

February 21, 2025

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Remediation Certificates  
Alberta Environment and Protected Areas  
Regulatory Approvals Center  
Petroleum Plaza South Tower, Fifth Floor  
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Edmonton Alberta, T5K 2G8

O/Ref.: GT21-200-20/4020.230219.20

EPA Ref: 00078697

**Subject: Remediation Certificate Application – Former Bulk Petroleum Plant and Fertilizer Facility  
Hythe (AB) (Imperial Oil Site ID 88006199)**

Imperial Oil Ltd. (Imperial) retained Sanexen Environmental Services Inc. (Sanexen) to prepare a Remediation Certificate application package for a former bulk petroleum plant and fertilizer facility located in Hythe, Alberta. The application package includes the Remediation Certificate Application Form and associated documents as listed in Section 11 of the Form and in the *Alberta Site-based Remediation Certificate Guide* (AEP, 2019). The enclosed submission follows the transmittal of a Record of Site Condition Form and supporting documentation to Alberta Environment and Protected Areas (EPA) on December 17, 2024.

## Background

The site is located between 100<sup>th</sup> Avenue (Highway 43) and 99<sup>th</sup> Avenue in Hythe. More specifically, the site corresponds to Block 1, Plan 7923132; 13-13-073-11-W6 (hereafter referred to as the “Site”). It is generally flat, occupies an area measuring approximately 1.66 hectares, and is in an area zoned as General Industrial (M-I) (Golder, 2018)<sup>1</sup>.

The Site is currently vacant and was used for agricultural purposes prior to 1960. It was later developed as a bulk fuel facility and fertilizer plant from circa 1960 to circa 1990. The installations included an office building, a fertilizer warehouse, a fertilizer blender, hopper scale and fertilizer storage bins, as well as 6 aboveground storage tanks (AST), loading/unloading racks, petroleum warehouses and pumps. These facilities were decommissioned prior to 1990 and the Site has been vacant since, with no infrastructure present (Golder, 2018). The request for information presented as part of the Phase I ESA Report (Golder, 2018) indicated that Petroleum Tank Management Association of Alberta (PTMAA) did not have any records on file for the Site.

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1 “Phase I Environmental Site Assessment – Former Bulk Petroleum Plant and Fertilizer Facility, West of Highway 2, Hythe, Alberta (SAP 88006199)”  
Golder Associates Ltd., October 19, 2018 (ref: 1669533-2460).

The site has been the subject of multiple soil and groundwater investigations over the years and the results were summarized in a Remediation Action Plan (hereafter referred to as the RAP) entitled “*Remediation Action Plan – Former Bulk Petroleum Plant and Fertilizer Facility, West of Highway 2, Hythe, Alberta (SAP 88006199)*”, Golder Associates Ltd, May 27, 2020 (ref: 1669533-2460). Prior to this, the most recent Phase II ESA report was prepared by Golder Associates Ltd (Golder) and dated March 7, 2018. Following the preparation of the RAP, a complementary Phase II ESA was also carried out by Golder in October 2020 to further complete site delineation. These reports were reviewed and determined to meet the requirements of the 2013 Alberta Environment and Sustainable Resource Development (ESRD) Phase II Environmental Site Assessment Checklist.

As presented in the RAP, the parameters of concern at the Site were identified as BTEX<sup>1</sup>, PHC<sup>2</sup> Fractions F1 to F4 and fertilizer parameters in 2 distinct areas of the Site and remediation was recommended in these sectors. The environmental remediation guidelines were defined by applying the Alberta Tier 2 Soil and Groundwater Remediation Guidelines with the DUA<sup>3</sup> and FAL<sup>4</sup> exclusions pathways and site-specific guidelines developed for ammonia, nitrate and nitrite using the Fertilizer Guideline Calculator Version 2.0 (FGC V2.0). Following a review of the RAP, Alberta Environment and Protected Areas (EPA)<sup>5</sup> requested in 2022 that inorganic parameters in soils and groundwater, such as chloride and sodium, and their risks to receptors at the site (including ecological, FAL and DUA) be evaluated using the Subsoil Salinity Tool (SST). Site-specific salinity guidelines were therefore developed in response to this request (Equilibrium, 2022)<sup>6</sup>. The evaluation concluded that no remediation was recommended based on chloride and sodium concentration measures at the Site.

## Remediation Summary

Remediation was conducted as per the recommendations of the RAP in the 2 areas identified between September and October 2022 and can be summarized as follows:

- Excavation and disposal of 3,875.49 m.t. of non-hazardous impacted soils to Tervita LaGlace Class II Landfill for disposal. The remediation work included excavation work over an area of 1,186 m<sup>2</sup> in the southeastern portion of the Site for PHC parameters (EX1) to depths between 2.5 and 5.0 mbgs and the excavation of a 300 m<sup>2</sup> area north of EX1 to a depth of 1.0 mbgs for fertilizer parameters (EX2) as outlined in the RAP;
- Laboratory analysis and confirmatory samples were collected from the final sidewalls and bases of the excavations. The analytical results indicate that CoPC<sup>7</sup> concentrations meet the site-specific guidelines for the Site;
- Excavations were backfilled using approximately 1,900 m<sup>3</sup> of excavated material presenting concentrations below the applicable guidelines and approximately 3,430 m.t. of fine-grained soils imported to the site after laboratory confirmation of environmental quality. Backfill was completed on October 6, 2022.

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1 Benzene, toluene, ethylbenzene and xylenes

2 Petroleum hydrocarbons

3 Domestic use aquifer

4 Freshwater aquatic Life

5 Formally Alberta Environment and Parks (AEP)

6 “*Salinity Guidelines for Hythe, AB Site – Environmental and Property Solutions, Imperial*”; Equilibrium Environmental ind. December 5, 2022 (EEI ref IO-17)

7 Contaminant of potential concern

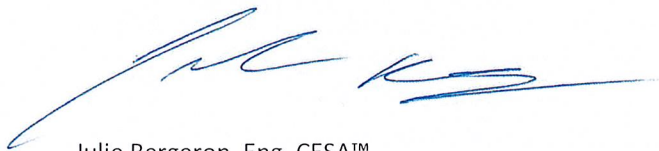
The summary of remediation work is presented in the final revision of the Environmental Site Remediation and Post-Remediation Groundwater Monitoring Reports. A first version of these reports was transmitted to EPA in May 2024 on which EPA emitted comments<sup>1</sup>. The EPA comments were addressed in a correspondence dated October 10, 2024, which included a first revision of the remediation and groundwater monitoring reports and the transmittal of a complementary Surface Soil Sampling Report and 2024 Groundwater Monitoring Report. An e-mail correspondence dated October 22, 2024, confirmed that EPA had reviewed the documents and had no further comments on the data. However, to avoid confusion on applicable guideline values, the appendices describing applicable guidelines were adjusted and a revised final version of the following reports was issued on November 25, 2024:

- *"Environmental Site Remediation Report – Former Bulk Petroleum Plant and Fertilizer Facility West of Highway 2, Hythe, Alberta – Final Report - Revision 2"*, Sanexen Environmental Services Inc., November 25, 2024 (ref: GT21-200-20/4020.230219-20);
- *"Post-Remediation Groundwater Monitoring Report – Former Bulk Petroleum Plant and Fertilizer Facility West of Highway 2, Hythe, Alberta – Final Report - Revision 2"*, Sanexen Environmental Services Inc., November 25, 2024 (ref: GT21-200-20/4020.230219-20);
- *"Surface Soil Sampling Report – Former Bulk Petroleum Plant and Fertilizer Facility West of Highway 2, Hythe, Alberta. Revised Final Report"*, Sanexen Environmental Services Inc., November 25, 2024 (ref: GT21-200-20/4020.230219-20);
- *"2024 Groundwater Monitoring Report – Former Bulk Petroleum Plant and Fertilizer Facility West of Highway 2, Hythe, Alberta. Revised Final Report"*, Sanexen Environmental Services Inc., November 25, 2024 (ref: GT21-200-20/4020.230219-20).

Based on the historical and current data for the Site, concentrations of measured CoPC at the Site are now within the applicable guidelines, and therefore, it is eligible for a Remediation Certificate application.

We trust the enclosed report is to your complete satisfaction. Should you require additional information, do not hesitate to contact us.

Kind regards,



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<sup>1</sup> *"Environmental Site Remediation Report and Post Remedial Groundwater Monitoring, Former Fertilizer Storage & Distribution Facility – West of Highway 2, Hythe (AB)"*, SAP No. 88006199, AEP, July 12, 2024 (File no 00078697).