

Sheen Monitoring Report #1

Mayflower Pipeline Incident Response

Mayflower, Arkansas

Monitoring Period: Daily from 10/21/2013 through 10/27/2013

Mitigation: Suspected petrogenic sheens were addressed using absorbent materials.

Legend:

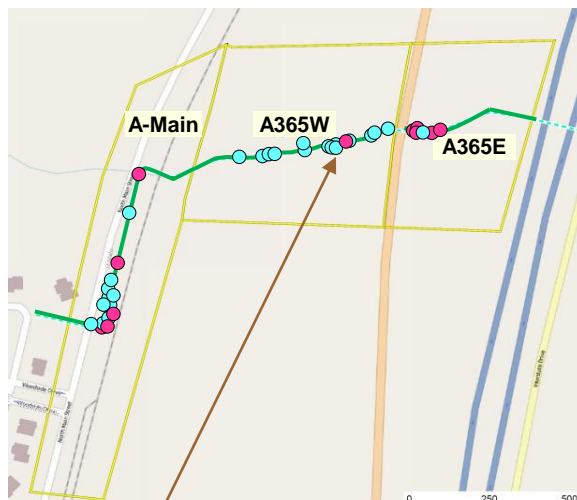
Green Line – No Sheen

Aqua Circle – “Brittle” Sheen Location

Pink Circle – “Non-Brittle” Sheen Location

Observations in Drainage Ways:

- A-Main
 - Nine patches of metallic sheen and two cover/patch of rainbow sheen observed. Sheens broke apart when disturbed (“brittle”)¹.
 - Two patches of metallic sheen and three streamers/patches of metallic or rainbow sheen observed. Sheens did not break when disturbed (“non-brittle”)².
- A365W
 - Thirteen patches of brittle¹ metallic and rainbow sheens observed.
 - One non-brittle² streamer of metallic sheen observed.
- A365E
 - Two patches and one streamer of non-brittle² metallic sheen observed.
 - One streamer of rainbow sheen and two streamers/patches of rainbow/metallic/silver gray sheen observed.
 - Patch of brittle² rainbow sheen observed.



Drainage Ways (Summary of Observations from 10/21 to 10/27/2013)



Metallic Sheen Observation on 10/24/2013

Observations in Dawson Cove Inlet Channel:

- Two streamers of brittle¹ rainbow and metallic sheens and two patches of brittle¹ metallic sheen observed.
- One patch of rainbow sheen and two streamers/patches of rainbow/metallic sheen observed.
- Four streamers/patches of non-brittle² rainbow/metallic and one cover of silver gray sheens observed.



Dawson Cove Inlet Channel (Summary of Observations from 10/21 to 10/27/2013)

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).

Sheen Monitoring Report #1 (continued)

Mayflower, Arkansas

Monitoring Period: Daily from 10/21/2013 through 10/27/2013

Observations in Dawson Cove:

- Two streamers and three patches of rainbow sheen, and three patches/streamers of rainbow/metallic sheen (some with small oil spots) observed.
- One patch of brittle¹ metallic sheen observed on 10/23/2013.



Rainbow Sheen Observation on 10/27/2013

Path Forward for 10/28/2013 to 11/3/2013:

- Continue sheen monitoring in all areas. Improve photography by using polarizing camera lens.
- Start sheen sampling, up to 12 samples: one of both brittle and non-brittle sheens in A-Main, A365W, A365E, and inlet channel to Dawson Cove; and two of both brittle and non-brittle sheens in the open water area of Dawson Cove.

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).

Legend:

- Aqua Circle – “Brittle” Sheen Location
- Pink Circle – “Non-Brittle” Sheen Location
- Green Circle – Shoreline Observation Location



Dawson Cove (Summary of Observations from 10/21 to 10/27/2013)



Rainbow Sheen Observation on 10/23/2013