

April 2022

Great Falls, Montana

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CMR is providing this fact sheet to explain remediation activities at the Site, but it is not a technical document.

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## Introduction

The purpose of this document is to provide an update to the general public and local residents about Interim Measure (IM) construction and commissioning activities associated with the Gasoline and Light Oil Loading Rack (Truck Loading Rack). The Truck Loading Rack is located on the east side of the Calumet Montana Refinery, LLC (CMR), at 1020 Smelter Ave NE, Black Eagle, Montana. Current status and planned activities at the Truck Loading Rack are described in the sections below.



## Truck Loading Rack History

The Truck Loading Rack and support area is a fuel transfer station for the active refinery. The IMs detailed herein will address historic releases that have occurred, such as:

- 1995 – petroleum release from loading rack.
- 2001 - underground pipe gasoline release.
- 2003 - product observed in recovery trenches attributable to a failure in the loading lines.
- 2011 - diesel #2 pipe leak north of scale shack.

Previous refinery owners constructed and operated a series of Light Non-Aqueous Phase Liquid (LNAPL) product recovery trenches. The recovery system captured approximately 21,000 gallons of LNAPL during its nine years in operation, ending in 2004.

In October 2016, detection of petroleum related vapors in an offsite residential property along 11th Street NE, east

of the Truck Loading Rack resulted in emergency response actions. CMR took immediate action to address threats to health and the environment associated with the Truck Loading Rack. Rerouting of the Black Eagle sewer line in November 2016 addressed potential soil vapor pathways offsite.

CMR also conducted a series of IM soil and groundwater characterization investigations between 2016 and 2018 to delineate petroleum-related impacts from the Truck Loading Rack. On January 31, 2019, The Montana Department of Environmental Quality (MDEQ) instructed CMR to conduct an evaluation of IM remedies to address petroleum-impacted groundwater that posed a potential environmental threat to the Missouri River. CMR submitted a Truck Loading Rack Remedy Evaluation Report to MDEQ in June 2019. CMR conducted a pilot test of the initially recommended remedial technologies in October 2019 and provided modified recommended remedial approach in a January 2020 Pilot Study Evaluation Report. On January 28, 2020, MDEQ sent a letter to CMR approving the modified recommended remedial approach. CMR submitted the Truck Loading Rack Interim Measure Final (100%) Design Report on November 6, 2020 which includes descriptions of the basis of design, design details, permits, construction plans, and a draft operation, maintenance, and monitoring plan.

## Selected IM Remedies

The source and downgradient IM selected remedies address Truck Loading Rack historic petroleum release impacts.

- Source Area IM remedial approach include a dual phase extraction (DPE) trench along the Truck Loading Rack's southern flank. The DPE system is intended to recover contaminant mass associated with free-phase LNAPL, to reduce the extent of LNAPL, and to stabilize the dissolved phase plume emanating from the LNAPL plume.
- North River Road Area remedial approach includes a LNAPL recovery trench and a passive treatment trench (PTT). The LNAPL recovery trench and PTT are intended to mitigate dissolved phase groundwater impacts migrating offsite from the Truck Loading Rack.

## **IM Remedies Implementation**

Construction of the Truck Loading Rack IM remedies was initiated in July 2021 in accordance with the Final (100%) Design Report. Construction activities included installation of the following IM remedies:

- DPE remediation system in the Truck Rack Area
- LNAPL recovery trench and PTT utilizing colloidal activated carbon at an area along North River Road.

Construction of the IM remedies was completed in October 2021 and commissioning of the DPE remediation system commenced. The Truck Loading Rack IM activities completed between July 2021 and December 2021 are documented in the February 2022 AOC-16 IM Construction Documentation Report.

The DPE system consists of eight DPE wells screened across the shallow water bearing zone. Vapors and liquids are extracted through a single drop tube installed in each DPE well. Two rotary claw vacuum blowers installed in parallel extract the vapor and liquid. Each well is connected via underground conveyance piping to the vacuum blowers housed within a treatment enclosure. A vapor/liquid separator and liquid transfer pump separates the vapor from fluids. The vapors are conveyed to a self-recuperating catalytic thermal oxidizer (SRCO) unit for treatment. Liquids are pumped via underground conveyance piping to the CMR wastewater treatment plant (WWTP).



In the North River Road Area, an LNAPL recovery trench and PTT were installed perpendicular to the groundwater flow path. The upgradient LNAPL recovery trench is 5.5 feet wide by 10.5 feet deep by 50 feet long and backfilled with sand intended to collect any marginal LNAPL that may potentially migrate to the PTT. The trench prevents LNAPL from entering the PTT so the sorption capacity of the activated carbon does not get overwhelmed. The LNAPL trench is equipped with eleven LNAPL recovery wells placed within the sand to facilitate active and/or passive collection of LNAPL. The downgradient PTT is five feet wide by 12 feet deep, and 110 feet long. The PTT was installed to the base of the dissolved groundwater impacts located above a strongly cemented very fine sandstone aquitard unit. The PTT was backfilled with a coarse sand and mixed with colloidal activated carbon plus terminal electron acceptors (Regenesis® product PetroFix™).

Hydrocarbons including benzene, toluene, ethylbenzene, and xylenes partition from the dissolved phase by adsorption to the activated carbon particles. The contaminants are anaerobically biodegraded through chemical oxidation stimulated by electron acceptors.

## **Future Activities**

CMR will conduct the following activities at the Truck Loading Rack this year:

- IM operation, maintenance, and monitoring of the DPE system, LNAPL trench and PTT.

## **Community Involvement**

Throughout the Truck Loading Rack IM remedies operation, maintenance, and monitoring, CMR will keep the public informed through fact sheets, press releases, meetings, and other appropriate activities. CMR will respond to public inquiries pertaining to the Truck Loading Rack IM remedies-related work.

## **Information Repository**

An information repository has been established to store publicly available documents related to Truck Loading Rack IM remedies. The Information Repository can be found at [www.CMRsite.com/repository](http://www.CMRsite.com/repository).

## **For More Information**

Additional and up to date information for the Truck Loading Rack and the CMR Site can be found at [www.CMRsite.com](http://www.CMRsite.com).

If you have questions or need more information, please contact the following CMR or MDEQ representatives:

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