

Sheen Monitoring Report #4

Mayflower Pipeline Incident Response

Mayflower, Arkansas

Monitoring Period: Daily from 11/11/2013 through 11/17/2013

Mitigation: Suspected petrogenic sheens were removed using absorbent materials.

Observations in Drainage Ways:

- A-Main
 - Two covers (no particular structure), one patch, and two streamers (shiny) of metallic sheens observed. Sheens broke apart when disturbed ("brittle")¹.
 - One cover (no particular structure), one patch, and one streamer of rainbow sheens; one patch of metallic sheens; and one cover (no particular structure) of silver gray sheens observed. Sheens did not break when disturbed ("non-brittle")².
- A365W
 - Seven patches and two covers (no particular structure) of brittle¹ metallic sheens observed.
 - One patch of non-brittle² metallic sheens observed.
- A365E
 - Two covers (no particular structure) and three patches of brittle¹ metallic sheens, and one patch of brittle¹ rainbow sheens observed.
 - One patch of non-brittle² rainbow sheens observed.

Legend:

Green Line – No Sheen

Aqua Circle – "Brittle" Sheen Location

Pink Circle – "Non-Brittle" Sheen Location



Drainage Ways (Summary of Observations from 11/11/2013 to 11/17/2013)



Silver Gray Sheen Cover Observation on 11/15/2013

Observations in Dawson Cove Inlet Channel:

- Three patches and three covers (no particular structure) of brittle¹ metallic sheens, one patch of brittle¹ rainbow sheens, and one patch of brittle¹ metallic/rainbow sheens observed.
- One patch of non-brittle² rainbow sheens with small oil spots (0.25-inch wide) observed.



Dawson Cove Inlet Channel (Summary of Observations from 11/4/2013 to 11/10/2013)

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.

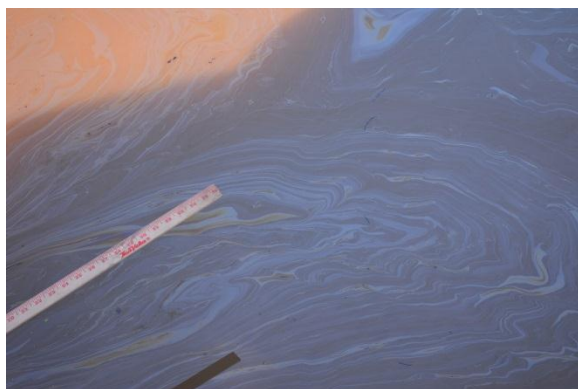
Sheen Monitoring Report #4 (continued)

Mayflower, Arkansas

Monitoring Period: Daily from 11/11/2013 through 11/17/2013

Observations in Dawson Cove:

- Five patches and one cover (no particular structure) of brittle¹ metallic sheens observed.
- Two patches and five streamers with small oil spots of non-brittle² rainbow sheens (one streamer with 5-inch wide oil streamer at center); two streamers and one patch with small oil spots of non-brittle² dark/rainbow sheens; three streamers and two patches (two streamers and one patch with small oil spots) of non-brittle² metallic sheens; two streamers (with small oil spots) and one patch/streamer of non-brittle² metallic/rainbow sheens; and one patch and one patch/streamer (with small oil spots) of non-brittle² dark/metallic sheens observed. Observed oil spots were approximately 0.25-inch in width.



Rainbow Sheen Streamer with Small Oil Spots (0.25-inch Wide) Observation on 11/14/2013

Legend:

Aqua Circle – “Brittle” Sheen Location

Pink Circle – “Non-Brittle” Sheen Location

OW-1 – Shoreline Observation Location



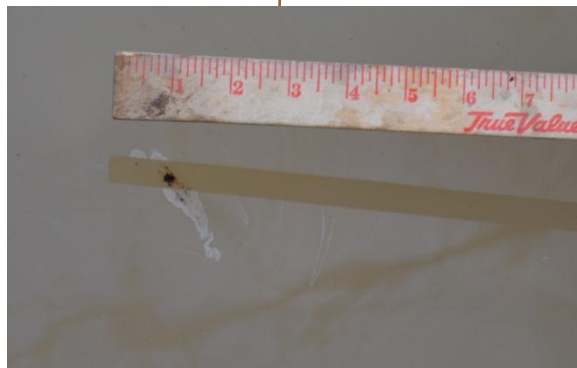
Dawson Cove (Summary of Observations from 11/11/2013 to 11/17/2013)

Path Forward for 11/18/2013 to 11/24/2013:

- 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.



Dark/Rainbow Sheen Patch with Small Oil Spots (0.25-inch Wide) Observation on 11/16/2013