supported by an integrated system of processes and practices that are designed to identify and manage the risks associated with tailing storage facilities. Suncor’s TMS includes a variety of management systems, including the Tailings Facility Management System (TFMS) and other management systems, as well as engineering and operational controls and monitoring. Suncor has a two tiered approach to tailings facility management. The first tier is Suncor’s Tailings Facility Management System which focuses on preventing tailings management at the site, and second tier utilizes a management system related to the specifics of each tailings facility. (Refer to The Interpretation Document for additional detail on this question.)
# Investor Mining and Tailings Safety Initiative

This document must be read in conjunction with the Suncor’s Interpretation Document.

**Overview**

Aurora Site

- **Purpose**: To address communities and the environment e.g., buttressing, evacuation?
- **Location**: East (AEPN-E) Pond (In Pit Facility)
- **Ownership Structure**: Joint Venture - Non-operated
- **Date of Initial Operation**: 2014
- **Impoundment Volume (m³)**: 2010
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 254,000,000

**Execution**

- **Total Volume**: 254,000,000
- **Elevation**: 2018
  - Fluid Tailings Portion: 118,000,000
  - Total Volume: 254,000,000
- **Elevation**: 2018
  - Fluid Tailings Portion: 13,000,000
  - Total Volume: 399,000,000
- **Elevation**: 2018
  - Fluid Tailings Portion: 53,000,000
  - Total Volume: 236,000,000
- **Elevation**: 2018
  - Fluid Tailings Portion: 147,000,000
  - Total Volume: 360,000,000

**Engineering Records Including Water**

- **Low/Significant**

**Tailings Facility Identifier**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Planned Tailings Storage**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 40,000,000
  - Total Volume: 53,000,000

**Construction/Completion**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Please state if you have omitted any other exposure to tailings facilities change, e.g. over the next two years?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**What is your hazard categorisation of this facility, based on the Alberta Energy Regulator (AER) Tailings Safety Directive (regulation)?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**What guideline do you follow for the classification system?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Has a formal analysis of the most recent independent expert review?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Is there a closure plan in place for this dam, and does it include long term monitoring?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Does this facility, at any point in its history, have notable stability concerns, as identified by an independent engineering specialist oversight of your tailings facilities against the Change?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Has this facility, at any point in its history, notable stability concerns, as identified by an independent engineering specialist oversight of your tailings facilities?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Engineering Records Including Water**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Has this facility, at any point in its history, notable stability concerns, as identified by an independent engineering specialist oversight of your tailings facilities?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Is there a closure plan in place for this dam, and does it include long term monitoring?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Most Recent Independent Expert Review**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Is the dam currently operated or dismantled?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Note: Fluid tailings includes water submerged)**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**What is your hazard categorisation of this facility, based on the Alberta Energy Regulator (AER) Tailings Safety Directive (regulation)?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**What guideline do you follow for the classification system?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000

**Has a formal analysis of the most recent independent expert review?**

- **Tailings Facility Identifier**: Dyke 1N
- **Elevation**: 1998
  - Fluid Tailings Portion: 120,000,000
  - Total Volume: 40,000,000