

Mayflower Pipeline Incident Response

Mayflower, Arkansas

Sheen Monitoring Report #13

Monitoring Period: Daily from 01/13/2014 through 01/19/2014

<u>Mitigation:</u> Suspected petrogenic sheens were removed using absorbent materials.

Observations in Drainage Ways:

- A-Main
 - Two covers (no particular structure) and one patch of metallic/rainbow sheens; one patch and two covers of silver gray sheens; and one patch/streamer, one patch, and four covers of metallic/silver gray sheens observed. Sheens broke apart when disturbed ("brittle")¹.
 - One streamer of metallic/rainbow sheens observed. Sheens did not break when disturbed ("non-brittle")².
- A-365W
 - Three covers (no particular structure) and one patch of brittle¹ metallic/silver gray sheens observed.
 - One cover (no particular structure) of non-brittle² metallic/silver gray sheens observed.
- A-365E
 - Two covers (no particular structure) of brittle¹ metallic/silver gray sheens; and one cover and one patch of brittle¹ metallic/rainbow sheens observed.
 - One cover (no particular structure) of non-brittle² metallic/silver gray sheens and two covers of nonbrittle² silver gray sheens observed.

Observations in Dawson Cove Inlet Channel:

- Two patches of brittle¹ silver gray sheens; one cover (no particular structure) of brittle¹ rainbow sheens; one cover and one patch of brittle¹ metallic sheens; two covers of brittle¹ metallic/rainbow sheens; and one cover of brittle¹ metallic/rainbow/silver gray sheens observed.
- One patch/cover (no particular structure) of nonbrittle² metallic/rainbow/silver gray sheens; one patch of non-brittle² silver gray sheens; and one cover and one cover/patch of non-brittle² metallic/silver gray sheens observed.

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.

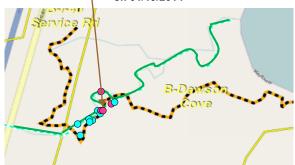
Legend: Green Line – No Sheen Aqua Circle – "Brittle" Sheen Location Pink Circle – "Non-Brittle" Sheen Location



Drainage Ways (Summary of Observations from 01/13/2014 through 01/19/2014)



Metallic/Silver Gray Sheen Cover/Patch Observation on 01/19/2014



Dawson Cove Inlet Channel (Summary of Observations from 01/13/2014 through 01/19/2014)



Mayflower Pipeline Incident Response

Sheen Monitoring Report #13 (continued)

Mayflower, Arkansas

Monitoring Period: Daily from 01/13/2014 through 01/19/2014

Observations in Dawson Cove:

- One patch of brittle¹ rainbow/silver gray sheens and one streamer of brittle¹ silver gray sheens observed.
- Three streamers (one with 0.25-inch wide oil spot) of non-brittle² metallic/rainbow sheens; one streamer of non-brittle² dark/metallic/rainbow sheens (with 0.1inch wide oil spots); one streamer of non-brittle² rainbow/silver gray sheens (with 0.1-inch wide oil spots); two patches/streamers of non-brittle² metallic/rainbow/silver gray sheens (with 0.1- and 0.25-inch wide oil spots); three streamers (two with 0.25- and 0.5-inch wide oil spots), one patch (with 0.5-inch wide oil spots), and one patch/streamer (with 0.25-inch wide oil spots) of non-brittle² silver gray sheens; one cover (no particular structure) and one streamer (with 0.25-inch wide oil spots) of nonbrittle² metallic/silver gray sheens; and one patch of rainbow sheens (with 0.75-inch wide oil spots) observed.



Dark/Metallic/Rainbow Sheen Streamer with Oil Spots (0.1-inch Wide) on 01/14/2014

Path Forward for 01/20/2014 to 01/26/2014:

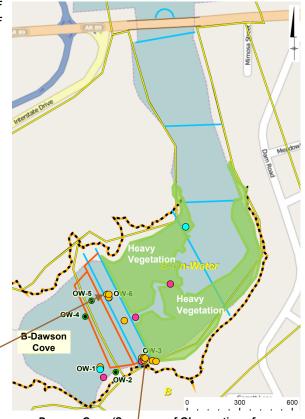
• Continue sheen monitoring in all areas.

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).
- 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.

Legend:

Aqua Circle – "Brittle" Sheen Location Pink Circle – "Non-Brittle" Sheen Location Orange Circle – "Non-Brittle" Sheen with Oil Spot Location OW-1 – Shoreline Observation Location



Dawson Cove (Summary of Observations from 01/13/2014 through 01/19/2014)



Rainbow Sheen Patch with Oil Spot (0.75-inch Wide) Observation on 01/16/2014