

# CHS Inc. Laurel Refinery

## Laurel, Montana

### Permit number MTHWP-14-02

#### FACILITY FACT SHEET

[Location Map](#)

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#### SITE DESCRIPTION

The CHS Laurel Refinery is located at 803 Highway 212 S., Laurel, Montana. Refinery operations are conducted on approximately 100 of 350 acres. The remaining acreage consists of administrative offices and green space. Adjacent property is residential, light industrial, and agricultural. The Yellowstone River borders the southern portion of the refinery property.

The Laurel refinery has been in operation since the 1930s. The original owner, Independent Refining Company, operated the refinery until Farmers Union Central Exchange, Inc. (CENEX, Inc.) purchased it in the 1940s. In 1998, CENEX Inc. merged with Harvest States Grain to form Cenex Harvest States Cooperatives and subsequently changed its name to CHS Inc.

Currently, the refinery produces about 60,000 barrels per day of refined petroleum hydrocarbon products, including propane, gasoline, burner fuel, diesel fuel, asphalt, propane de-asphalted pitch, and road oil.

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#### REGULATORY BACKGROUND

##### **Laws and Regulations**

The Montana Hazardous Waste Act (MHWA) is the Montana equivalent of the federal Resource Conservation and Recovery Act (RCRA). MHWA and RCRA are state and federal laws that govern proper management and disposal of hazardous waste, including permit requirements for certain treatment, storage, and disposal activities. Hazardous waste permits are effective for up to 10 years, and may be reissued.

Owners/operators of facilities with hazardous waste permits are required to investigate and cleanup historical releases of hazardous waste and hazardous constituents present on the facility property. In addition, any off-site contamination originating from the facility must be addressed.

##### **The CHS Hazardous Waste Permit**

A hazardous waste permit was issued to CHS for the Laurel Refinery in 1991. The permit was reissued in 2002 and again in 2014. The permit requires closure and post-closure maintenance of two inactive land treatment units. CHS must also conduct facility-wide investigation and cleanup of hazardous waste and/or hazardous constituents found in soils, groundwater and/or surface water.

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## HAZARDOUS WASTE LAND TREATMENT UNITS

Two [land treatment units](#), called the Old and New Landfarms, are located in the southwestern portion of the refinery. They were used from 1965 to 1988 to treat refinery wastes. CHS began closure of both units in 1991. During closure, soils were excavated and land treated on the surface of the landfarms until concentrations of hazardous constituents in the soil met permit standards. The New Landfarm was closed in 2006 and requires no further monitoring or maintenance. The Old Landfarm was designated as a [Corrective Action Management Unit](#) in 2002; however, the unit was never used for disposal of remediation waste. CHS completed closure of the Old Landfarm in 2015. Periodic soil and groundwater sampling is required at the Old Landfarm, due to residual concentrations of hazardous constituents.

CHS conducted an evaluation to determine potential risks to workers if exposed to hazardous constituents in landfarm soils. It was determined that concentration levels were below risk-based values for industrial workers in surface and most subsurface soils. Based on that evaluation, DEQ approved use of the surface of both landfarms, with restrictions, for refinery activities.



View across the Old Landfarm (2007)

### **Groundwater Remediation at the Old Landfarm**

[Light Non-aqueous Phase Liquid \(LNAPL\)](#) is present in groundwater beneath the Old Landfarm. CHS installed a wall of bentonite at the south end of the unit to prevent further migration of the LNAPL. The barrier wall is two feet wide and 15 feet deep. LNAPL ponded along the wall is pumped out through recovery wells and recycled back into the refinery's refining process. Groundwater monitoring wells are located south (down gradient) of the barrier wall and are sampled on a regular basis.

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## SITE INVESTIGATION AND REMEDY

### **Site Investigation and Remedy Evaluation**

Remedial investigations at the Laurel Refinery began in 1989 when EPA conducted an assessment of the facility and found areas of potential contamination in soil, sediments, surface water and groundwater. CHS conducted several investigations between 1996 and 2004 to identify the nature and extent of the contamination. Baseline human health and ecological screening-level risk assessments were also completed. Areas of the refinery where contaminants exceed cleanup levels were identified during the investigation and risk assessments. Contaminants of concern include petroleum hydrocarbon-related compounds, metals, and vinyl chloride.

In addition to the remedial investigations, CHS took interim actions to prevent off-site migration of dissolved-phase hydrocarbons in groundwater and reduce the volume of [LNAPL](#) within the refinery. These [interim measures](#) were initiated in 1991 and continued until 2014, when the final facility-wide groundwater remedy was selected. Interim measures included oil skimming, groundwater recovery and treatment, air sparging, chemical oxidation, and monitored natural attenuation.



Sampling Groundwater

CHS conducted a [Corrective Measures Study](#) to evaluate multiple cleanup alternatives. CHS then recommended a combination of options they believed would meet the stated objectives for site-wide cleanup. The evaluation and recommended corrective measures were described in a CMS Report submitted to DEQ in 2010.

### **Site-Wide Remedy**

DEQ made a facility-wide remedy decision for the Laurel Refinery in 2014. The decision is described in a Statement of Basis, attached to the 2014 CHS hazardous waste permit (MTHWP-14-02). Access the CHS Statement of Basis [here](#).

Remedies for contaminated soils include excavation and disposal, and engineered controls (such as capping). Remedies for contaminated groundwater include air sparging, oil skimming, groundwater recovery and treatment, and monitored natural attenuation. Institutional and land use controls, along with business safety practices, are also part of the final remedy. Institutional controls will prevent potential

exposure of contaminants to current and future on-and off-site workers, as well as to current and future off-site residents.



LNAPL Recovery

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## CURRENT STATUS

### **Facility-Wide Investigation and Cleanup**

CHS is implementing the site-wide remedies for groundwater and soil. The work will be completed in phases. CHS is also required to investigate and implement cleanup measures, as necessary, if new areas of contamination or releases are discovered.

### **Hazardous Waste Land Treatment Unit**

The Old Landfarm is in long-term post-closure maintenance, which includes subsurface soil and groundwater monitoring. CHS uses the land surface for refinery operations, such as storage.

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## PUBLIC INVOLVEMENT

Throughout the cleanup process, the DEQ will keep the public informed through notices of public meetings and public comment periods in area newspapers.

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## FOR MORE INFORMATION



**DEQ Contact:**

Becky Holmes, Environmental Science Specialist  
Waste and Underground Tank Management Bureau  
Waste Management and Remediation Division  
Montana Department of Environmental Quality  
P.O. Box 200901  
Helena, Montana 59620-0901  
406-444-2876  
e-mail: [rholmes@mt.gov](mailto:rholmes@mt.gov)

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