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Mayflower Pipeline Incident Response

Mayflower, Arkansas

Sheen Monitoring Report #10

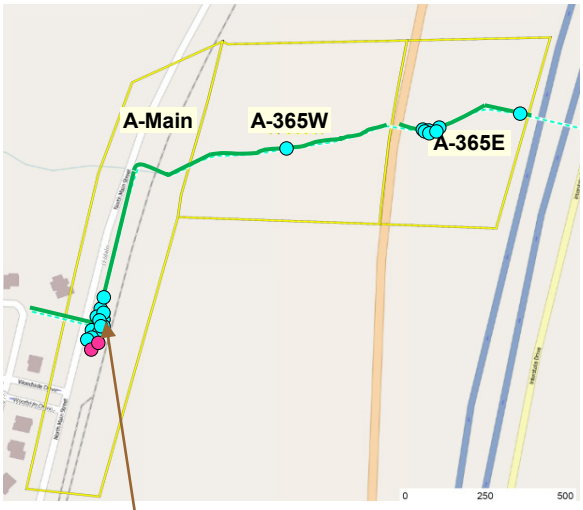
Monitoring Period: Daily from 12/23/2013 through 12/29/2013

Mitigation: Suspected petrogenic sheens were removed using absorbent materials.

Legend:
Green Line – No Sheen
Aqua Circle – "Brittle" Sheen Location
Pink Circle – "Non-Brittle" Sheen Location

Observations in Drainage Ways:

- A-Main
  - One streamer, six covers (no particular structure), and three patches of metallic sheens; and two covers (no particular structure) of rainbow sheens observed. Sheens broke apart when disturbed ("brittle")[1].
  - One cover (no particular structure) and one patch of metallic sheens observed. Sheens did not break when disturbed ("non-brittle")[2].
- A365W
  - One cover (no particular structure) of brittle[1] metallic sheens observed.
- A365E
  - Four covers (no particular structure) and two patches of brittle[1] metallic sheens, and one patch of brittle[1] rainbow sheens observed.



Drainage Ways (Summary of Observations from 12/23/2013 through 12/29/2013)

Rainbow Sheen Cover Observation on 12/28/2013

Observations in Dawson Cove Inlet Channel:

- One cover (no particular structure) and one patch of brittle[1] metallic sheens observed.
- Five patches (four with 0.1-inch wide oil spots), five covers (no particular structure), and two streamers (one with 0.1-inch wide oil spots) of non-brittle[2] rainbow sheens observed.

Dawson Cove Inlet Channel (Summary of Observations from 12/23/2013 through 12/29/2013)

Notes:
1. Brittle sheens are often of natural biogenic origin.
2. Non-brittle sheens are often related to anthropogenic sources, including petrogenic sources (e.g., petroleum hydrocarbons).
3. Laboratory testing is required to distinguish sheen sources (e.g., crude oil, roadway runoff, natural biologic activity).
4. Sheen color (dark/metallic/rainbow/silver gray) and structure (patches/streamers/cover) terminology reference: NOAA 2007. NOAA Open Water Oil Identification Job Aid.

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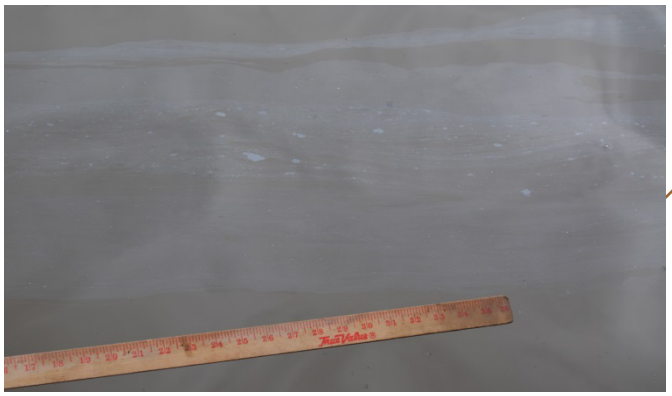
Sheen Monitoring Report #10 (continued)

Monitoring Period: Daily from 12/23/2013 through 12/29/2013

Observations in Dawson Cove:

- Four patches (with 0.1-, 0.25-, 0.5-, and 0.75-inch wide oil spots) and eight streamers (with 0.1-, 0.25-, and 0.5-inch wide oil spots) of non-brittle[2] rainbow sheens; and one streamer of non-brittle[2] metallic sheens observed.
- One patch of brittle[1] metallic sheens and one patch of brittle[1] rainbow sheens observed.



Rainbow Sheen Streamer Observation on 12/28/2013

Legend:
Aqua Circle – "Brittle" Sheen Location
Pink Circle – "Non-Brittle" Sheen Location
OW-1 – Shoreline Observation Location

Dawson Cove (Summary of Observations from 12/23/2013 through 12/29/2013)

Rainbow Sheen Patch with Small Oil Spots (0.1-inch Wide) Observation on 12/23/2013

Path Forward for 12/29/2013 to 1/5/2014:

- Continue sheen monitoring in all areas.

Notes:

1. Brittle sheens are often of natural biogenic origin.
2. Non-brittle sheens are often related to anthropogenic sources, including petrogenic sources (e.g., petroleum hydrocarbons).
3. Laboratory testing is required to distinguish sheen sources (e.g., crude oil, roadway runoff, natural biologic activity).
4. Sheen color (dark/metallic/rainbow/silver gray) and structure (patches/streamers/cover) terminology reference: NOAA 2007. NOAA Open Water Oil Identification Job Aid.