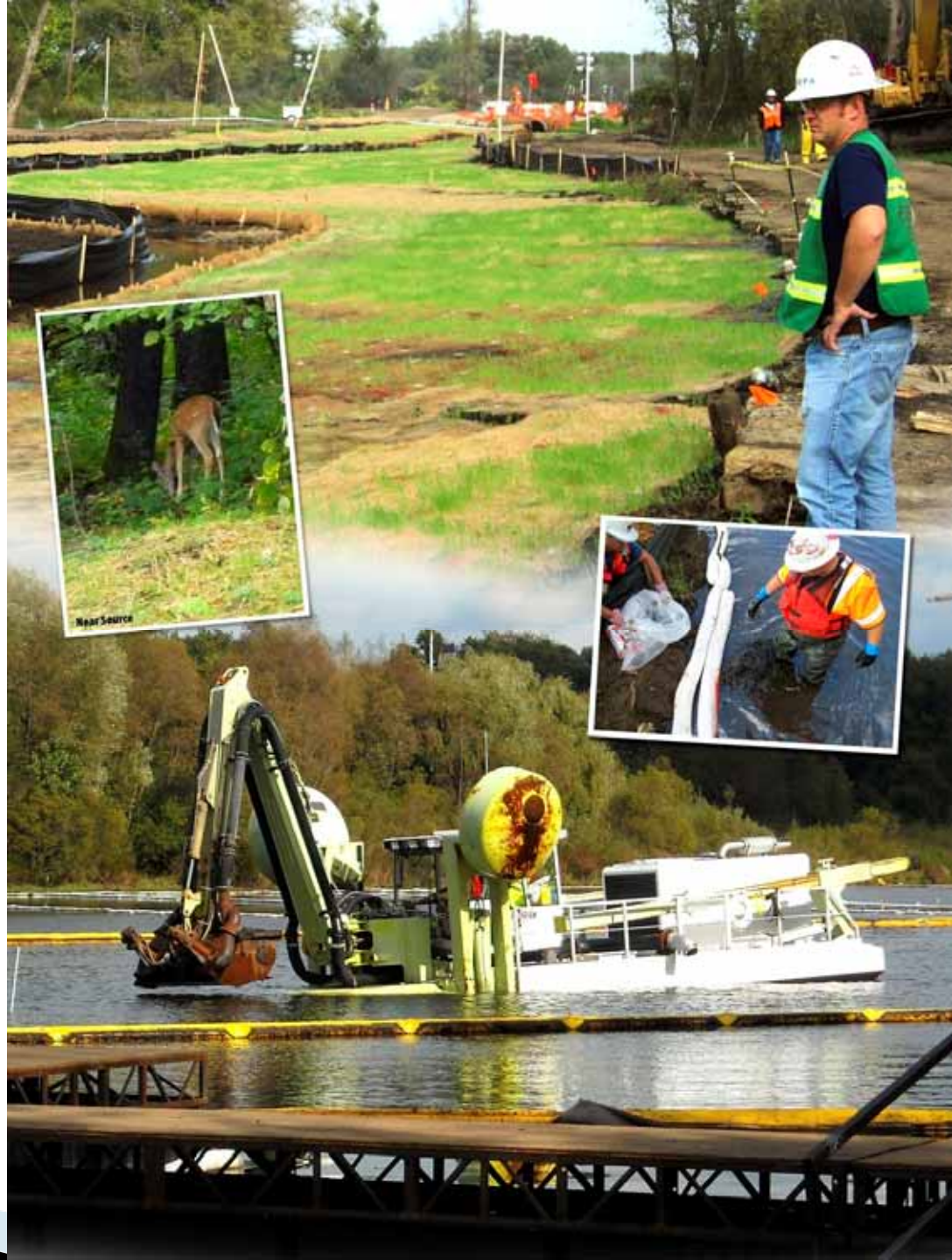




Enbridge Line 6B Incident

Public Update and Availability Session

October 14, 2010
(Day 81)



Pipeline Release Site

Division A



Oil coming out of culvert on Talmadge Creek on first day of spill, July 26, 2010.



Exposed pipeline during the first week of the oil spill response.



Initial cleanup of a 5-acre contaminated zone in the pipeline break area. Photo shows a dewatering operation.



Second week of contaminated soil cleanup near the pipeline break.



After four weeks, contaminated land located by the pipeline break was backfilled with clean soil.

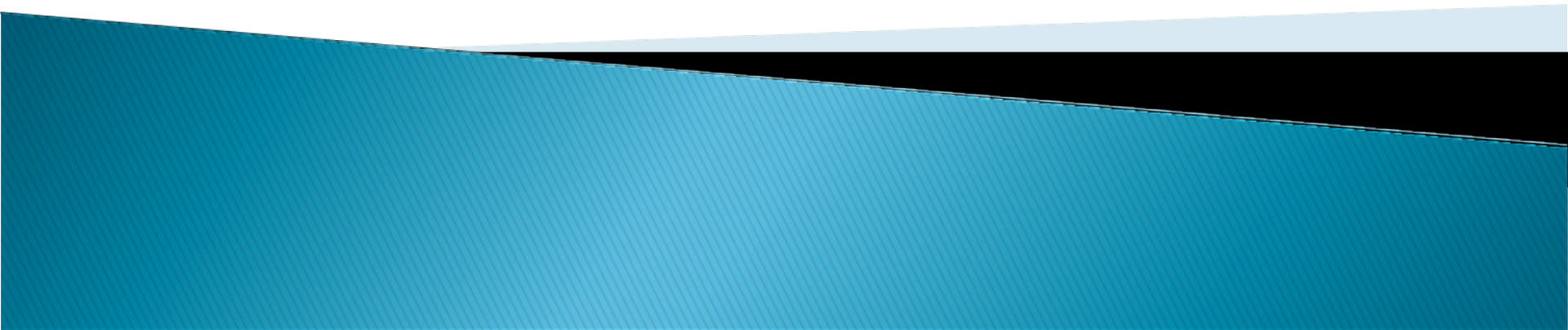


11 OCT 2010 13:08

Restored and re-vegetated pipeline break area on Oct. 11, 2010.

Talmadge Creek

Division B





Talmadge Creek day one: creek and floodplain completely oil-covered.



Initial containment measure in the creek includes skimmers, containment booms, and siphon dams.



Surface water was reduced to heavy sheen by the end of the response's first week.



To access the creek in order to remove contaminated soil, swamp mat roads were established. Note white oil pads placed to absorb oil.



Talmadge Creek after soil scrapping was completed. Contaminated soil staging pads visible on the right side of the picture.

Photo type: Overview

Feature: NO SETTING



12 OCT 2010 13:09

Container: NO SETTING

W: 084 59' 43.39"
N: 082 14' 57.45"

Talmadge Creek following restoration, which included soil backfilling, coconut matting, vegetation seeding, and silt fencing.



View of Talmadge Creek on Oct. 14, 2010.

Kalamazoo River

Division C, D, & E



Kalamazoo River on July 26, 2010, day one of the response: oil covered the river from bank to bank.



Within one week, presence of heavy oil reduced to a sheen.



In August 2010, most sheen production came from contaminated vegetation on the riverbanks and islands.



Example of sheening during week two and three of the response.



By mid-August, all contaminated islands were contained.

Photo Type: Overview

Feature: NO SETTING



12 OCT 2010 13:17

Container :NO SETTING

W:085 01' 25.53"
N:042 15' 24.86"

Some islands required soil removal.

Ceresco Dam

Division C



July 26, 2010, Ceresco Dam: note the oil flowing over the dam.



By the end of the first week, oil reduced to a heavy sheen.



Oil caught in backwater vegetation just upstream from Ceresco Dam.



Containment booming established to control vegetation sheening upstream of Ceresco Dam.



October 2010: submerged oil cleanup started upstream of Ceresco Dam.



Condition of stream bank just downstream of Ceresco Dam in late July 2010.



Same location, late September 2010.



11 OCT 2010 14:15

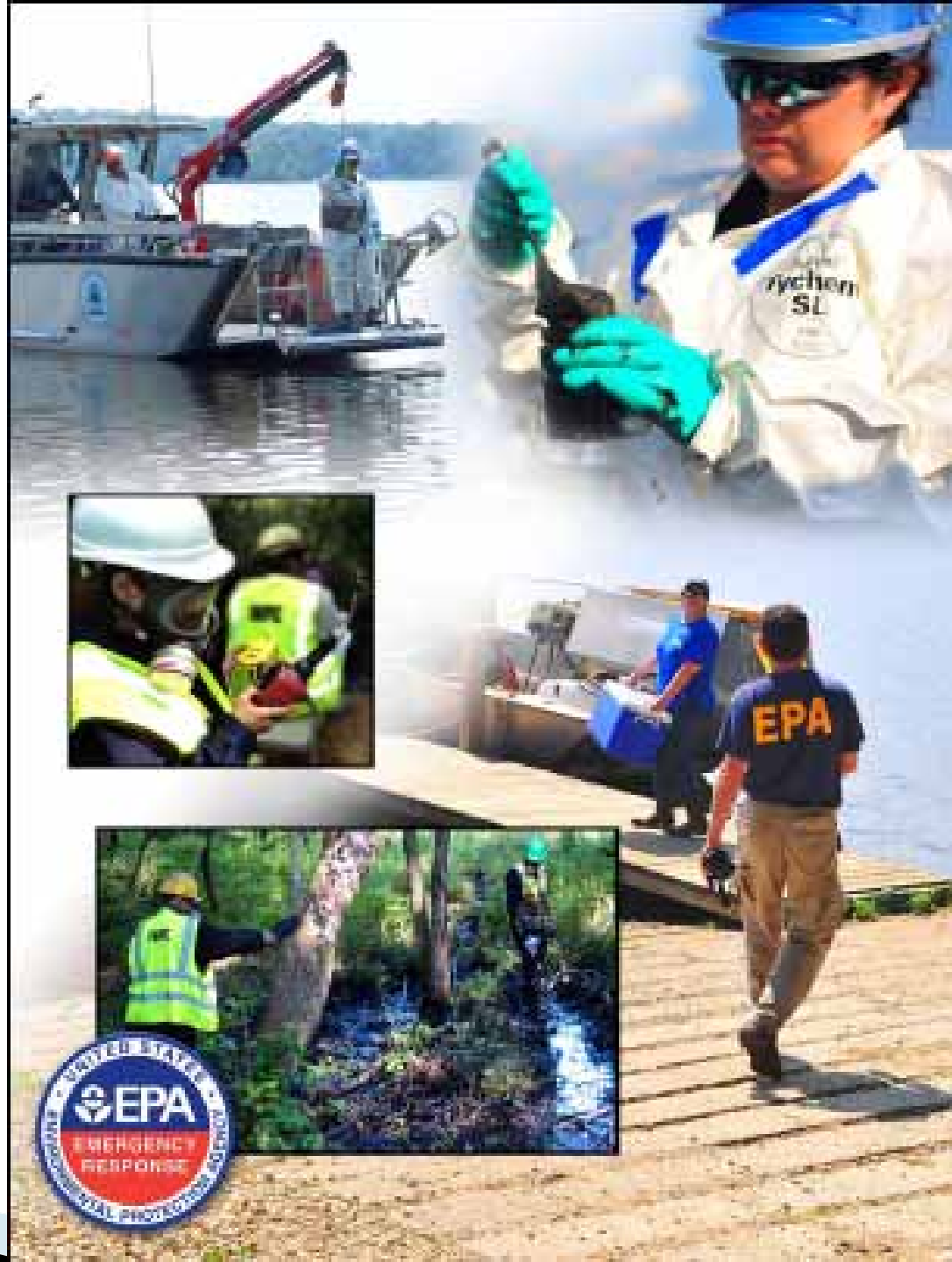
Morrow Lake, October 11, 2010.



Enbridge Line 6B Incident

Operational Update

October 14, 2010



Today's Statistics

- ▶ Personnel on site: ▶ 1,166
- ▶ Oil / water collected: ▶ 12.3 million gallons
- ▶ Soil / Debris collected: ▶ 83,000 cubic yards
- ▶ Boom in water: ▶ 109,800 feet
- ▶ Dredging water treated: ▶ 6.1 million gallons

Monitoring



Sampling and Assessment



Containment



08/07/2010

Contamination Recovery



08/07/2010 09:30:03

Copyright of USEPA

Staging



Soil Removal



Disposal



Shoreline Cleanup



Floodplain Cleanup

Airlifting excavation equipment into an inaccessible floodplain.



Floodplain Cleanup



Excavation of floodplain contamination & staging of one-ton waste bags.

Division C MP11.25, Airlift Staging

Decontamination



Decontamination of containment boom.

Decontamination

Photo type-Overview

Feature: NO_SETTING

Decontamination of containment boom.



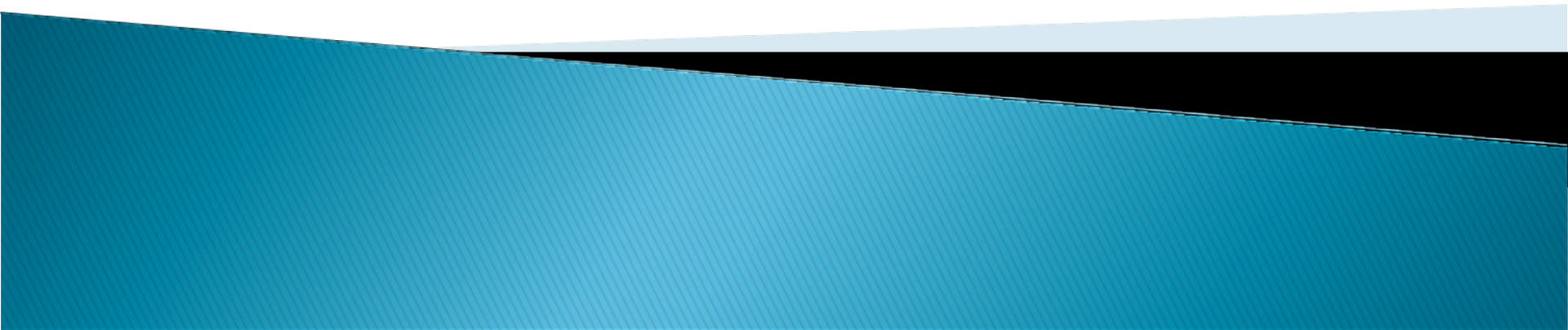
12 OCT 2010 13 09

Source: US EPA
4-042-11-36-647

00000000-00-00-0000

Submerged Oil

Dredging at Ceresco Dam





11 OCT 2010 13 20

Source: US EPA
11-095 06 00 51

Container: NS SETTING

Ceresco Dam dredging operation and submerged oil aeration cells along the north bank.



Amphibex dredge used to remove approximately 18 inches of sediment from upstream of Ceresco Dam.



13 OCT 2010 13:00

Source: US EPA

Geotube filter system used to capture contaminated sediment.



Ceresco Dam dredging progress as of Oct. 12, 2010: green indicates completed areas and blue shows areas in progress.

Submerged Oil

Aeration, Flushing, Agitation

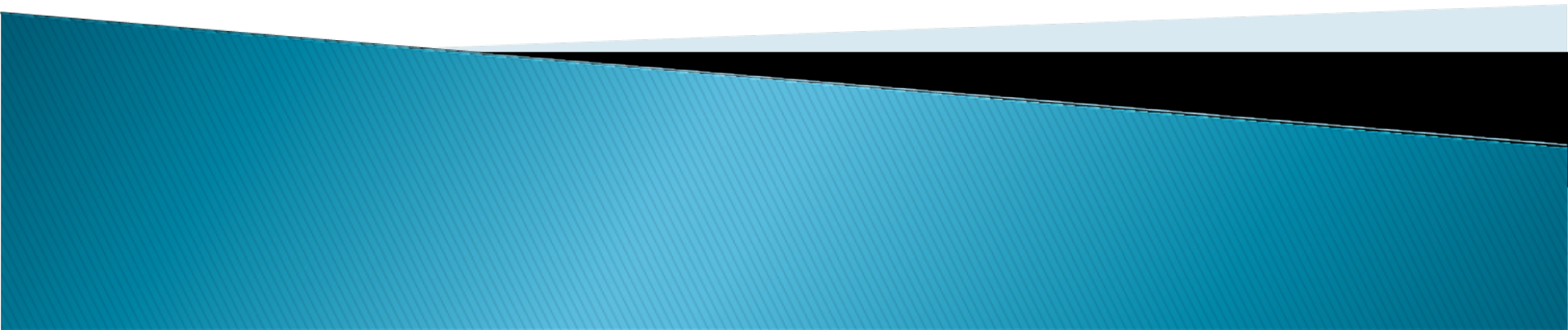


Photo type: Overview

Feature: NO SETTING



12 OCT 2010 13:38

Container :NO SETTING

N: 42° 11' 06.03"
W: 85° 13' 29.99"

Submerged oil recovery at "Mill Pond Area" in Battle Creek.



11 OCT 2010 13:54

Source: US EPA
N=000 31 00-07

10/11/2010 13:54:00

Example of submerged oil aeration, flushing, and recovery. Sediment is agitated to reintroduce oil to the surface so it can be collected.



Close-up shot of aeration activities.

Operation and Maintenance

Long Term Activity





Source: US EPA

Riverbank flushing activities.



Feature: NO SETTING

Feature: NO SETTING

12 OCT 2010 13:34

W:08 Source: US EPA
N:042 12° 04 41'

Feature: NO SETTING

Riverbank restoration and long-term containment . Some areas on river will be monitored over time for potential contamination.



Residual contamination on islands will be monitored over time.

Stains on trees and rocks will fade over time and do not present health or environmental risks.



Source: U.S. EPA

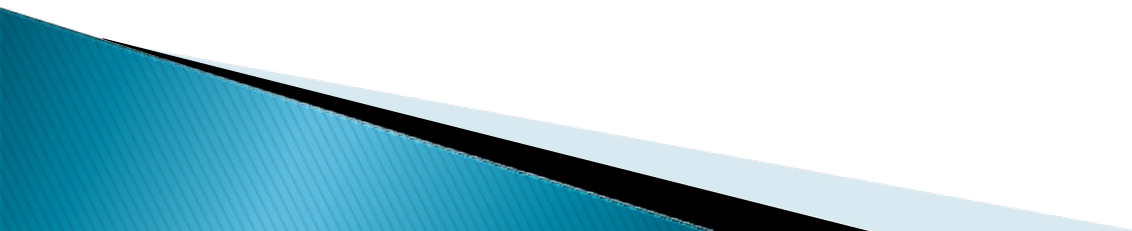


Other areas will require long-term operation and maintenance to continue to reduce contamination levels.

Long Term Monitoring

- ▶ Groundwater & Drinking water
 - Substantial sampling and monitoring in residential wells
 - Analysis
 - Oil specific organic compounds
 - Oil specific inorganic compounds
 - Non oil related water quality
- ▶ Hydrogeologic Assessment
 - Study the dynamics of water flow
 - Study chemical compounds of concern
- ▶ Results of both assessments due by October 31, 2010
 - Long term monitoring plan based on findings

Issues Conveyed to Unified Command

- ▶ Drinking water
 - ▶ Health impacts
 - ▶ Property values
 - ▶ Who should I talk to?
 - ▶ Recreational use of the Kalamazoo River
 - ▶ Claims
- 



Thank You

