U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Mackinaw Bay Petroleum Sheens - Removal Polrep
Initial Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VIII

Subject: **POLREP #1**
Initial Assessment, Work Plan Development and Mobilization
Mackinaw Bay Petroleum Sheens
Z8DN
Whitefish, MT
Latitude: 48.4510090 Longitude: -114.3912010

To:
From: Steven Merritt, On-Scene Coordinator
Date: 6/3/2012
Reporting Period: 04/16/2012 - 06/2/2012

1. Introduction

1.1 Background

Site Number:	Z8DN	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	OPA	**Response Type:**	Time-Critical
Response Lead:	PRP	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	5/14/2012	**Start Date:**	5/18/2012
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:	E11801	**Reimbursable Account #:**	

1.1.1 Incident Category

Transportation Related - Historical Train Derailment

1.1.2 Site Description

This site involves EPA oversight of a responsible party, BNSF, removing residual contamination from an historical derailment of multiple leaking diesel fuel tank cars on July 31, 1989. The original spill event was followed by two different oil removal actions, one of which involved excavation of contaminated soils in the upland zone between the tracks and the shoreline, and the other involved recovery of the spilled diesel floating on the surface of the lake using absorbent materials and skimmers. Neither of these actions addressed the contaminated sediments in Mackinaw Bay and these residuals have not weathered away or naturally attenuated due to the cold lake temperatures and associated biological activity limitations. This project is being conducted on consent with BNSF and in coordination with the Montana Department of Environmental Quality (MTDEQ).

1.1.2.1 Location

Mackinaw Bay is located approximately 3 miles to the north of the City of Whitefish on the west side of Whitefish Lake at GPS coordinates 48.451436, -114.389741. The bay is a well protected and relatively pristine with no development along the shoreline, other than the railroad track to the west, and native forest extending from the upland areas to the edge of the lake. The shorelines are steep and the bay has two sediment benches that are less than 15 feet deep extending approximately 30 feet into the lake before the water depth rapidly increases. The bottom of Mackinaw Bay is a mixture of sediments, some rocks and boulders, and numerous decomposing tree trunks and limbs.

1.1.2.2 Description of Threat

The threat from residual diesel and weathered petroleum within Mackinaw Bay is to recreational boaters and the aquatic ecosystem of Whitefish Lake. The exposure pathways for human populations at the site include dermal and respiratory contact only when sediments are agitated. While the City of Whitefish and various private communities draw water from Whitefish Lake, there is very limited mobility of this contamination and measurable amounts are not expected to be detected at any intakes. The ecological threat from these residues in the sediments may inhibit the growth and development of aquatic organisms and benthic populations that serve as the food supply for fish and other species in the area.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The landowner on Whitefish Lake in Mackinaw Bay whose property was directly impacted by the original derailment observed and reported the presence of ongoing petroleum sheen originating in the sediments of the bay in the summer of 2010. The Whitefish Lake Institute and the City of Whitefish made the MTDEQ and EPA aware of the issues and requested assistance in getting the sediments cleaned up by BNSF. BNSF and its contractors, which have already been conducting another petroleum removal along the Whitefish River nearby, began investigating and sampling to assess the extent of contamination in the fall of 2010. BNSF provided their findings to EPA and MTDEQ by the winter of 2010 and conducted bathymetry surveys of Mackinaw Bay in 2011. KennedyJenks (KJ), a BNSF contractor, also conducted pilot-scale studies of air sparging techniques for non-invasive removal of petroleum residuals in the sediments, but ultimately ruled those out in favor of mechanical dredging and hauling in 2011. By late 2011, KJ had prepared and submitted a proposal for removing the sediments in the spring of 2012 to EPA and MTDEQ and a Work Plan was discussed and finalized to begin oil removal activites for 450 cubic yards of sediments in May 2012.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

During this reporting period, the final plans were submitted to EPA and MTDEQ for review and comment, there were several meetings with local officials and concerned stakeholders to discuss the project, and there was a concerted effort during mobilization to address the concerns of key stakeholders and the state regarding aquatic invasive species inspections and preventative decontamination of vessels. The contractors for BNSF began coordinating with city officials for use of a portion of City Beach and establishing the work areas to conduct the dredging operations for the removal action.

2.1.2 Response Actions to Date

Monday, May 7, 2012

MTFWP conducts aquatic invasive species (AIS) inspections of seven vessels at the BNSF railyard to be operated by KennedyJenks, Envirocon, and Dixon Marine Services in both the Whitefish River and Mackinaw Bay dredging projects. All vessels were pressure washed with a steam cleaner to ensure that they had no AIS residuals. None of the vessels were flagged for AIS and all were cleared for use by the state inspector. Nevertheless, these vessels remained staged on dry land in the BNSF railyard through at least Thursday, May 24, 2012, if not later the following week for the Mackinaw Bay project.

Thursday, May 10, 2012

EPA OSC met with BNSF, KennedyJenks and Envirocon project leads to discuss the project at the local KennedyJenks offices. Topics discussed included the logistics of the project, the importance of AIS inspections for all barges and watercraft, and the coordination needed with the City of Whitefish for access to the City Beach boat ramp to support operations.

EPA OSC Steven Merritt and ERT Fred Stroud attended a meeting setup by EPA Community Involvement Coordinator Jennifer Chergo with Officials from the City of Whitefish and local Non-Governmental Organizations, the Whitefish Lake Institute and the Whitefish Lake and Lakeshore Protection Committee, at City Hall. BNSF and its contractors explained the process for dredging contaminated sediments from Mackinaw Bay and discussed the objective to complete the work before the Independence Day Holiday. NGOs presented concerns about the work being done when water levels were high versus later in the summer/fall, the need to contain suspended sediments during dredging, and the need to ensure full removal of all contaminated sediments and soils present in Mackinaw Bay.

EPA OSCs Steven Merritt and David Romero attended a public meeting to discuss both the Mackinaw Bay and Whitefish River projects with area residents and the media. The public meeting was held at the Whitefish Community Center and approximately 35 people were present. Among the issues raised by the public were concerns about how much longer the Whitefish River project would last, whether it was possible to open the recreational trail to the public when work wasn't being done, and whether anything would be done to rehabilitate the fisheries following the remediation activities.

Week of Monday, May 14, 2012

Weekly project teleconference with BNSF, KennedyJenks, and Envirocon is postponed since not much had changed from previous Thursday at the site and efforts were ongoing to proceed with the removal action. Individual discussions between EPA OSC and BNSF and KennedyJenks about the status of mobilization efforts and the resolution of logistical challenges associated with getting critical equipment to the site. Equipment is still being brought to the site and arrangements are made to provide EPA and USCG oversight of the project beginning on Monday, May 21, 2012. KennedyJenks and Envirocon make coordinations with Karl Cozad of the City of Whitefish Parks and Recreation Department to approve the installation of a crane platform east of City Beach and discuss the planned operations at the boat ramp. Tacit approval is given.

Week of Monday, May 21, 2012

EPA OSC and USCG Pacific Strike Team (PST) travel to the site from their respective duty stations in Denver, CO and Novato, CA. EPA OSC is able to make the weekly project teleconference where the roto-tilt dredge bucket delivery schedule, the AIS inspections with the Whitefish Lake Institute and a consultant for the Flathead Basin Commission, and the mobilization schedule for getting equipment into Whitefish Lake were discussed.

MTFWP along with the Whitefish Lake Institute and a consultant to the Flathead Basin Commissions inspect eight vessels to be operated by Dixon Marine Services in the Whitefish River dredging project. Three of the vessels were flagged for further decontamination by the inspector due to the presence of either saltwater barnacles or fragments of mussel shells. These were the same vessels identified and flagged by an Idaho border weigh station the previous week. One of these vessels was from Alameda, CA in a saltwater environment, and the other two with mussel fragments came from Michigan. These vessels were given additional pressure washing on all sides, the surfaces scraped clean, and reinspected later, which was the guidance provided by the consultant and the Whitefish Lake Institute.

EPA OSC attended the Whitefish City Council Meeting at City Hall in the evening. EPA provided a very brief summary of the work to be performed in Mackinaw Bay and answered questions about the status of AIS inspections and findings, along with a summary of the periods of time vessels had been out of the water before arriving in Whitefish.

Tuesday, May 22, 2012

Arrive at BNSF railyard and attend morning safety brief with BNSF and its contractors. USCG PST and EPA OSC conduct initial job site familiarization and inventory all EPA-owned monitoring and communications equipment that was shipped to job site. Arrive at Whitefish Lake and City Beach boat ramp to conduct initial photo documentation before work/project begins. Attend meeting with EPA, KennedyJenks and the City of Whitefish Engineer Karin Hilding to discuss access issues, restoration plans for the river work, and AIS procedure for remaining vessels. Launch boat on Whitefish Lake with EPA OSC and KennedyJenks to assess Mackinaw Bay work site and conduct initial photo documentation before work begins. River was surveyed during this boat trip as well.

Wednesday, May 23, 2012

USCG PST sent to Ronan, MT to witness AIS inspection of vessels to be launched in Whitefish Lake as they transit north on US Highway 93 at MTFWP mobile inspection station. MTFWP inspectors conducted inspection of two barges, cleared them, and issued inspection seal #1870 to show proof of cleared inspection. EPA OSC at BNSF railyard observing equipment arriving and being unloaded by crane, including 4 barge sections, 4 rake/bow sections, and 2 small tug boats. Vessels are pressure washed and cleaned prior to a second set of inspections by a MTFWP inspector at the BNSF railyard. The AIS inspections are performed by MTFWP on six vessels and all vessels are cleared for use in Whitefish Lake. KennedyJenks and Envirocon finalized and submitted the updated Site Health and Safety Plan, and the Dredging Operations Plan to EPA OSC.

Thursday, May 24, 2012

USCG PST and EPA OSC at BNSF railyard and attend morning safety/operations brief with BNSF contractors. EPA OSC and USCG PST conduct door-to-door community outreach to provide informational fliers about the project to residents along Edgewood and near City Beach. AIS inspections are conducted on three vessels by MTFWP. The majority of the activities at the site involved rigging cleared vessels for the Whitefish River dredging project for crane insertion into the river. 14 vessels and equipment loads were successfully moved from the BNSF railyard and placed into Whitefish river without incident. At City Beach, the USCG PST and Envirocon discussed the set up and placement of the crane that will be utilized to move vessels and containers to and from Whitefish Lake for the Mackinaw Bay dredging project. Three more sets of vessels were inspected late in the day by MTFWP and all were cleared for use. EPA OSC departs the site to return to Denver, CO.

Friday, May 25, 2012

USCG PST and EPA OSC at BNSF railyard and attend morning safety/operations brief with BNSF contractors. At City Beach, Envirocon worked to get the beach landing constructed in Whitefish Lake to the west of the boat ramp area for the crane. Federal OSC Representative (FOSCR), Envirocon and Harmon Crane met at Whitefish Lake City Beach to discuss and plan for the safest and most effective placement of the crane as well as to assess the beach landing area to determine if improvements are needed. Envirocon placed six 5000lb "crane mats" on the Whitefish Lake beach front rock base utilizing a Harmon 35-ton crane. The "crane mats" are being used to reinforce/strengthen and level the surface upon which the outriggers of the crane will rest. FOSCR continued community outreach with the area residents, passed out fliers and answered questions about the removal operations that will begin on Tuesday, May 29, 2012. Additional equipment arrived at the BNSF railyard and was unloaded, decontaminated and staged for AIS inspections on Tuesday, May 30, 2012 by MTFWP. The City of Whitefish sent a letter to the EPA OSC documenting the recommended protocols already being implemented for vessels to be put into Whitefish Lake. There are 10 barge sections, 1 excavator, 2 tugboats and various ancillary equipment staged at BNSF railyard awaiting movement to Whitefish Lake following inspection and clearance.

Saturday, May 26, 2012 through Monday, May 28, 2012

Memorial Day. No activities at the site during the Memorial Day Holiday weekend. EPA ERT Fred Stroud and EPA OSC Steve Merritt arrive in Kalispell, MT from Las Vegas, NV and Denver, CO, respectively, on Monday evening.

Tuesday, May 29, 2012

USCG PST, EPA OSC, and EPA ERT at BNSF railyard and attend morning safety/operations brief with BNSF contractors. At City Beach, Envirocon and Harmon Crane installed and secured the 65-ton crane for lifting the cleared equipment into the lake. Envirocon delivered and rigged up the cleared tug boat which was lifted successfully lifted into Whitefish Lake as the EPA OSC conducted multiple interviews with local media about the project. A cleared NSR jetboat is also put into Whitefish Lake to support the project and assist with spotting and rigging for the crane operator from the water. Three cleared sections of the first

barge arrive at City Beach and are placed into the water and connected. The rake/bow sections are lifted into the water and connected to the barge, making it unstable, so they are removed and lifted back onto the truck for storage in the BNSF railyard. The tug boat is rigged/attached to the configured sectional barge and it transits across the lake to Mackinaw Bay to moor there overnight. EPA ERT coordinates with Whitefish Police at the public safety building to get additional security patrols at the Whitefish Lake City Beach.

Wednesday, May 30, 2012

USCG PST, EPA OSC, and EPA ERT at BNSF railyard and attend morning safety/operations brief with BNSF contractors. AIS inspections were conducted on the 2 barge sections that will serve as the work platform for the excavator as well as a small work boat. Inspections were conducted by MTFWP and witnessed by EPA ERT and KennedyJenks. All three vessels cleared/passed inspection and permitted to be put into Whitefish Lake. At City Beach a second three-part sectional barge was lifted into the water using the crane and assembled as before. Ten "super sacks" filled with washed river rocks were installed between the crane platform and the lake to provide a barrier for barges and prevent the platform from slipping toward the lake. A local fence contractor drops off fence sections at Whitefish Lake City Beach to secure the crane overnight and on weekends. The smaller tugboat arrives and is placed in the water followed by the two large barge sections that will serve as the work platform for the excavator. The large tugboat is connected to the smaller three-part sectional barge and transited to Mackinaw Bay to moor overnight. Ancillary equipment including barge spuds, buoys with line, and barge connection pieces are unloaded and staged at Whitefish Lake City Beach for use in connecting the two parts of the work platform.

Thursday, May 31, 2012

USCG PST, EPA OSC, and EPA ERT at BNSF railyard and attend morning safety/operations brief with BNSF contractors. EPA ERT and USCG PST monitored activities at City Beach, where the 2 barge sections of the work platform for the excavator were assembled in the water by Envirocon and 1/2" steel plates were installed on the top. Additional "super sacks" of washed rock were placed into the water next to the crane platform and 250 feet of 15' sediment curtain boom was delivered to City Beach for movement to Mackinaw Bay. Envirocon placed donnage on both sectional barges in Mackinaw Bay to help support the two 30 yard roll-off boxes (dumpsters) that will be filled with contaminated sediments and pushed the barge to City Beach. The roll-off boxes arrive at City Beach and are lifted successfully onto the sectional barge following a crane rigging and safety meeting.

Friday, June 1, 2012

USCG PST, EPA OSC, and EPA ERT at BNSF railyard and attend morning safety/operations brief with BNSF contractors. Whitefish Lake City Beach was prepared for the loading of the excavator onto the work platform by grounding the work platform on the beach, installing tires and dunnage around the boat ramp to protect curbs and the ramp itself. The excavator, with the installed DredgePack and Roto-Tilt dredge bucket, was loaded onto a truck in the BNSF railyard and transported to City Beach, where it was carefully offloaded, tracked onto the beach, and loaded onto the work platform. An additional 1000-feet of 5' sediment curtain boom was also delivered to City Beach and placed on the sectional barge with the roll-off boxes for transport to Mackinaw Bay.

Saturday, June 2, 2012

USCG PST, EPA OSC, and EPA ERT at BNSF railyard and attend morning safety/operations brief with BNSF contractors. Whitefish Lake City Beach was prepared for the loading of the excavator onto the work platform by grounding the work platform on the beach, installing tires and dunnage around the boat ramp to protect curbs and the ramp itself. The excavator, with the installed DredgePack and Roto-Tilt dredge bucket, was loaded onto a truck in the BNSF railyard and transported to City Beach, where it was carefully offloaded, tracked onto the beach, and loaded onto the work platform. An additional 1000-feet of 5' sediment curtain boom was also delivered to City Beach and placed on the sectional barge with the roll-off boxes for transport to Mackinaw Bay.

Sunday, June 3, 2012

No activities at the site. EPA OSC prepared POLREP and initiated notification of stakeholders to provide an update on progress. Additional preparations were made to brief the City Council Meeting on June 4, 2012.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The PRP for this action is the Burlington Northern Santa Fe Railroad.

2.1.4 Progress Metrics

Waste Stream	***To Date Quantity Removed/Hauled***	***Projected Quantity to Remove/Haul***	***% Complete***	***Quantity Processed Through Treatment***	***Quantity Disposed of in ND Landfill***
Petroleum Contaminated Sediments	0.00 Cubic Yards	450 Cubic Yards	0.0	0.00 Cubic Yards	0.00 Cubic Yards
Barge Loads (2 Dumpsters) Transported from Mackinaw Bay to City Beach	0 Loads	45 Loads	0.0	N/A	N/A

Truck Loads (1 Dumpster) Transported to BNSF Railyard	0 Loads	90 Loads	0.0	N/A	N/A
Railcar Loads Transported to ND Disposal Facility	0 Loads	10 Loads	0.0	N/A	N/A

2.2 Planning Section

2.2.1 Anticipated Activities

To complete the project from this point, BNSF and its contractors are expected to complete the required dredging in Mackinaw Bay, process the contaminated sediments through the dewatering and waste treatment facility at the BNSF railyard, ship the treated sediments to a permitted disposal facility in North Dakota, demobilize all equipment used on the project, and reclaim areas impacted by the project.

2.2.1.1 Planned Response Activities

Dredging is expected to commence on Monday, June 4, 2012 and continue weekly, Monday through Saturday, from 7:00 AM to 5:00 PM, through June 30, 2012, if not sooner. Dredging will involve filling two lined dumpsters roughly one-third full of contaminated sediments behind floating turbidity curtain in Mackinaw Bay. Once filled to this amount, the barge with the two dumpsters on it will be pushed across Whitefish Lake to City Beach by tugboat. At City Beach, the dumpsters will be lifted off the barge using a 65-ton crane onto the ramp, where they can be loaded onto haul trucks. The trucks will then haul the loaded dumpsters to the BNSF railyard where the dewatering and waste treatment facility is located. At the dewatering facility, the contaminated sediments will be dumped into the lagoons for processing, the liner in the dumpster will be removed, disposed of, and replaced before being returned to the staging area at City Beach for loading onto the next barge. Once reloaded, the barge will be pushed back to Mackinaw Bay to support continued dredging. There will be approximately 4-6 round trips of barges being pushed by tugboat everyday on Whitefish Lake during active dredging. Each round trip is expected to haul approximately 10 cubic yards of contaminated sediment and take approximately 2 hours to complete.

2.2.1.2 Next Steps

Begin removal, hauling, and treatment of contaminated sediments from Mackinaw Bay.
Ship treated contaminated sediments to a permitted disposal facility in North Dakota by railcar.
Demobilize all equipment used in the project from Whitefish Lake and City Beach.
Reclaim and return to use all areas impacted by the project in accordance with local guidance.
Complete and distribute a final project report on the removal action.

2.2.2 Issues

Logistical challenges getting the exact specification of equipment to Whitefish and the enhanced decontamination protocols for aquatic invasive species inspections led to a delay of approximately 10 days from the original schedule. If the contractors are able to achieve and sustain the dredging throughput of 40 to 60 cubic yards per day throughout the project, there should be no problem achieving demobilization on or before June 30. If there are weather delays because of high winds or mechanical issues during June, this deadline may be more difficult to achieve and contingency plans will need to be developed and coordinated with local stakeholders and the City of Whitefish.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

U.S. EPA Region 8
Burlington Northern Santa Fe Railroad
Montana Department of Environmental Quality
City of Whitefish

3.2 Cooperating Agencies

Montana Department of Fish, Wildlife and Parks
Whitefish Lake Institute
Flathead Basin Commission
Whitefish Lake and Lakeshore Protection Committee
Whitefish Police Department
Whitefish Fire Department

4. Personnel On Site

EPA OSC Steven Merritt
EPA ERT Fred Stroud
USCG Pacific Strike Team MST1 Michael Shannon
MTDEQ Jessica Gutting
City of Whitefish Engineer Karin Hilding
BNSF Project Manager David Smith
Kennedy Jenks Project Engineer Rob Hagler
Envirocon Project Manager Chris Houck

5. Definition of Terms

No information available at this time.

6. Additional sources of information

6.1 Internet location of additional information/report

Please see bulletins, images and links sections on the project website at http://www.epaosc.org/mackinawbaypetroleumsheens for more frequently updated information and other reports on the project from local news outlets.

6.2 Reporting Schedule

The next POLREP will be published on June 17, 2012 and briefings will be provided to the Whitefish City Council at every meeting. Bulletins will be updated at least weekly and more frequently as project updates are needed/requested. Please continue to monitor the website for new information.

7. Situational Reference Materials

Please see the documents posted in the documents section of the project website at http://www.epaosc.org/mackinawbaypetroleumsheens for additional documents about the removal action.