

## MARATHON PIPE LINE (MPL) EDWARDSVILLE RESPONSE

### SEDIMENT ASSESSMENT POLING PLAN

This Sediment Assessment Poling Plan describes procedures for the evaluation of heavy (sinking) oil in sediment within the Cahokia Creek, which meanders from the point of release near Hwy 143 until it discharges into the Mississippi River approximately 9 miles (48,400 feet) to the west. The purpose of the plan is to provide a preliminary visual assessment of impacts to the bottom of Cahokia Creek potentially caused by a crude oil release that occurred on March 11, 2022, from MPL's Wood River to Patoka 22" pipeline near Edwardsville, IL.

### GENERAL SITE CONDITIONS

The release location is within a pipeline ROW adjacent to the creek bank, coordinates [REDACTED], [REDACTED]. Containment boom stations have been deployed over the duration of the response along Cahokia Creek and Cahokia Diversion Channel to the confluence of the Mississippi River to contain and recover the release material. See **Attachment A** for general layout.

### ASSESSMENT PROCEDURES AND EQUIPMENT

Portions of the Cahokia Creek downstream of the release location were visually assessed via boat for depositional areas and backwater sloughs on March 19, 2022. Depositional areas were identified for potential sediment poling assessment, but no poling activities were performed. This assessment was performed in the areas identified as DIV 1 and DIV 2 which includes the areas between the release location and Wanda Road. The Cahokia Creek primarily follows a natural course through these areas. A limited inspection of depositional areas in DIV 3 and DIV 4 were performed on March 19, 2022. These sections include the Cahokia Diversion Channel which is present from approximately Wanda Road to the Mississippi River. Limited depositional areas are anticipated in these sections as the flow of water in is channelized. The DIV 1 through DIV 4 areas are presented on **Attachment A**.

This plan proposes a visual inspection of the Cahokia Creek and the Cahokia Diversion Channel by boat in DIV 1 through DIV 4 for depositional areas with a water depth no greater than six (6) feet. Up to twenty (20) areas will be selected for poling assessment during this inspection. The poling assessment will include the following activities;

- Date and time will be recorded.
- GPS coordinates for the area will be recorded.
- Photo documentation of the area will be collected prior to the beginning of poling activities.
- Water temperature will be recorded.

- Water depth will be documented by slowly lowering a hand auger post with an auger bucket attached to the top of the sediment layer. The hand auger post will include 1-inch measurement markings to allow for depth to be recorded.
- Soft sediment thickness will be measured at each location with the use of a telescoping pole with a diameter of approximately 2-inches. The pole will be pushed vertical into the soft sediment with one (1) hand until advancement is restricted. The thickness of the soft sediment will be the difference between the depth to the top of sediment and the maximum depth of advancement. The pole will then be advanced with two (2) hands until advancement is restricted, and this additional depth will be recorded.
- An approximate determination of the relative amount of oil/sheen created by sediment agitation at each poling location shall be made by using a hand auger post with an auger bucket attached. After agitation, any observation of sheen and globules at the water surface within a square yard area will be recorded. This observation will occur for a period of approximately 5 minutes. A designation of heavy, moderate, light, or none shall be designated based on the categories outlined in **Attachment B**.

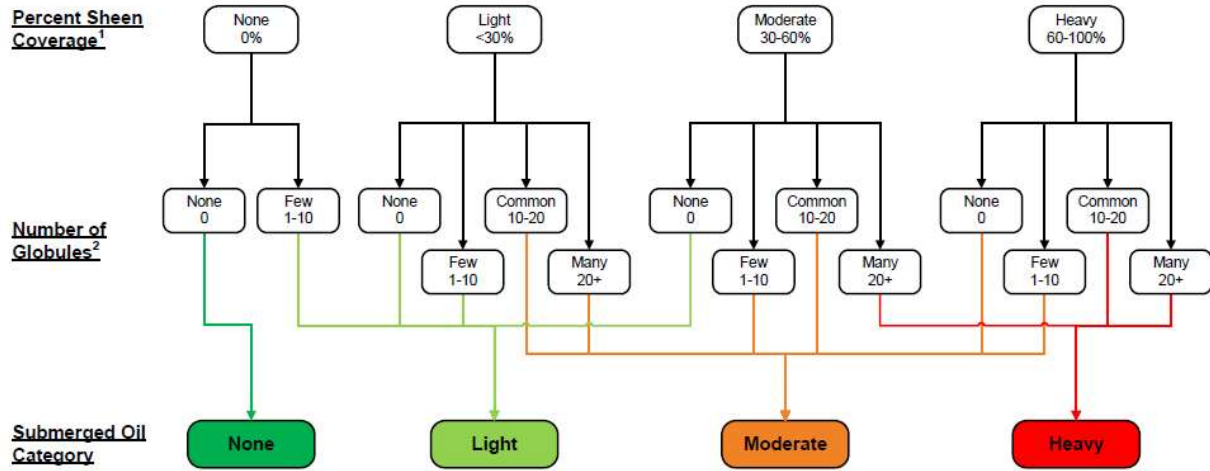
Assessment locations will be probed with clean assessment equipment. Assessment equipment will be decontaminated (e.g., washing with Liquinox followed by rinsing a minimum of three times with distilled water) between each location. Decontamination rinse water will be containerized and transported off-site for disposal.

## DOCUMENTATION AND FURTHER ASSESSMENT

All documentation will be compiled, evaluated, and will assist with the determination of potential sediment impacts within the Cahokia Creek. This plan is not proposing collection of sediments for quantitative analysis.



## ATTACHMENT B: SUBMERGED OIL FIELD OBSERVATION FLOWCHART



Notes:  
 1. Percent coverage per square yard  
 2. Number of globules per square yard

## MARATHON PIPE LINE (MPL) EDWARDSVILLE RESPONSE

### SEDIMENT ASSESSMENT POLING RESULTS SUMMARY

Updated 3/22/2022

This Sediment Assessment Poling Results Summary describes the procedures and results of the heavy (sinking) oil in sediment evaluation performed on Cahokia Creek. The evaluation was performed from the point of release near Hwy 143 to the Mississippi River approximately nine (9) miles or 48,400 feet to the west.

The release location is within a pipeline right of way (ROW) adjacent to the creek bank, coordinates [REDACTED], [REDACTED]. Containment boom stations have been deployed over the duration of the response at up to nine (9) locations along Cahokia Creek to the confluence of the Mississippi River to contain and recover the release material. This area is broken up into four (4) sections identified as DIV 1 through DIV 4. See **Attachment A** for the general site layout.

On March 19, 2022, Cahokia Creek was visually inspected via boat for depositional areas and backwater sloughs. The Cahokia Creek primarily follows a natural course in DIV 1 and DIV2 and is channelized in DIV 3 and DIV 4. As a point of reference, Wanda Road is the approximate boundary between the natural and channelized flow of Cahokia Creek. This visual inspection identified twenty-one (21) depositional areas. These areas are all within DIV 1 and DIV 2. Cahokia Creek is channelized in DIV 3 and DIV 4, and as a result deposition of sediments in this area is minimal.

On March 20, 2022, poling activities were performed at the twenty-one (21) depositional areas. The poling assessment locations are identified as PA-1 through PA-21 in **Attachment B**. The following information was recorded and is presented in **Attachment C**:

- Date, time, and GPS coordinates for each location.
- Water temperature and depth for each location.
- Soft sediment thickness was measured at each location with the use of a 1.5-inch diameter telescoping aluminum pole. The pole was pushed vertically into the soft sediment with one (1) hand until advancement stopped, and the depth below surface water was recorded. The thickness of the soft sediment was determined as the difference between the depth to the top of sediment and the maximum depth of pole advancement.
- Soft sediment thickness was also measured with a two (2) hand push until pole advancement stopped, and the depth below surface water was recorded. The thickness of the soft sediment was determined as the difference between the depth to the top of sediment and the maximum depth of pole advancement.
- A hand auger was used to agitate the sediment, and the water surface was then observed for a period of five (5) minutes for the presence of a sheen and/or globules within a square yard

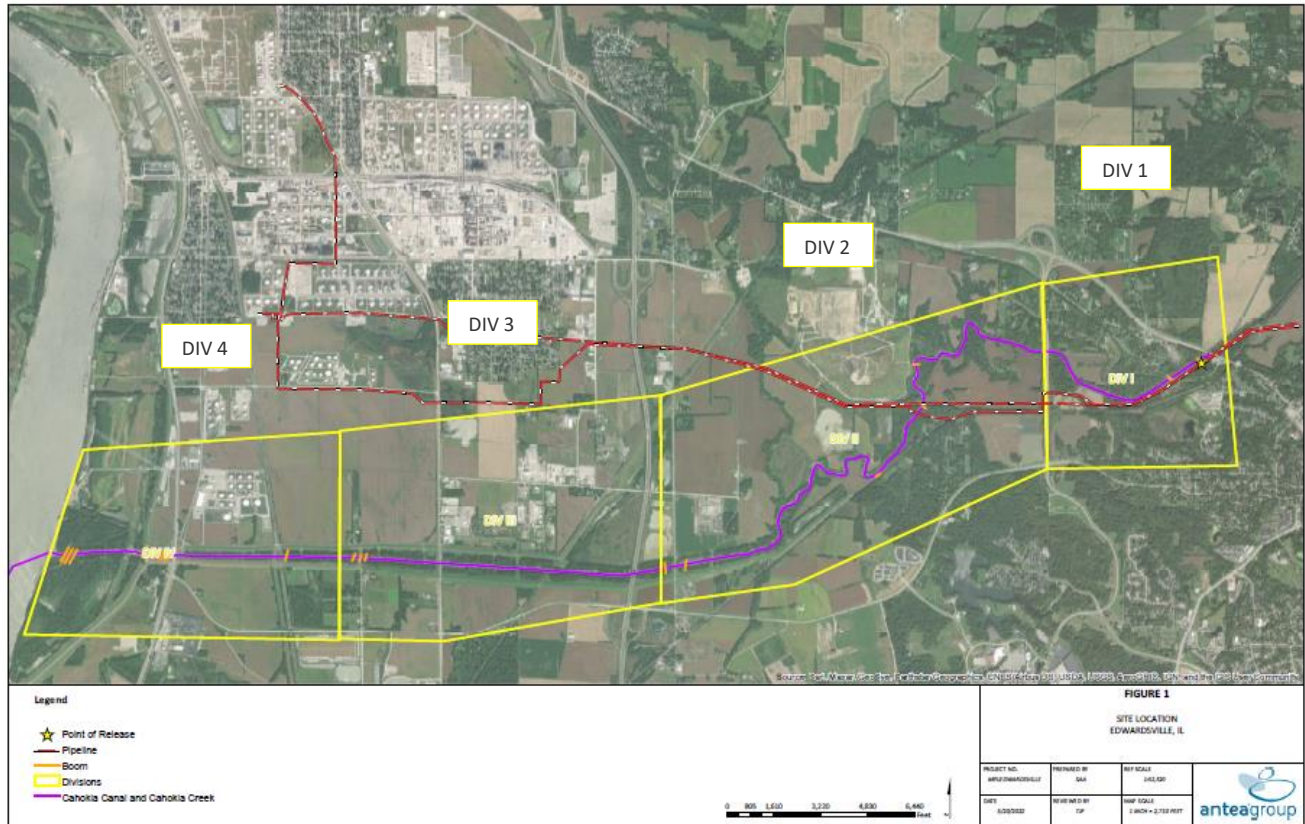
area. These observations were then used to obtain a designation of heavy, moderate, light, or none based on the categories outlined in **Attachment D**.

Assessment locations were probed with clean assessment equipment. Equipment was decontaminated between poling location by rinsing equipment with a liquinox/distilled water mixture, then rinsing equipment a minimum of three times with distilled water between each location.

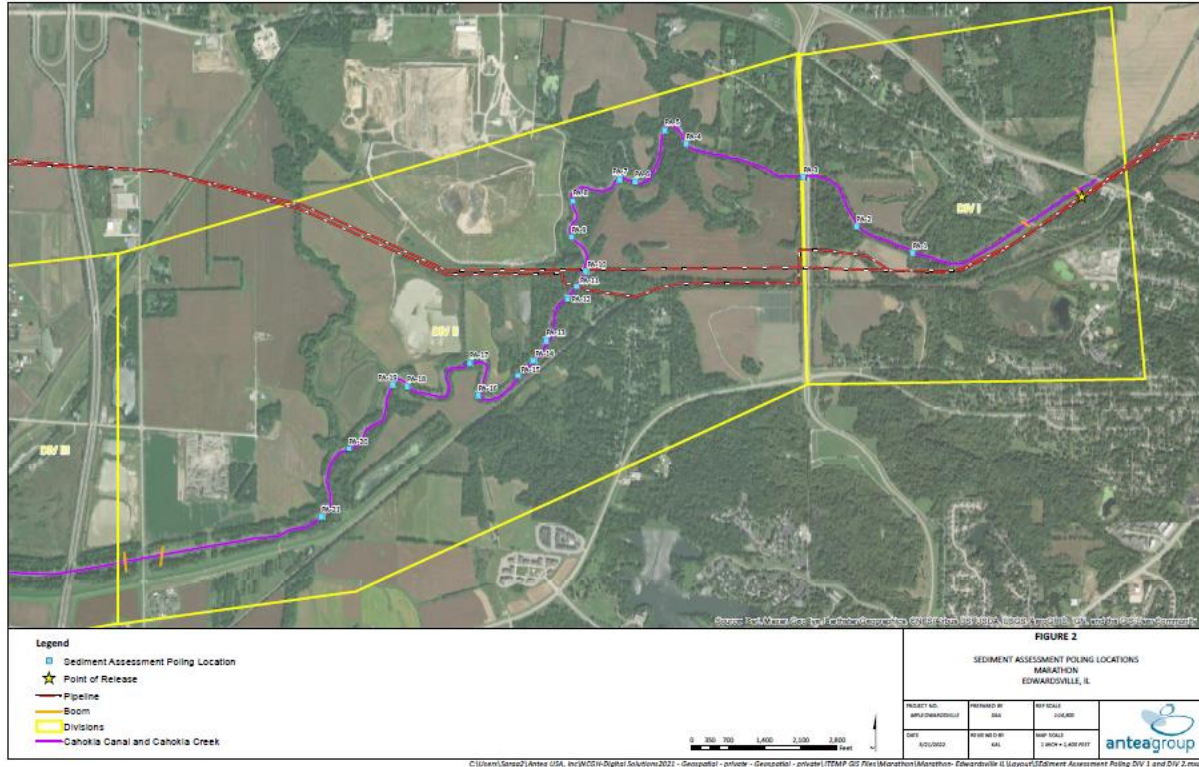
The sediment assessment poling activities did not produce a sheen or globules on the water surface at any of the locations. As a result, a submerged oil category of “None” was determined for each of the twenty-one (21) locations (PA-1 through PA-21). Based on these results, no additional poling assessment activities are recommended.



# ATTACHMENT A: GENERAL SITE LAYOUT



## ATTACHMENT B: SEDIMENT ASSESSMENT POLING LOCATIONS





## ATTACHMENT C: SEDIMENT ASSESSMENT POLING RESULTS

Table 1  
Sediment Assessment Poling Results  
MPL Edwardsville Pipeline Edwardsville, IL

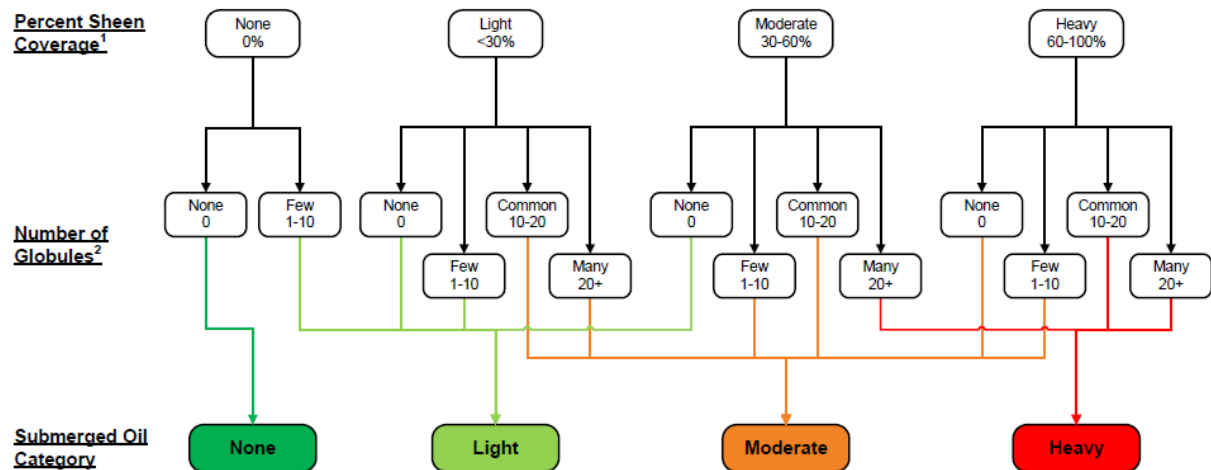
Sample ID	Date	Time	GPS Coordinates		Surface Water Temperature (°F)	Water Depth (Feet, Inches)	Soft Sediment Thickness - One Hand Push. (Feet, Inches)	Soft Sediment Thickness - Two Hand Push. (Feet, Inches)	Submerged Oil Observation* (None, Light, Moderate, Heavy)
			Latitude	Longitude					
PA-1	3/20/2022	12:40	38.82050662	-89.98687525	50	1'4"	0'0"	1'1"	None
PA-2	3/20/2022	13:10	38.8219313	-89.99064778	51	0'5"	0'11"	0'11"	None
PA-3	3/20/2022	13:40	38.82451438	-89.99422046	50	2'0"	0'3"	0'10"	None
PA-4	3/20/2022	14:00	38.82629825	-90.00213788	52	0'9"	0'9"	1'6"	None
PA-5	3/20/2022	14:15	38.82704238	-90.00356223	52	0'9"	0'3"	0'4"	None
PA-6	3/20/2022	14:35	38.82431246	-90.00559438	53	1'1"	1'2"	1'10"	None
PA-7	3/20/2022	14:45	38.82444425	-90.00661812	52	0'9"	0'7"	1'0"	None
PA-8	3/20/2022	15:05	38.82331198	-90.00978836	53	0'9"	1'10"	2'9"	None
PA-9	3/20/2022	15:20	38.82139903	-90.00989612	52	0'8"	0'4"	1'2"	None
PA-10	3/20/2022	15:35	38.8195731	-90.00895272	52	0'9"	0'6"	0'9"	None
PA-11	3/20/2022	15:50	38.8187728	-90.00957342	52	0'8"	0'11"	1'7"	None
PA-12	3/20/2022	16:00	38.81812291	-90.01019662	56	1'2"	0'6"	0'9"	None
PA-13	3/20/2022	16:15	38.8159394	-90.01158316	54	0'7"	0'7"	0'9"	None
PA-14	3/20/2022	16:25	38.81488139	-90.01248908	54	0'7"	0'6"	1'1"	None
PA-15	3/20/2022	16:40	38.81409258	-90.01355104	54	1'2"	1'1"	1'8"	None
PA-16	3/20/2022	16:55	38.81304948	-90.01618453	54	0'7"	1'3"	2'2"	None
PA-17	3/20/2022	17:10	38.8147539	-90.01678292	54	0'7"	0'10"	1'2"	None
PA-18	3/20/2022	17:40	38.81350799	-90.02100855	54	0'8"	0'5"	1'9"	None
PA-19	3/20/2022	17:50	38.81361761	-90.02199672	54	0'4"	0'11"	1'9"	None
PA-20	3/20/2022	18:05	38.81022308	-90.02495333	54	1'4"	0'10"	2'2"	None
PA-21	3/20/2022	18:20	38.80665205	-90.02678793	54	0'6"	0'8"	1'9"	None

Notes:

\*F - Degree Fahrenheit

\* - Based on SUBMERGED OIL FIELD OBSERVATION FLOWCHART

## ATTACHMENT D: SUBMERGED OIL FIELD OBSERVATION FLOWCHART



Notes:  
 1. Percent coverage per square yard  
 2. Number of globules per square yard



## MARATHON PIPE LINE (MPL) EDWARDSVILLE RESPONSE

### SEDIMENT ASSESSMENT POLING RESULTS SUMMARY

Updated 7/8/2022

This Sediment Assessment Poling Results Summary describes the procedures and results of the heavy (sinking) oil in sediment evaluation performed on Cahokia Creek. The evaluation was performed from the point of release near Hwy 143 to the Mississippi River approximately nine (9) miles or 48,400 feet to the west.

The release location is within a pipeline right of way (ROW) adjacent to the creek bank, coordinates [REDACTED], [REDACTED]. Containment boom stations were previously deployed over the duration of the initial response at up to nine (9) locations along Cahokia Creek to the confluence of the Mississippi River to contain and recover the release material. Of note, containment booms are no longer present or needed at this time. This area is broken up into four (4) sections identified as DIV 1 through DIV 4. See **Attachment A** for the general site layout.

On March 19, 2022, Cahokia Creek was visually inspected via boat for depositional areas and backwater sloughs. The Cahokia Creek primarily follows a natural course in DIV 1 and DIV 2 and is channelized in DIV 3 and DIV 4. As a point of reference, Wanda Road is the approximate boundary between the natural and channelized flow of Cahokia Creek. This visual inspection identified twenty-one (21) depositional areas. These areas are all within DIV 1 and DIV 2. Cahokia Creek is channelized in DIV 3 and DIV 4, and as a result deposition of sediments in this area is minimal. On March 20, 2022, the initial sediment assessment poling event was performed at the aforementioned twenty-one (21) depositional areas. This assessment did not produce a sheen or globules on the water surface at any of the locations. As a result, a submerged oil category of "None" was determined for each of the twenty-one (21) locations (PA-1 through PA-21).

At the request of the United States Environmental Protection Agency (USEPA) a subsequent sediment assessment poling event was performed on June 16, 2022. This event was performed to determine if the results of the initial poling event would change due to increased water temperatures of Cahokia Creek. As previously approved by the USEPA, this subsequent poling event included eleven (11) of the original twenty-one (21) depositional areas. These eleven (11) locations were determined to be an accurate representation of the original twenty-one (21) locations. The poling assessment locations are identified as PA-1 through PA-21 and the eleven (11) locations assessed during this event are highlighted green in **Attachment B**. The following information was recorded and is presented in **Attachment C**:

- Date, time, and GPS coordinates for each location.
- Water temperature and depth for each location.

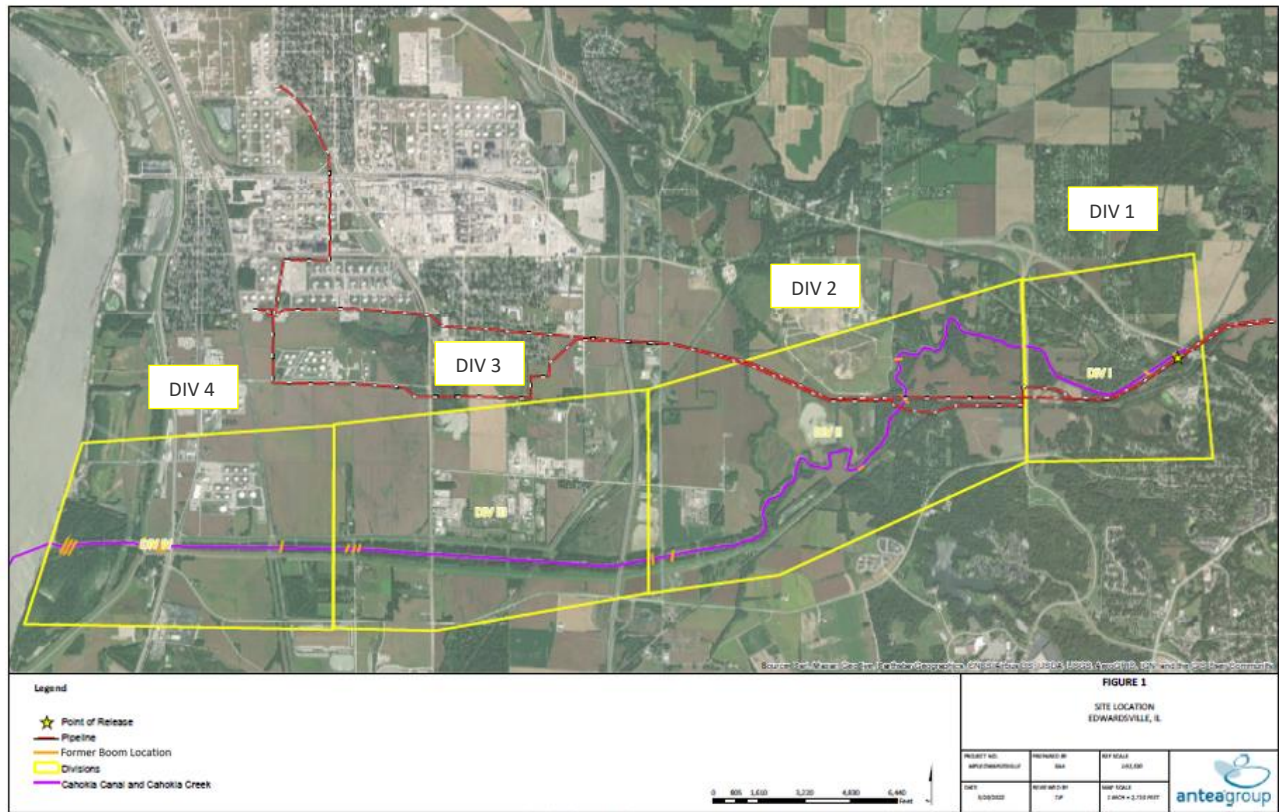
- Soft sediment thickness was measured at each location with the use of a 1.5-inch diameter telescoping aluminum pole. The pole was pushed vertically into the soft sediment with one (1) hand until advancement stopped, and the depth below surface water was recorded. The thickness of the soft sediment was determined as the difference between the depth to the top of sediment and the maximum depth of pole advancement.
- Soft sediment thickness was also measured with a two (2) hand push until pole advancement stopped, and the depth below surface water was recorded. The thickness of the soft sediment was determined as the difference between the depth to the top of sediment and the maximum depth of pole advancement.
- A hand auger was used to agitate the sediment, and the water surface was then observed for a period of five (5) minutes for the presence of a sheen and/or globules within a square yard area. These observations were then used to obtain a designation of heavy, moderate, light, or none based on the categories outlined in **Attachment D**.

Assessment locations were probed with clean assessment equipment. Equipment was decontaminated between poling location by rinsing equipment a minimum of three times between each location.

The sediment assessment poling activities did not produce a sheen or globules on the water surface at any of the locations. As a result, a submerged oil category of “None” was determined for each of the eleven (11) locations (PA-1, PA-2, PA-5, PA-7, PA-9, PA-11, PA-13, PA-16, PA-19, PA-20, and PA-21). Based on these results, no additional poling assessment activities are recommended.

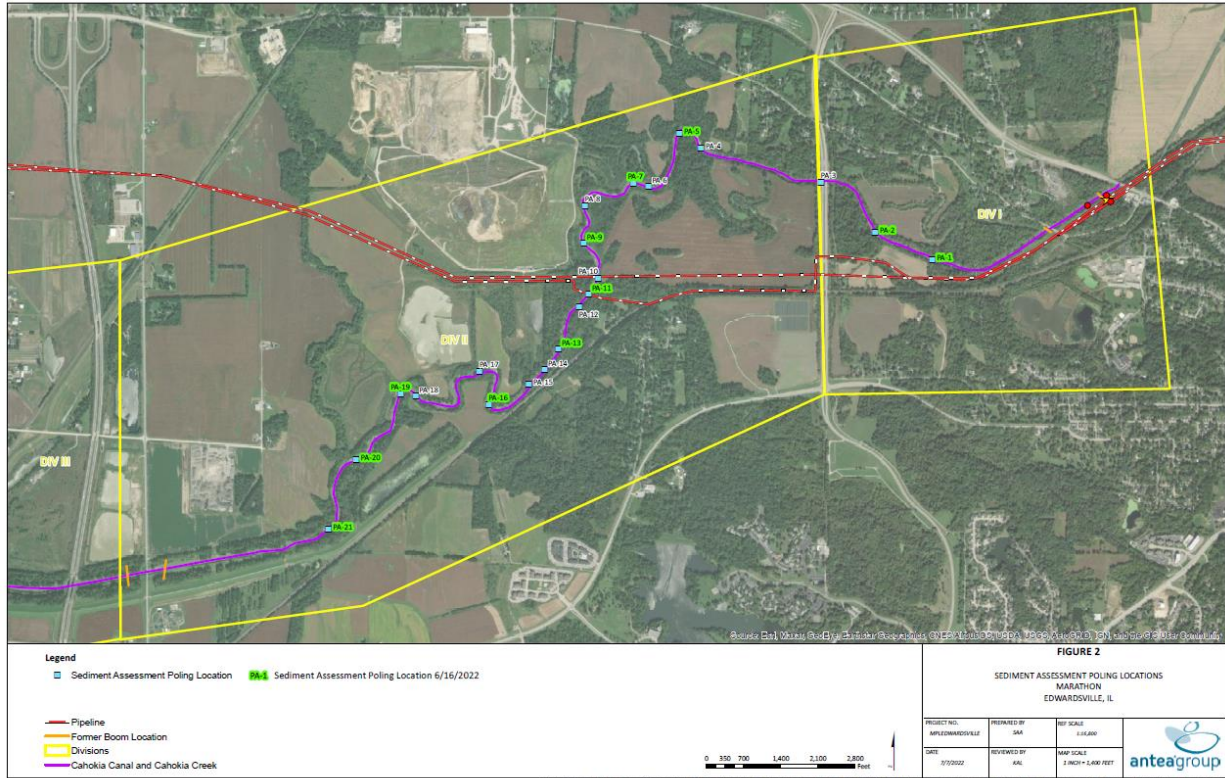


# ATTACHMENT A: GENERAL SITE LAYOUT



C:\Users\Sarae2\Antea USA, Inc\WCD- Digital Solutions 2021 - Geospatial - private - Geoportal - private\ITMPP\_GIT\_Files\Marathon\Marathon-Edwardsville IL Layout\Surface Water Plan Map\_20220318\_rev.mxd

## ATTACHMENT B: SEDIMENT ASSESSMENT POLING LOCATIONS



## ATTACHMENT C: SEDIMENT ASSESSMENT POLING RESULTS

Table 1  
Sediment Assessment Poling Results  
MPL Edwardsville Pipeline Edwardsville, IL

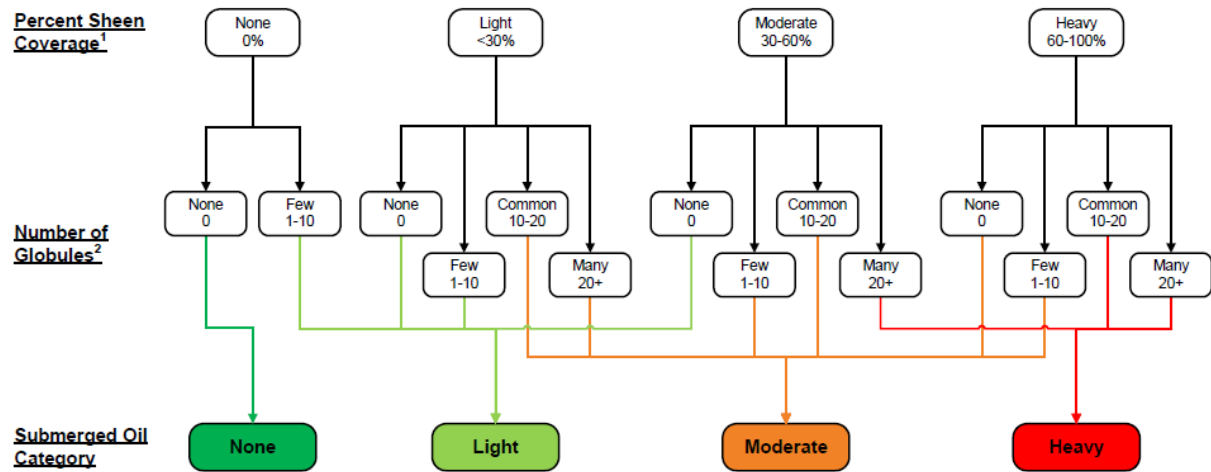
Sample ID	Date	Time	GPS Coordinates		Surface Water Temperature (°F)	Water Depth (Feet, Inches)	Soft Sediment Thickness - One Hand Push. (Feet, Inches)	Soft Sediment Thickness - Two Hand Push. (Feet, Inches)	Submerged Oil Observation* (None, Light, Moderate, Heavy)
			Latitude	Longitude					
PA-1	6/16/2022	6:30	38.82050662	-89.98687525	81	0'8"	0'4"	1'3"	None
PA-2	6/16/2022	7:15	38.8219313	-89.99064778	82	0'7"	0'11"	1'1"	None
PA-5	6/16/2022	8:03	38.82704238	-90.00356223	83	0'7"	0'8"	1'6"	None
PA-7	6/16/2022	8:25	38.82444425	-90.00661812	83	0'11"	1'4"	2'10"	None
PA-9	6/16/2022	8:53	38.82139903	-90.00989612	84	0'11"	0'4"	0'5"	None
PA-11	6/16/2022	9:08	38.8187728	-90.00957342	84	0'8"	0'9"	1'1"	None
PA-13	6/16/2022	9:23	38.8159394	-90.01158316	83	0'8"	0'1"	1'2"	None
PA-16	6/16/2022	9:45	38.81304948	-90.01618453	84	0'11"	0'8"	1'4"	None
PA-19	6/16/2022	10:27	38.81361761	-90.02199672	84	0'11"	1'1"	1'4"	None
PA-20	6/16/2022	10:55	38.81022308	-90.02495333	84	1'11"	0'2"	0'5"	None
PA-21	6/16/2022	11:11	38.80665205	-90.02678793	82	0'7"	0'11"	1'1"	None

Notes:

°F - Degree Fahrenheit

\* - Based on SUBMERGED OIL FIELD OBSERVATION FLOWCHART

## ATTACHMENT D: SUBMERGED OIL FIELD OBSERVATION FLOWCHART



Notes:  
 1. Percent coverage per square yard  
 2. Number of globules per square yard