

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Lockport Illinois Buckeye Oil Spill - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: POLREP #3
Progress
Lockport Illinois Buckeye Oil Spill
Lockport, IL
Latitude: 41.6354890 Longitude: -88.0487240

To: John Codd, USCG
From: James Mitchell, OSC
Date: 12/29/2010
Reporting Period: 12/22/2010 - 12/29/2010

1. Introduction

1.1 Background

Site Number:	Contract Number:
D.O. Number:	Action Memo Date:
Response Authority:	Response Type: Emergency
Response Lead:	Incident Category:
NPL Status: Non NPL	Operable Unit:
Mobilization Date: 12/14/2010	Start Date: 12/14/2010
Demob Date:	Completion Date:
CERCLIS ID:	RCRIS ID:
ERNS No.:	State Notification:
FPN#: E11505	Reimbursable Account #:

1.1.1 Incident Category

Emergency Response

1.1.2 Site Description

1.1.2.1 Location

The site is located on New Avenue approximately 0.5 miles south of 135th Street in Lockport, Illinois. The site is bordered to the east by New Avenue, to the north and south by open wetland areas, and to the west by railroad tracks serviced by Amtrack, Metra, and freight companies.

1.1.2.2 Description of Threat

An estimated 500 barrels (21,000 gallons) of crude oil were released into a drainage ditch which flows in to a wetland area via a culvert. The spill occurred in an area near critical habitat for federally endangered species, including the Hine's Emerald Dragonfly and Leafy Prairie Clover.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

At approximately 0720, the Lockport Fire Department responded to the incident. At approximately 0745, the pipeline was shutdown. At approximately 0820, the Responsible Party (RP), West Shore Pipeline (owner) and Buckeye (operator), responded to the incident. In addition, U.S. EPA and its Superfund Technical Assessment and Response Team (START) contractor arrived on-site to conduct oversight of cleanup activities. At this time a Unified Command was implemented with U.S. EPA, Illinois Environmental Protection Agency (IEPA), Lockport Fire Department, and Buckeye. Starting on 12/15/2010, Unified Command consists of U.S. EPA, IEPA, and Buckeye.

West Shore contractor, Midwest Mechanical, has placed a temporary clamp on the pipeline break. The break is at the bottom of the pipe and is approximately the size of a quarter. The pipeline is approximately six feet below ground. Buckeye submitted a plan to Department of Transportation (DOT) Pipelines and Hazardous Materials Safety

Administration (PHMSA) to conduct an integrity test. The plan was accepted and the test was conducted on the pipeline by Midwest Mechanical. The pipeline passed the integrity test on 12/16/2010 and Buckeye received approval from PHMSA to operate the pipeline at reduced pressure to provide feedstock to Shell refinery. Permanent repairs are expected to occur in January 2011.

Initial air monitoring conducted by West Shore personnel indicated a maximum benzene reading of 6.0 parts per million (ppm) in ambient air. Based on initial air monitoring readings, West Shore personnel delineated the area with high readings as the hot zone. START personnel oversaw West Shore personnel and contractors air monitoring activities. START also conducted air monitoring at spill site and work zones to confirm West Shore air monitoring results. Air monitoring was conducted for oxygen (O₂), the lower explosive limit (LEL), volatile organic compounds (VOCs), carbon monoxide (CO), and hydrogen sulfide (H₂S).

Center for Toxicology and Environmental Health (CTEH) was contracted by CN Railroad to facilitate the opening of the west track to commuters. CTEH conducted monitoring in the commuter trains as they passed the spill site to ensure commuter safety. The two railroad tracks (the east and west lines) were initially shut down after the incident. The west track was opened up on 12/14 at reduced speeds. The east rail line was opened on 12/19 at reduced speeds.

West Shore and Buckeye Pipeline contracted CTEH to conduct air monitoring at the site and in the nearby residential areas. CTEH has utilized AreaRAEs for continuous air monitoring in work zones and residential areas. One AreaRAE was deployed on a moving vehicle that makes rounds in the work zones and residential areas. CTEH collects air samples using summa canisters. Summa canisters are sent for laboratory analysis for VOCs and semi-volatile organic compounds (SVOCs). CTEH personnel have reported that no VOC readings have exceeded background levels in the residential area. VOC readings near the spill were detected at up to 25 ppm. START personnel are overseeing CTEH air monitoring work. START has performed ambient air monitoring near excavation activities and in general work areas with a Multi Rae. There have not been any readings above background in several days.

CTEH has submitted an addendum to the Air Monitoring Plan to US EPA which requests a reduction in the frequency and expanse of residential air monitoring. US EPA approved the addendum to the Air Monitoring Plan on 12/21.

West Shore and Buckeye Pipeline cleanup contractors, Future Environmental and Veolia Environmental, are using vacuum trucks to remove the crude oil from the drainage ditch and wetland area. The crude oil is transferred from the vacuum trucks to tanker trucks for off-site transport and disposal. In addition, cleanup contractors are excavating contaminated soil and transporting off-site for disposal.

East of the railroad tracks, in the drainage ditch, excavation of contaminated soil from the furthest north to the furthest south extents of the release has been completed and a French Drain system has been installed. The French Drain system is currently collecting product. Monitoring and removal of oil via standpipes distributed along the drainage ditch is ongoing.

West of the railroad tracks, product removal activities continue into the wetlands. Westshore/Buckeye contractor Entrix has completed delineation of the extent of impact in the wetlands. Work crews have deployed absorbent boom around the extent of the oil plume and are attempting to prevent any further spreading of product. Product recovery trenches have been installed along the eastern edge of the wetlands and product recovery operations utilizing skimmers and vacuum trucks are ongoing. All activities in the wetlands are being coordinated with U.S. FWS and representatives of the land owner.

In accordance with Section 7 of the Endangered Species Act and the rule at 50 CFR Part 402.05, US EPA requested emergency consultation by US Fish and Wildlife Service at West Shore Crude Line S0257EM in Lockport, Illinois. US Fish and Wildlife Service is on-scene and providing input on response actions. Experts on the Hines Emerald Dragonfly (HED) larvae have been contracted by Entrix to do a consultation on the potential impacts on HED larvae in the wetlands.

2.1.2 Response Actions to Date

A Daily Incident Action Plan (IAP) is developed to guide onsite work activities. IAPs can be viewed in the document section of this website for staff that have password access. IAPs are also up loaded to the Buckeye's share website for viewing. Contact OSC Jim Mitchell for access to IAPs.

12/22/2010

An estimated 40,000 gallons of oil/water mixture have been recovered from the drainage ditch and wetland areas. In addition, approximately 1,300 cubic yards (yd³) of contaminated soil has been removed from the drainage ditch and area west of the railroad. Work crews discovered approximately 12" of pooled oil that had collected in a depressed area of the wetlands near the west edge of the impacted area. A vacuum truck was immediately mobilized to the pooled location and product recovery operations were initiated. The north/south recovery trench was extended west and a third skimmer was installed on the western arm of the trench. The weather for the day was 35 F and mostly clear with snow flurries in the morning.

Delta Environmental collected surface water samples from 7 locations throughout the site and surrounding wetlands. Surface water samples are collected on a daily basis to ensure that oil contamination is not migrating outside of containment area. Delta is also collecting soil samples on a weekly basis and will be collecting again on 12/27.

12/23/2010

An estimated 54,400 gallons of oil/water mixture have been recovered from the drainage ditch and wetlands area. Approximately 1,350 yd³ of contaminated soil have been excavated from the site and staged in roll off boxes while awaiting disposal. All 127 roll off boxes are currently being profiled to determine if the contents need to

be disposed of as "hazardous waste". The staged roll-off bins have been covered with polysheeting, which has begun to sink under the weight of the recent snowfall. OSC Mendoza observed one roll off bin (R021) which was leaking oil in one corner. Westshore/Buckeye is aware of the issue and is working to remedy the situation.

Product recovery operations continue in the areas west of the railroad and in the wetlands area. Additional swamp mats (constructed of untreated wood ties) have been installed along the north/south recovery trench on the east edge of the wetlands to provide access to recovery points in the wetland. Three skimmer units are in use throughout the wetlands area. Workers have utilized pool skimmer poles and compressed air hoses to direct surface product and sheen towards the skimmer units. Excavators continue to create product recovery collection points throughout the wetlands.

START personnel shadowed Delta Environmental during their daily surface water sampling event. A split sample (VOCs, SVOCs, and total priority pollution metals) was taken at location HCS-002 and submitted, via courier, to Microbac laboratories.

The Nicor Gas Company has received natural gas complaints from residents near the spill site. Summa canister samples have indicated low-level detections of butane, which is a constituent of natural gas. START personnel utilized a TVA-1000 FID meter to screen the surrounding area. Low levels of organic compounds (~9-11 ppm) were detected northeast of the release point. Further investigation of potential subsurface gas will be conducted on 12/24.

12/24 - 12/26/2010

Westshore/Buckeye informed the local gas companies, ONEOK and NICOR, of the natural gas complaints at the release site. The gas companies responded and investigated the area. Both gas companies confirmed their lines were intact and functioning properly.

Free product recovery continued in the wetland area. Three product skimmers and four vacuum trucks were utilized on a 24 hour basis throughout the weekend. Overnight, temperatures dipped below freezing and prevented skimmers and vacuum trucks from functioning properly. Heat steam trucks are being utilized to prevent freezing of vacuum truck lines and frac tanks to facilitate product transfer. When freezing occurs on the skimmers, work crews begin using a direct pumping technique. Vacuum truck lines and skimmers are now being stored indoors overnight to mitigate freezing issues as much as possible.

Preliminary results from Delta surface water sampling indicates that the plume is being contained by the current product recovery operations. Surface water results will be continually reviewed to confirm the containment of the plume.

Total oil recovered between 12/24 - 12/26/2010 is approximately 3,867 gallons of oil.

12/27/2010

An estimated 62,000 gallons of oil/water mixture have been recovered from the drainage ditch and wetlands area. Approximately, 1,350 yd3 of contaminated soil have been excavated from the site and stored in roll off boxes while awaiting disposal.

Product recovery operations continue in the areas west of the railroad and in the wetlands area. Two skimmer units and two vacuum trucks are in operation throughout the wetlands area. Freezing temperatures have limited skimmer use in the overnight and in to the morning. OSC Mitchell approved a plan from Westshore/Buckeye to shutdown product recovery operations after 2200 until temperatures rise above freezing. EPA has requested an increase in product recovery capacity during daytime hours.

Swamp mats allowing heavy machinery to operate in the wetland have been removed at the at the western extent of the oil plume due to sinking in the sediment. Additional trenching will be done in the area to improve oil recovery.

Higher temperatures (40 - 50 degrees Fahrenheit) and potential rainstorms are expected at the end of the week. US EPA, IEPA, the property owner, FWS, and Westshore/Buckeye are discussing options for the prevention of possible flooding and the spread of product outside the collection area. Westshore/Buckeye has proposed the reinforcement of the current absorbent boom with containment (hard) boom, certified wheat straw bails, and possibly soil berms. Containment boom has been mobilized to the Site and is currently being installed around the extent of the plume. Wheat straw bails will be deployed tomorrow. A soil source for use in the wetland is being investigation.

US EPA is working with ERT to provide Buckeye with oil volume formulas as a means to measure oil volume in the various recovery matrices i.e., debris soil vegetation, oily water, as required under the Removal Administrative Order.

12/28/2010

An estimated 73,500 gallons of oil/water mixture have been recovered from the drainage ditch and wetlands area. Approximately, 1,350 yd3 of contaminated soil have been excavated from the site and stored in roll off boxes while awaiting disposal.

Product recovery operations continue in the areas west of the railroad and in the wetlands area. Three skimmer units are in operation throughout the wetlands area. Freezing temperatures have limited the effectiveness of the skimmers during evening and early morning hours, although warmer temperatures are forecasted for the rest of the week. Work crews continue to maintain skimmers as necessary. Additional crews were added to place a wheat bale (2 deep) perimeter around the spill area. The perimeter around the spill area is now configured with a soft boom, hard boom and wheat bales.

Higher temperatures (40 - 50 degrees Fahrenheit) and potential rainstorms are expected at the end of the week. There is concern that a heavy rain event could trigger a spread of product out of the containment area and in to sensitive areas. Westshore/Buckeye work crews have installed containment boom and hay bails outside the absorbent boom

to contain rising waters in the event of flooding. Photographs of these countermeasures can be seen in the photo section of this website.

US EPA and START conducted a survey of the waterways to the south of the Site. Longneck Creek runs underneath New Avenue and out to the canal. Two swails were also mapped which terminate approximately 350 ft from the south edge of the plume.

EPA OSCs conducted additional research and outreach to ERT, MPCA, USCG, RRT, and the Oil Section for additional information regarding alternative tactics for increasing efficiency of oil recovery in freezing conditions.

12/29/2010

An estimated 84,996 gallons of oil/water mixture have been recovered from the drainage ditch and wetlands area. To date, 37,000 gallons of water have been shipped to Beaver Oil Company in Hodgkins, IL and 47,996 gallons of oil/water mixture remains stored in frac tanks. Approximately, 1,350 yd³ of contaminated soil have been excavated from the site and stored in roll off boxes awaiting disposal.

Product recovery operations continue in the areas west of the railroad and in the wetlands area. Three skimmer units are in operation throughout the wetlands area. US EPA has suggested Westshore/Buckeye implement additional skimmer units to increase product recovery in the wetlands during daytime hours. Work crews have widened the product recovery trench on the southwest portion of the plume.

A contingency plan has been developed, with input from Westshore/Buckeye, US EPA, FWS, Delta, and Entrix, to properly prepare for and respond to forecasted heavy rains at the end of the week. Delta will install and monitor a series of water gauges throughout the wetlands. A strike team will also be prepared to respond to crude oil migration beyond the boomed perimeter. Containment boom and hay bails have been installed outside the absorbent boom as a last resort. Piping for overflow dams will be staged on site if the need arises.

US EPA and START will continue to monitor weather reports via the National Oceanic and Atmospheric Administration throughout the week.

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

The RPs, West Shore Pipeline/Buckeye Pipeline, have responded to the incident and have contractors working to recover the crude oil.

A Consent Agreement Order for Compliance under section 311(c) of the Clean Water Act was signed by USEPA OSC, Buckeye, and Westshore Pipeline on Dec. 16, 2010.

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>
Oil/Water		84,996 gal.		Yes	
Soil		1,350 yd ³			Staged

2.2 Planning Section

2.2.1 Anticipated Activities

US EPA will continue to conduct oversight of the cleanup activities and operate as the lead agency.

Product recovery operations will continue in the area west of the railroad with the installation of additional recovery trenches and skimmer units. Vacuum trucks will continue to pull product from areas in the wetlands as necessary.

US EPA will work with Westshore/Buckeye to develop strategies to combat freezing temperatures and increase product recovery efficiency.

US EPA will work with Westshore/Buckeye to prepare the Site for the forecasted heavy rain event.

Monitoring and removal of product from the French Drain system will continue.

Cleanup contractors will continue to recover crude oil contamination. Review of the West Shore/Buckeye plans for addressing remaining contamination and discuss strategy with West Shore/Buckeye, IEPA, DOT, USFWS, and IDNR

regarding remediation strategies in environmentally sensitive areas west of the railroad tracks.

CTEH will continue to conduct air monitoring and air sampling activities in work zones, along the rail tracks, and the nearby residential areas.

Delta will continue to conduct daily surface water sampling and weekly soil sampling. START personnel will collect 10% split samples every third day of sampling.

2.2.1.1 Planned Response Activities

2.2.1.2 Next Steps

Product recovery activities will continue in the area west of the railroad tracks utilizing recovery trenches and skimmer units. Product recovery will also be maintained on the east side of the tracks. EPA has requested more skimmers and vacuum trucks to increase the volume of oil recovered on the west side of the tracks in the wetlands area.

US EPA will work with Westshore/Buckeye to secure the Site for the upcoming warmer temperatures and potential rainstorms. Delta will monitor water level gauges throughout the wetlands and on-site personnel will respond if/when water levels become excessive.

2.2.2 Issues

12/22/2010

Freezing temperatures have created slippery and unsafe conditions on the swamp mats. Sand and gravel have been spread over the swamp mats to increase traction and prevent slip and trip hazards.

On 12/18, New Avenue was reopened to general traffic. An increased amount of traffic and speeding have led to some unsafe conditions, especially with the potential for unsafe weather conditions. Increased signage along the work zones has been implemented.

12/23/2010

A roll-off bin (R021) was found to be leaking in the staging area.

Concerns were raised regarding the use of treated wood in the construction of swamp mats in the wetland area. Westshore/Buckeye will replace treated wood swamp mats with untreated wood where necessary.

Upwellings of groundwater has saturated soil in the recovery trench and in the wetland area. The large amounts of groundwater have impeded the recovery of product and created freezing issues for the vacuum trucks and frac tanks. Onsite personnel have discussed the possibility of backfilling areas that have been excavated to bedrock with soil to help berm against the groundwater.

12/24/2010

Freezing temperatures have severely limited product recovery efforts. Vacuum truck and frac tank hoses and connections are frequently freezing and limiting the product removal.

12/27/2010

Freezing temperatures have limited product collection efforts overnight. US EPA approved a plan by Westshore/Buckeye to end product collection activities at 2200 until temperatures are warmer.

Warmer temperatures and potential rainstorms threaten to flood the site and spread product outside the current containment area. US EPA is working with Westshore/Buckeye to create a reinforcement system to the current absorbent boom around the extent of the plume.

12/28/2010

Product recovery operations have become limited due to freezing temperatures. Westshore/Buckeye and US EPA is investigating options to increase the efficiency of product recovery on the Site including the possible implementation of a Lamor Bucket Skimmer.

Tarps and covers on the roll off boxes have sunk under the weight of fallen snow. The covers need to be cleared and reset before the coming rainstorm or rain could get in to the roll offs and create the potential for release.

12/29/2010

Warmer temperatures during the day and freezing temperatures at night have led to icy conditions around the Site. Personnel have been advised to be vigilant in areas where ice may be present.

With a heavy rain event forecasted for the end of the week, there is a potential for a spreading of product outside the current containment area. Westshore/Buckeye and US EPA have developed a contingency plan which will be implemented in the event of an unsafe rise in water levels throughout the site.

2.3 Logistics Section

A contingency plan has been developed to mitigate the potential for product release in the event of heavy rains at the end of the week. A strike team will be prepared to respond with absorbent materials and additional protective

measures. Westshore/Buckeye has reinforced the absorbent boom around the extent of the plum with the installation of containment boom and hay bails.

Fill soil sources are currently being investigated by Westshore/Buckeye. Fill soil may be taken from the northwest portion of the wetlands area for berming near the plume.

2.4 Finance Section

2.4.1 Narrative

The Oil Pollution Trust Fund was opened on 12/14 and the Federal Project Number (FPN E11505) ceiling was set at \$50,000. OSC Mitchell requested an additional \$200,000 from the USCG on 12/16 and received approval for the proposed ceiling increase on 12/19.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
TAT/START	\$50,000.00	\$34,785.00	\$15,215.00	30.43%
Intramural Costs				
USEPA - Direct	\$250,000.00	\$39,530.00	\$210,470.00	84.19%
Total Site Costs	\$300,000.00	\$74,315.00	\$225,685.00	75.23%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

START prepared a Site-Specific Health and Safety Plan (HASP) for emergency response activities at the site. On 12/22/2010, START issued a full HASP which supercedes the emergency HASP. The RP and their contractors are working under their own HASP.

OSHA inspected the site on 12/16 -17 with the Buckeye and no health and safety issues were noted.

New Avenue was reopened on 12/18/10. Buckeye hired contractors to meet federal requirements for construction areas.

Extreme cold weather (below 0F) conditions and potential heavy rains are a major safety factor and are being addressed on a day to day basis.

2.6 Liaison Officer

2.7 Information Officer

2.7.1 Public Information Officer

USEPA contact is Jayna Legg

2.7.2 Community Involvement Coordinator

USEPA contact is Don Deblasio

3. Participating Entities

3.1 Unified Command

Unified Command has been implemented at the site and U.S. EPA is the lead agency. The incident Commander (IC) is U.S. EPA OSC Jim Mitchell. The command post is located at 12920 Bell Road in Lemont, Illinois. Unified Command currently consists of U.S. EPA, IEPA, and Buckeye.

3.2 Cooperating Agencies

RPs – West Shore Pipeline and Buckeye Pipeline

RP Contractors

- CTEH (air monitoring)
- Delta (environmental)
- Future Environmental (cleanup)
- Veolia Environmental (cleanup)

- Midwest Mechanical (pipeline repair)
- Entrix (environmental – wetlands)

U.S. EPA START Contractor – Weston Solutions, Inc.

4. Personnel On Site

U.S. EPA – 2 (day ops)
START – 2 (day ops)
RP and contractors – 60
IEPA – 2
USFWS - 2

5. Definition of Terms

CO = carbon monoxide
CTEH = Center for Toxicology and Environmental Health
DOT = Department of Transportation
HASP = Health and Safety Plan
H₂S = hydrogen sulfide
IC = Incident Commander
IDNR = Illinois Department of Natural Resources
IEPA = Illinois Environmental Protection Agency
LEL = lower explosive limit
O₂ = oxygen
OSC = On-Scene Coordinator
PHSMA = Pipeline and Hazardous Materials Safety Administration
ppm = parts per million
RAT = Rapid Assessment Tool
RP = Responsible Party
START = Superfund Technical Assessment and Response Team
SVOC = semi-volatile organic compound
USACE = United States Army Corps of Engineers
U.S. EPA = United States Environmental Protection Agency
USFWS = United States Fish and Wildlife Services
VOC = volatile organic compound
yd³ = cubic yards

6. Additional sources of information

6.1 Internet location of additional information/report

6.2 Reporting Schedule

POLREPS will be provided every Wednesday throughout the duration of the response.

7. Situational Reference Materials

NRC Report #895256
NRC Report #962178
NRC Report #962179

POLREP #3 Last Updated 12/30/2010