

# Mayflower Pipeline Incident Response

## Mayflower, Arkansas

### Post-Construction Sheen Monitoring Monthly Report #6: September 2015

**Period:** 09/01/2015 through 09/30/2015

**Monitoring Days:** 09/01/2015, 09/15/2015, and 09/28/2015

Observations in Inlet Channel:

- No sheen observed in the Inlet Channel.

Observations in Cove:

- No sheen observed in Open Water Area and downstream of Heavily Vegetated Area.
- September 1, 2015: One patch of silver gray sheen observed in Heavily Vegetated Area. Sheen did not break when disturbed ("non-brittle")<sup>1</sup>. A sheen sample was collected for laboratory analysis.
- September 1, 2015: One patch of silver gray sheen observed in Heavily Vegetated Area. Sheen broke apart when disturbed ("brittle")<sup>2</sup>.
- September 15, 2015: One cover (no particular structure) of brittle<sup>2</sup> silver gray sheen observed in Heavily Vegetated Area.

Mitigation:

- Non-brittle sheens were removed by sampling.
- Additional organoclay placement was completed within a small portion of Heavily Vegetated Area on September 15 and 16, 2015.

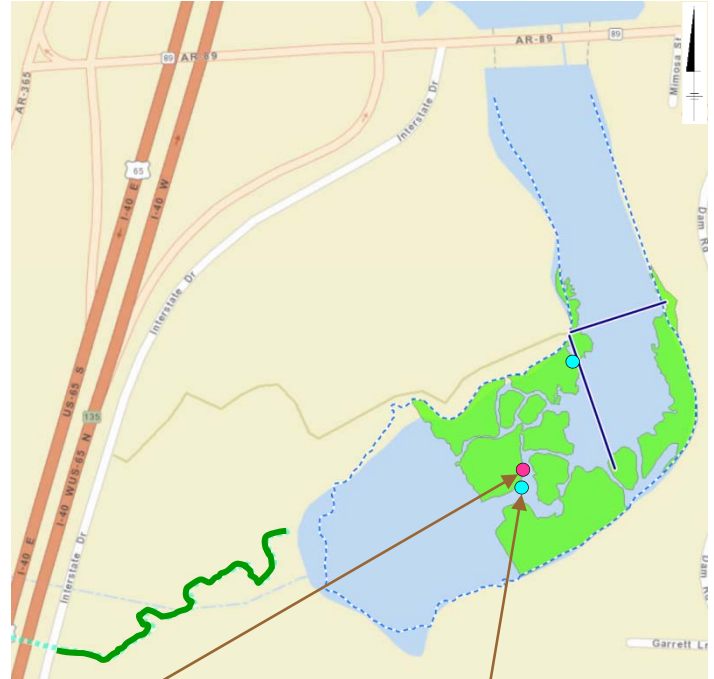
Sheen Sampling Results<sup>3</sup>:

- The laboratory analysis of sheen net sample collected from Heavily Vegetated Area on September 1, 2015 indicated that the sheen resembles crude oil from the Pegasus Pipeline.

Path Forward for October 2015:

- Continue biweekly sheen monitoring in Cove.

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



**Cove (Summary of Observations from September 2015)**



**Silver Gray Sheen Patch Observation on 09/01/2015**



**Silver Gray Sheen Cover Observation on 09/15/2015**

Notes:

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

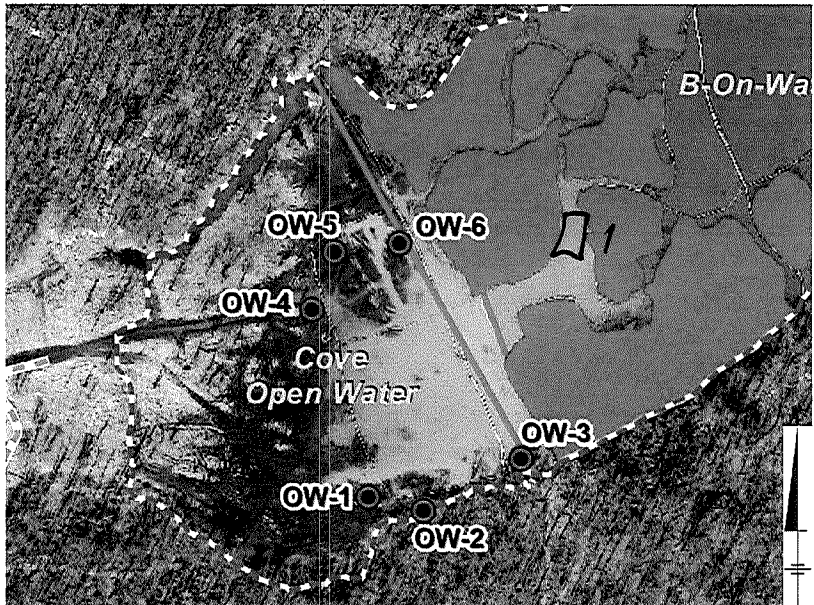
Sheen Observation Form

Personnel: **ZAP JRL**

Date: **9/1/2015**

Wind Conditions: **Windy/Light Breeze/Calm**

Temperature: **90°F** Sky Conditions: **Sun/Clouds/Part Sun/Part Clouds**



LOCATION:	TIME:
If yes, sketch on Figure 1 to show approximate location	
Approximate size (dimensions)	
Over what percentage of surface? Trace <1% <input type="checkbox"/> 1-10% <input type="checkbox"/>	
11-30% <input type="checkbox"/> 31-50% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70% <input type="checkbox"/>	
Color of sheen: Dark / Metallic / Rainbow / Silver Gray	
Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows	
Observations when sheen is disturbed: Breaks Apart/Brittle <input type="checkbox"/> Does not Break/Non-Brittle <input type="checkbox"/>	
If streamers are present, what is their orientation?	
Is sheen blossoming? Yes <input type="checkbox"/> No <input type="checkbox"/>	
If yes, what is the frequency (per 15 minutes)?	
Sheen origination (if noticable)?	
Flow Condition:	
Picture taken Yes <input type="checkbox"/> No <input type="checkbox"/>	
Action taken:	
Notes	

LOCATION: <b>1</b>	TIME: <b>1120</b>
Sketch on Figure 1 to show approximate location	
Approximate size (dimensions) <b>30' x 50'</b>	
Over what percentage of surface? Trace <1% <input checked="" type="checkbox"/> 1-10% <input type="checkbox"/>	
11-30% <input type="checkbox"/> 31-50% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70% <input type="checkbox"/>	
Color of sheen: Dark / Metallic / Rainbow / Silver Gray	
Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows	
Observations when sheen is disturbed: Breaks Apart/Brittle <input type="checkbox"/> Does not Break/Non-Brittle <input checked="" type="checkbox"/>	
If streamers are present, what is their orientation? <b>NA</b>	
Is sheen blossoming? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If yes, what is the frequency (per 15 minutes)? <b>NA</b>	
Sheen origination (if noticable)? <b>NA</b>	
Picture taken <b>4, 5</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Flow Condition: <b>none</b>	
Action taken: <b>sampled</b>	
Notes <b>N 34° 57' 58.82"</b> <b>W -92° 24' 54.39"</b>	

LOCATION:	TIME:
If yes, sketch on Figure 1 to show approximate location	
Approximate size (dimensions)	
Over what percentage of surface? Trace <1% <input type="checkbox"/> 1-10% <input type="checkbox"/>	
11-30% <input type="checkbox"/> 31-50% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70% <input type="checkbox"/>	
Color of sheen: Dark / Metallic / Rainbow / Silver Gray	
Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows	
Observations when sheen is disturbed: Breaks Apart/Brittle <input type="checkbox"/> Does not Break/Non-Brittle <input type="checkbox"/>	
If streamers are present, what is their orientation?	
Is sheen blossoming? Yes <input type="checkbox"/> No <input type="checkbox"/>	
If yes, what is the frequency (per 15 minutes)?	
Sheen origination (if noticable)?	
Picture taken Yes <input type="checkbox"/> No <input type="checkbox"/>	
Flow Condition:	
Action taken:	
Notes	

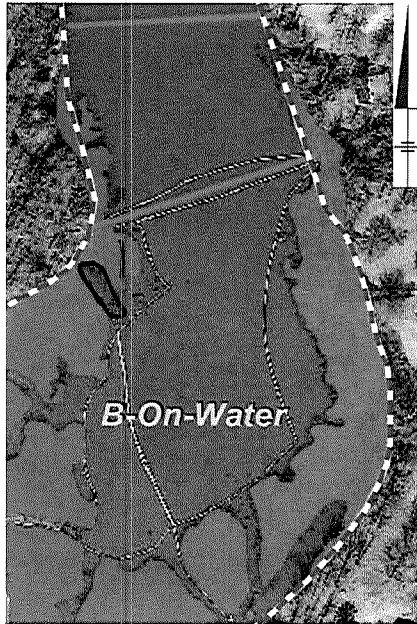
Sheen Observation Form

Personnel: **ZAP JRC**

Date: **9/1/2015**

Wind Conditions: **Windy/Light Breeze/Calm**

Temperature: **90°F** Sky Conditions: **Sun/Clouds/Part Sun/Part Clouds**



LOCATION:	TIME:
If yes, sketch on Figure 1 to show approximate location	
Approximate size (dimensions)	
Over what percentage of surface? Trace <1% <input type="checkbox"/> 1-10% <input type="checkbox"/>	
11-30% <input type="checkbox"/> 31-50% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70% <input type="checkbox"/>	
Color of sheen: Dark / Metallic / Rainbow / Silver Gray	
Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows	
Observations when sheen is disturbed: Breaks Apart/Brittle <input checked="" type="checkbox"/> Does not Break/Non-Brittle <input type="checkbox"/>	
If streamers are present, what is their orientation?	
Is sheen blossoming? Yes <input type="checkbox"/> No <input type="checkbox"/>	
If yes, what is the frequency (per 15 minutes)?	
Sheen origination (if noticable)?	
Flow Condition:	
Picture taken Yes <input type="checkbox"/> No <input type="checkbox"/>	
Action taken:	
Notes	

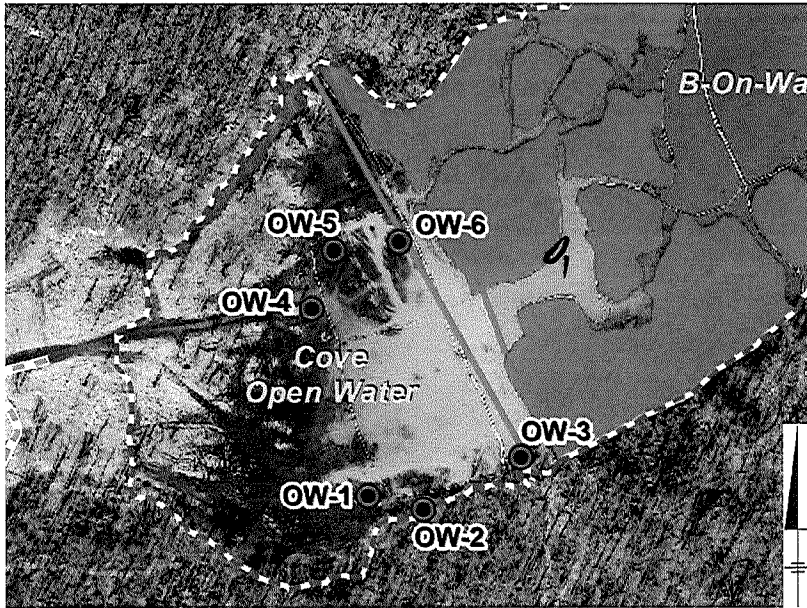
LOCATION: <b>1</b>	TIME: <b>1100</b>
Sketch on Figure 1 to show approximate location	
Approximate size (dimensions) <b>20' x 100'</b>	
Over what percentage of surface? Trace <1% <input type="checkbox"/> 1-10% <input type="checkbox"/>	
11-30% <input type="checkbox"/> 31-50% <input checked="" type="checkbox"/> 50-70% <input type="checkbox"/> >70% <input type="checkbox"/>	
Color of sheen: Dark / Metallic / Rainbow / Silver Gray	
Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows	
Observations when sheen is disturbed: Breaks Apart/Brittle <input checked="" type="checkbox"/> Does not Break/Non-Brittle <input type="checkbox"/>	
If streamers are present, what is their orientation? <b>NA</b>	
Is sheen blossoming? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If yes, what is the frequency (per 15 minutes)? <b>NA</b>	
Sheen origination (if noticable)? <b>NA</b>	
Picture taken <b>1, 2, 3</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Flow Condition: <b>open water</b>	
Action taken: <b>none</b>	
Notes	

LOCATION:	TIME:
If yes, sketch on Figure 1 to show approximate location	
Approximate size (dimensions)	
Over what percentage of surface? Trace <1% <input type="checkbox"/> 1-10% <input type="checkbox"/>	
11-30% <input type="checkbox"/> 31-50% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70% <input type="checkbox"/>	
Color of sheen: Dark / Metallic / Rainbow / Silver Gray	
Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows	
Observations when sheen is disturbed: Breaks Apart/Brittle <input type="checkbox"/> Does not Break/Non-Brittle <input type="checkbox"/>	
If streamers are present, what is their orientation?	
Is sheen blossoming? Yes <input type="checkbox"/> No <input type="checkbox"/>	
If yes, what is the frequency (per 15 minutes)?	
Sheen origination (if noticable)?	
Picture taken Yes <input type="checkbox"/> No <input type="checkbox"/>	
Flow Condition:	
Action taken:	
Notes	

Sheen Observation Form

Personnel: Z. Powers L. Paades Date: 7/19/15

Wind Conditions: Windy/Light Breeze/Calm Temperature: 70-80° Sky Conditions: Sun/Clouds/Part Sun/Part Clouds



LOCATION:	TIME:
If yes, sketch on Figure 1 to show approximate location	
Approximate size (dimensions)	
Over what percentage of surface? Trace <1% <input type="checkbox"/> 1-10% <input type="checkbox"/>	
11-30% <input type="checkbox"/> 31-50% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70% <input type="checkbox"/>	
Color of sheen: Dark / Metallic / Rainbow / Silver Gray	
Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows	
Observations when sheen is disturbed: Breaks Apart/Brittle <input type="checkbox"/> Does not Break/Non-Brittle <input type="checkbox"/>	
If streamers are present, what is their orientation?	
Is sheen blossoming? Yes <input type="checkbox"/> No <input type="checkbox"/>	
If yes, what is the frequency (per 15 minutes)?	
Sheen origination (if noticable)?	
Flow Condition:	
Picture taken Yes <input type="checkbox"/> No <input type="checkbox"/>	
Action taken:	
Notes	

LOCATION: <u>1</u>	TIME: <u>1027</u>
Sketch on Figure 1 to show approximate location	
Approximate size (dimensions) <u>4'x6'</u>	
Over what percentage of surface? Trace <1% <input type="checkbox"/> 1-10% <input type="checkbox"/>	
11-30% <input type="checkbox"/> 31-50% <input type="checkbox"/> 50-70% <input checked="" type="checkbox"/> >70% <input type="checkbox"/>	
Color of sheen: Dark / Metallic / Rainbow / <u>Silver Gray</u>	
Sheen structure: <u>No structure</u> / Patches / Streamers / Tar Balls / Windrows	
Observations when sheen is disturbed: Breaks Apart/Brittle <input checked="" type="checkbox"/> Does not Break/Non-Brittle <input type="checkbox"/>	
If streamers are present, what is their orientation? <u>N/A</u>	
Is sheen blossoming? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If yes, what is the frequency (per 15 minutes)? <u>NA</u>	
Sheen origination (if noticable)? <u>NA</u>	
Picture taken <u>1, 2, 3</u> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Flow Condition: <u>no/low flow</u>	
Action taken: <u>none</u>	
Notes	

LOCATION:	TIME:
If yes, sketch on Figure 1 to show approximate location	
Approximate size (dimensions)	
Over what percentage of surface? Trace <1% <input type="checkbox"/> 1-10% <input type="checkbox"/>	
11-30% <input type="checkbox"/> 31-50% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70% <input type="checkbox"/>	
Color of sheen: Dark / Metallic / Rainbow / Silver Gray	
Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows	
Observations when sheen is disturbed: Breaks Apart/Brittle <input type="checkbox"/> Does not Break/Non-Brittle <input type="checkbox"/>	
If streamers are present, what is their orientation?	
Is sheen blossoming? Yes <input type="checkbox"/> No <input type="checkbox"/>	
If yes, what is the frequency (per 15 minutes)?	
Sheen origination (if noticable)?	
Picture taken Yes <input type="checkbox"/> No <input type="checkbox"/>	
Flow Condition:	
Action taken:	
Notes	