

Post-Construction Sheen Monitoring Monthly Report #7: October 2015

Period: 10/01/2015 through 10/31/2015

Monitoring Days: 10/07/2015, 10/14/2015, and 10/28/2015

Observations in Inlet Channel:

- October 7, 2015: One cover (no particular structure) of silver gray sheen observed in Inlet Channel. Sheen did not break when disturbed ("non-brittle")¹. A sheen net sample was collected and the laboratory analysis of the sample indicated a resemblance to background anthropogenic sources; the sample did not resemble the crude oil from the Pegasus Pipeline.
- October 14, 2015: One patch of silver gray sheen observed in Inlet Channel. Sheen broke apart when disturbed ("brittle")².

Observations in Cove:

- October 14, 2015: One patch/streamer of non-brittle¹ silver gray sheen observed in Heavily Vegetated Area. A sheen net sample was collected and the laboratory analysis of the sample collected indicated a combination of degraded crude oil from the Pegasus Pipeline and background anthropogenic sources.
- October 28, 2015: One patch of non-brittle¹ silver gray sheen observed in Heavily Vegetated Area. A sheen net sample was collected for laboratory analysis. Laboratory results will be reported in the next monthly report.
- October 28, 2015: One patch of non-brittle¹ silver gray sheen observed downstream of Heavily Vegetated Area. A sheen sample was collected for laboratory net analysis. Laboratory results will be reported in the next monthly report.

Path Forward for November 2015:

· Continue biweekly sheen monitoring in Cove.



Silver Gray Sheen Cover Observation on 10/07/2015

Mayflower Pipeline Incident Response

Mayflower, Arkansas

Legend:

Green Line - No Sheen

Aqua Circle - Brittle Sheen Location

Pink Circle - Non-Brittle Sheen Location

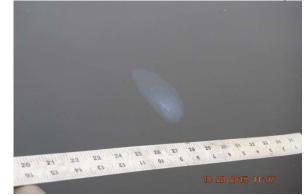
- September 2015 Additional Organoclay Placement



Cove (Summary of Observations from October 2015)



Silver Gray Sheen Patch/Streamer Observation on 10/14/2015



Silver Gray Sheen Patch Observation on 10/28/2015

Notes:

- 1. Non-brittle sheens are often related to anthropogenic sources, including petrogenic sources (e.g., petroleum hydrocarbons).
- 2. Brittle sheens are often of natural biogenic origin.
- 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 Observation Form Date: 10/7/15
Temperature: 70 FSky Conditions: Sum/Clouds/Part Sun/Part Clouds Personnel: ZAP Wind Conditions: Windy/Light Breeze/Calm LOCATION: TIME: If yes, sketch on Figure 1 to show approximate location Approximate size (dimensions) Over what percentage of surface? Trace <1% -10% 🔲 50-70% 11-30% 31-50% 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 Does not Break/Non-Brittle f streamers are present, what is their orientation? No 🗔 ls sheen blossoming? Yes 🕅 If yes, what is the frequency (per 15 minutes)? Sheen origination (if noticable)? Flow Condition: No 🔲 Yes 🕅 Picture taken Action taken: Notes TIME: 0845 TIME: LOCATION: LOCATION: Sketch on Figure 1 to show approximate location If yes, sketch on Figure 1 to show approximate location Approximate size (dimensions) Approximate size (dimensions) Trace <1% Over what percentage of surface? Trace <1% 1-10% Over what percentage of surface? >70% 31-50% 50-70% >70% 11-30% 31-50% 50-70% 11-30% Color of sheen: Dark / Metallic / Rainbow / Silver Gray Color of sheen: Dark / Metallic / Rainbow / Silver Cray Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows Does not Break/Non-Brittle Observations when sheen is disturbed: Breaks Apart/Brittle Does not Break/Non-Brittle Observations when sheen is disturbed: Breaks Apart/Brittle If streamers are present, what is their orientation? If streamers are present, what is their orientation? WA No 🔲 Yes 🖂 No. Is sheen blossoming? Is sheen blossoming? Yes 🗀 If yes, what is the frequency (per 15 minutes)? If yes, what is the frequency (per 15 minutes)? Sheen origination (if noticable)? Sheen origination (if noticable)? No 🗔 Yes 🗔 No 🗔 Yes 🔯 Picture taken Picture taken 5 Flow Condition: 100 flows Flow Condition: Action taken: Action taken: Notes

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Sheen Observation Form Personnel: Michael Hiers Date: 10-14-15	
Wind Conditions: Windy/Light Breeze/Calm) Temperature: % F Sky Conditions: Sún/Jouds.	/Part Sun/Part Clouds
Temperature: W F Sky Conditions: Suin/Clouds Cove In let Channel	LOCATION: TIME:
LOCATION: 1 TIME: 12:23 PM	LOCATION: TIME:
Sketch on Figure 1 to show approximate location	If yes, sketch on Figure 1 to show approximate location
Approximate size (dimensions) 10 × 30	Approximate size (dimensions)
Over what percentage of surface? Trace <1%	Over what percentage of surface? Trace <1%
11-30% 50-70% >70%	that the state of
Color of sheen: Dark / Metallic / Rainbow Silver Gra Sheen structure: No structure / Patches Streamers / Tar Balls / Windrows	Color of sheen: Dark / Metallic / Rainbow / Silver Gray
Observations when sheen is disturbed: Breaks Apart/Brittle Does not Break/Non-Brittle	Sheen structure: No structure / Patches / Streamers / Tar Balls / Wipdrows Observations when sheen is disturbed: Breaks Apart/Brittle Does not Break/Non-Brittle
If streamers are present, what is their orientation?	If streamers are present, what is their orientation?
Is sheen blossoming? Yes No	Is sheen blossoming? Yes No
If yes, what is the frequency (per 15 minutes)?	If yes, what is the frequency (per 15 minutes)?
Sheen origination (if hoticable)?	Sheen origination (if noticable)?
Picture taken 14, 5, 16 Yes No	Picture taken Yes No
Flow Condition:	Flow Condition:
Action taken: None	Action taken:
Notes	Notes

Sheen Observation Fo		
Wind Conditions: Wine	2) 212	/Part Sun/Part Clouds
		LOCATION: TIME:
46,212,12		If yes, sketch on Figure 1 to show approximate location
	B _t On-Wa	Approximate size (dimensions)
		Over what percentage of surface?
		11-30%
		Color of sheen: Dark / Metallic / Rainbow / Silver Gray
	OW-5 OW-6	Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows
- 1		Observations when sheen is disturbed: Breaks Apart/Brittle Does not Break/Non-Brittle
- 4° 1 / 1/4	(w <u>4</u>	If streamers are present, what is their orientation?
		Is sheen blossoming? Yes No
	Cove	If yes, what is the frequency (per 15 minutes)?
$\mathcal{T} = \mathcal{T} \otimes \mathcal{T}$	Open Water	Sheen origination (if noticable)?
	OW-3	Flow Condition:
11/1/11/21		Picture taken Yes No
	OWHO STATE	Action taken:
		Notes
	(OW-2	
		4
	TIME: 10:59AM	LOCATION
LOCATION:	TIME: 10:59AM	LOCATION: TIME: If yes, sketch on Figure 1 to show approximate location
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11-30%	31-50%	11-30% 7 >70%
	Metallic / Rainbow / Silver Grav	Color of sheen: Dark / Metallic / Rainbow / Silver Gray
	tructure / Catches / Streamers / Tar Balls / Windrows	Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows
	een is disturbed: Breaks Apart/Brittle Does not Break/Non-Brittle	Observations when sheen is disturbed: Breaks Apart/Brittle Does not Break/Non-Brittle
	nt, what is their orientation? N/A	If streamers are present, what is their orientation?
Is sheen blossoming?	Yes No 🗹	Is sheen blossoming? Yes No
If yes, what is the freq	uency (per 15 minutes)?	If yes, what is the frequency (per 15 minutes)?
Sheen origination (if n	oticable)? N/A	Sheen origination (if noticable)?
Picture taken	/2 Yes 🔽 No 🗍	Picture taken Yes No
Flow Condition:	ow .	Flow Condition:
Action taken: Saw	pled	Action taken:
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Action taken:

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Action taken: Sampled

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Sheen Observation Form Personnel: M. Hiers Date: 10-28-2015 Temperature: 68 F Sky Conditions: Sun/Clouds/Part Sun/Pert Clouds Wind Conditions: Windy/Light Breeze Calm TIME: LOCATION: If yes, sketch on Figure 1 to show approximate location Approximate size (dimensions) 1-10% Trace <1% Over what percentage of surface? 31-50% 50-70% >70% 11-30% Color of sheen: Dark / Metallic / Rainbow / Silver Gray Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows Does not Break/Non-Brittle Observations when sheen is disturbed: Breaks Apart/Brittle If streamers are present, what is their orientation? Yes 🗔 No 🔲 Is sheen blossoming? If yes, what is the frequency (per 15 minutes)? Sheen origination (if noticable)? B-On-Water Flow Condition: No 🔲 Yes 🗔 Picture taken Action taken: TIME: 11:07 AM LOCATION: 1 LOCATION: TIME: If yes, sketch on Figure 1 to show approximate location Sketch on Figure 1 to show approximate location Approximate size (dimensions) 10×15 Approximate size (dimensions) 1-10% 1-10% Trace <1% Over what percentage of surface? Trace <1% Over what percentage of surface? 31-50% 50-70% >70% 11-30% 31-50% 50-70% >70% 11-30% Color of sheen: Dark / Metallic / Rainbow / Silver Gray Color of sheen: Dark / Metallic / Rainbow / Silver Gray Sheen structure: No structure / Patchesy Streamers / Tar Balls / Windrows Sheen structure: No structure / Patches / Streamers / Tar Balls / Windrows Observations when sheen is disturbed: Breaks Apart/Brittle 🔲 Does not Break/Non-Brittle Observations when sheen is disturbed: Breaks Apart/Brittle Does not Break/Non-Brittle If streamers are present, what is their orientation? If streamers are present, what is their orientation? No 🔁 No 🖂 Is sheen blossoming? Yes 🗔 Is sheen blossoming? Yes 🕅 If yes, what is the frequency (per 15 minutes)? If yes, what is the frequency (per 15 minutes)?

No 🗂

Sheen origination (if noticable)?

Picture taken PSC 188

Flow Condition: Calm

Notes

Action taken: Sample

Sheen origination (if noticable)?

Picture taken

Action taken:

Flow Condition:



No 🗔

Yes 🕅