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## FACT SHEET FOR A HAZARDOUS WASTE PERMIT MODIFICATION

**BNSF Railway Company  
Paradise Tie Treating Plant  
Paradise, Montana**

### **Permit MTHWP-14-01**

The Montana Department of Environmental Quality (DEQ) is soliciting public comment on a permit modification of BNSF Railway Company's (BNSF) hazardous waste permit for its former tie treating plant located in Paradise, Montana (BNSF Paradise Site). The permit modification would remove two permitted storage tanks, change the creosote product recovery method in the surface impoundment and modify the groundwater monitoring program. DEQ is also requesting comment on the draft environmental assessment of DEQ's action.

The BNSF Paradise Site hazardous waste permit is issued under the Montana Hazardous Waste Act.

### **FACILITY HISTORY**

The BNSF Paradise Site is located on the northern bank of the Clark Fork River, approximately 0.75 miles downstream of the town of Paradise, Montana. The site was used for creosote treatment of railroad ties from 1908 until 1982 when the plant was destroyed by fire.

Extensive groundwater and soil monitoring shows that the subsurface and groundwater have been contaminated by creosote constituents in free-phase, residual phase, and dissolved phase.

### **FREE-PHASE CREOSOTE CONTAMINATION AND REMEDIATION**

Since most of the constituents in creosote are essentially insoluble, creosote usually remains as a separate liquid phase (free-phase) when it is in contact with groundwater. Groundwater monitoring and investigations have shown that creosote has pooled at the bottom of the aquifer beneath the site. Free-phase creosote at the site is estimated at 94,000 gallons.

#### *Product Recovery System:*

In 1997, a product recovery system (PRS) was installed to remove free-phase creosote from the subsurface. The system was designed to remove the creosote through total fluids extraction (i.e. both creosote and groundwater). The fluids were pumped from recovery wells to a treatment building where creosote and groundwater were separated in an oil-water separator. Recovered creosote was stored in tanks and shipped off-site for disposal.

Due to a decline in creosote recovery rates, BNSF began a study of the efficacy of the product recovery system. The study concluded that more efficient free-phase creosote recovery could be achieved by recovering from individual wells instead of the current total fluids recovery system.

#### *2018 Flooding Event:*

In spring 2018, the entire surface impoundment was flooded, fully submerging the recovery well pumps and inundating the product recovery building with water. This caused damage to mechanical and electrical components of the recovery wells and the site transformer. BNSF notified DEQ of the flooding and implemented product recovery shutdown procedures.

Since the product recovery system was inoperable due to the flood, BNSF requested DEQ approval to complete a pilot study of creosote recovery in the surface impoundment using an air-lift pump recovery system. In June 2018, DEQ approved use of the air-lift pump recovery method under the Force Majeure condition of the hazardous waste permit.

Based on success of the air-lift recovery system, BNSF requested to continue to operate the air-lift recovery system and decommission the product recovery system. BNSF requested a temporary authorization that would allow continuation of the air-lift pump recovery system and decommission of the product recovery system during the permit modification process.

#### **DISSOLVED-PHASE CREOSOTE CONTAMINATION**

Although creosote tends to stay in free phase or residual phase (trapped in the soil pore spaces), some of the contamination does dissolve and migrate in the aquifer. Groundwater data indicate that the dissolved PAH plume fluctuates throughout the year, but generally has not increased in size since the initiation of monitoring in 1986. The observed static extent of the PAH plume and the distribution of dissolved oxygen concentrations suggest that biodegradation of the plume is occurring.

#### *Alternate Concentration Limit and Groundwater Monitoring*

Given the nature of creosote, it is technically impractical to achieve the existing groundwater protection standards established by the state (Circular DEQ-7). Therefore, an Alternate Concentration Limit (ACL) has been established for the site. ACLs are risk-based groundwater contaminant levels that are established when it is impracticable or impossible to achieve the existing groundwater protection standards within the site. The ACL levels are based on a site-specific risk assessment and have been determined to not pose a substantial hazard to human health or environmental receptors.

As part of the ACL, a network of monitoring wells has been selected to evaluate polycyclic aromatic hydrocarbon (PAH) concentrations in the groundwater. Wells are situated along the downgradient boundary of the site and within the areas of contamination. Groundwater samples are taken from wells along the boundary of the site semi-annually and are taken from wells within the areas of contamination annually. Groundwater samples are analyzed to ensure PAH concentrations do not exceed established ACL limits and to ensure dissolved phase PAHs are not migrating off-site.

#### **PERMITTED CREOSOTE STORAGE TANKS**

Hazardous waste regulations require that on-site hazardous waste storage must not exceed 90-days. Greater than 90-day on-site storage requires a hazardous waste permit. The BNSF Paradise Site was permitted for greater than 90-day storage in two tanks.

#### **MODIFICATIONS TO THE HAZARDOUS WASTE PERMIT**

BNSF has requested a permit modification to change the following conditions in the hazardous waste permit:

- Remove requirements for operation of the product recovery system and include requirements

for operation of the air-lift pump recovery system.

- Remove the two permitted storage tanks. Creosote storage will be shipped off-site within 90 days and, therefore, will not need to be included in the permit.
- Modify the ACL groundwater monitoring program. Five monitoring wells will be removed due to redundant data collection and/or non-detect concentrations of contaminants. The ACL wells located near the center area of the BNSF Paradise Site will be monitored once every two years instead of annually. The boundary ACL wells to the northwest of the surface impoundment will be monitored semi-annually. The boundary ACL wells along the Clark Fork River will be monitored annually in the spring, when the groundwater flow direction is toward the river.

### **ENVIRONMENTAL ASSESSMENT**

An environmental assessment has been prepared for the permit modification in accordance with the Montana Environmental Policy Act. The environmental assessment outlines reasonable alternatives and any impacts to the human environment that may result from DEQ's actions.

### **PUBLIC PARTICIPATION**

Members of the public are provided the opportunity to review and comment on the draft permit modification and draft EA. The draft permit modification and EA are available for review on DEQ's website at <http://deq.mt.gov/Public/publiccomment> and at the following locations during their business hours:

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| Montana Department of Environmental Quality<br>Waste and Underground Tank Management Bureau<br>1520 E. 6 <sup>th</sup> Avenue<br>Helena, Montana<br>(406) 444-3490 | Plains Public Library<br>108 W. Railroad<br>Plains, MT 59859<br>(406) 826-3101 |
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### **COMMENT PERIOD**

The comment period is from December 9, 2019 through January 28, 2020.

### **WRITTEN/EMAIL COMMENTS**

Only the changes proposed in the permit modification are open for public comment. Comments must be submitted no later than January 28, 2020 to:

#### **MAIL**

Ann M. Kron  
Hazardous Waste Section  
Montana Department of Environmental Quality  
PO BOX 200901  
Helena, MT 59620-0901

#### **EMAIL**

DEQhazwaste@mt.gov  
subject line: BNSF Paradise Permit Modification

### **PUBLIC HEARING**

During the public comment period, any interested person may request a public hearing. A request for a public hearing must be in writing and must state the nature of the issues proposed to be raised in the hearing. If a hearing is held, DEQ will provide notice of the public hearing date at least thirty days prior to the hearing.

### **DEQ'S PROCEDURE FOR REACHING FINAL DECISIONS**

DEQ will prepare a response to comments after reviewing all comments. The response to comments will explain any changes to the proposed permit modification and respond to any comments received during the comment period.

DEQ will then make a final decision to issue or deny the permit modification. After DEQ makes its final decision, notice will be given to BNSF and each person who submitted written comments or requested a notice of the final decision. The final decision becomes effective 30 days after notice of the decision, unless a later date is specified, or a public hearing is requested. If no written comments are received, the final permit modification becomes effective immediately upon notice of DEQ's final decision.

### **FOR MORE INFORMATION**

If you need further information, please contact Ann M. Kron at the address listed above, or at 406-444-5824, or: [akron@mt.gov](mailto:akron@mt.gov)