

**Table 2-1  
Soil Sampling Summary**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location ID	Area	Latitude (N) <sup>1</sup>	Longitude (W) <sup>1</sup>	Approximate Surface Composite Grid Dimension (ft)	Shallow or Deep Core?	Target Depth Met? (Yes/No)	Sampling Depth (ft)	Number of Normal Samples Collected <sup>2</sup>	Sample Intervals Submitted for Full Analysis <sup>2</sup> (ft)	Deep Subsurface Sample Intervals <sup>3</sup> (ft)	Duplicate Sample Interval Submitted for Analysis <sup>4</sup> (ft)	Co-located Dart Core Location
SO-DA-001	Drainage Ways - Main St	34.96308	92.42623	17 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-002	Drainage Ways - Main St	34.96315	92.42609	12 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-003	Drainage Ways - Main St	34.96318	92.42570	7 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5		0-0.5	
SO-DA-004	Drainage Ways - Main St	34.96352	92.42558	3 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-005	Drainage Ways - Main St	34.96403	92.42549	5 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-006	Drainage Ways - Main St	34.96432	92.42535	5 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-007	Drainage Ways - 365W	34.96452	92.42483	15 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-008	Drainage Ways - 365W	34.96456	92.42429	15 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-009	Drainage Ways - 365W	34.96470	92.42392	15 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-010	Drainage Ways - 365W	34.96468	92.42331	15 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5		0-0.5	
SO-DA-011	Drainage Ways - 365W	34.96487	92.42292	15 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-012	Drainage Ways - 365E	34.96478	92.42233	Not Applicable	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-013	Drainage Ways - 365E	34.96496	92.42208	Not Applicable	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-014	Drainage Ways - 365E	34.96497	92.42177	Not Applicable	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5		0-0.5	
SO-DA-015	Drainage Ways - 365E	34.96502	92.42153	Not Applicable	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-016	Dawson Cove	34.96491	92.41975	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-017	Dawson Cove	34.96531	92.41964	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-018	Dawson Cove	34.96586	92.41964	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5		0-0.5	
SO-DA-019	Dawson Cove	34.96587	92.41897	25 x 25	Deep	Yes	4.0	6	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0, 3.0-4.0		X
SO-DA-020	Dawson Cove	34.96532	92.41830	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-021	Dawson Cove	34.96587	92.41830	25 x 25	Deep	Yes	4.0	6	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0, 3.0-4.0		X
SO-DA-022	Dawson Cove	34.96532	92.41763	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5		0-0.5	
SO-DA-023	Dawson Cove	34.96587	92.41763	25 x 25	Deep	Yes	4.0	6	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0, 3.0-4.0	0-0.5	X
SO-DA-024	Dawson Cove	34.96642	92.41763	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-025	Dawson Cove	34.96510	92.41697	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-026	Dawson Cove	34.96547	92.41496	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-027	Dawson Cove	34.96642	92.41697	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-028	Dawson Cove	34.96589	92.41430	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-029	Dawson Cove	34.96644	92.41363	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SO-DA-032	Dawson Cove	34.96540	92.41572	25 x 25	Shallow	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			

**Notes:**

<sup>1</sup> Coordinates are recorded in North American Datum of 1983.

<sup>2</sup> Samples collected from the top three 6-inch intervals were analyzed for metals (RCRA 8 metals, nickel, and vanadium), 44 PAHs, VOCs, and moisture content. Surface samples (0-0.5 ft) were also analyzed for total organic carbon, black carbon, and grain size. In addition, an archive sample was collected from each of the sample intervals.

<sup>3</sup> Deep subsurface samples (collected from the intervals below 1.5 ft) were held for possible future analysis of metals and/or PAHs, pending analysis of the top three 6-inch sample intervals. Due to short holding times for VOC analysis, the samples were analyzed only for moisture content and VOCs. In addition, an archive sample was collected from each of the sample intervals.

<sup>4</sup> Duplicate samples were analyzed for metals (RCRA 8 metals, nickel, and vanadium), 42 PAHs, VOCs, moisture content, total organic carbon, and black carbon. Grain size was not included in the duplicate analysis.

ft = foot/feet

N = north

PAH = polycyclic aromatic hydrocarbon

RCRA = Resource Conservation and Recovery Act

VOC = volatile organic compound

W = west

**Table 2-2  
Background Soil Sampling Summary**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

<b>Location ID</b>	<b>Area</b>	<b>Latitude (N)<sup>1</sup></b>	<b>Longitude (W)<sup>1</sup></b>	<b>Approximate Surface Composite Grid Dimension (ft)</b>	<b>Number of Normal Samples Collected<sup>2</sup></b>	<b>Sample Intervals Submitted for Full Analysis<sup>2</sup> (ft)</b>
SO-DA-BG-001	Background Lake Conway	34.97887	92.41901	10 x 18	1	0-0.5
SO-DA-BG-002	Background Lake Conway	35.02193	92.41330	25 x 25	1	0-0.5
SO-DA-BG-003	Background Lake Conway	35.02490	92.41286	12 x 12	1	0-0.5
SO-DA-BG-004	Background Lake Conway	35.04226	92.40953	10 x 15	1	0-0.5
SO-DA-BG-005	Background Lake Conway	35.05008	92.41390	10 x 10	1	0-0.5
SO-DA-BG-006	Background Lake Conway	35.05015	92.41393	10 x 15	1	0-0.5

**Notes:**

<sup>1</sup> Coordinates are recorded in North American Datum of 1983.

<sup>2</sup> Samples were analyzed for metals (RCRA 8 metals, nickel, and vanadium), 88 PAHs, VOCs, moisture content, total organic carbon, black carbon, and grain size. In addition, an archive sample was collected from each of the sample intervals.

ft = foot/feet

N = north

PAH = polycyclic aromatic hydrocarbon

RCRA = Resource Conservation and Recovery Act

VOC = volatile organic compound

W = west

**Table 2-3**  
**List of Compounds Analyzed in Soils and Sediments**

**Downstream Areas Data Assessment Report**  
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**Mayflower Pipeline Incident, Mayflower, Arkansas**

Analyte	CAS Number	Soil Analytes		Background Soil Analyte (0-0.5 ft)	Sediment Analytes		Background Sediment Analyte (0-0.5 ft)
		Surface Samples (0-0.5 ft)	Subsurface Samples (deeper than 0.5 ft)		Surface Samples (0-0.5 ft)	Subsurface Samples (deeper than 0.5 ft)	
<b>VOCs</b>							
1,1,1,2-Tetrachloroethane	630-20-6	X	X	X	X	X	X
1,1,1-Trichloroethane	71-55-6	X	X	X	X	X	X
1,1,2,2-Tetrachloroethane	79-34-5	X	X	X	X	X	X
1,1,2-Trichloroethane	79-00-5	X	X	X	X	X	X
1,1,2-Trichlorotrifluoroethane	76-13-1	X	X	X	X	X	X
1,1-Dichloroethane	75-34-3	X	X	X	X	X	X
1,1-Dichloroethene	75-35-4	X	X	X	X	X	X
1,1-Dichloropropene	563-58-6	X	X	X	X	X	X
1,2,3-Trichlorobenzene	87-61-6	X	X	X	X	X	X
1,2,3-Trichloropropane	96-18-4	X	X	X	X	X	X
1,2,4-Trichlorobenzene	120-82-1	X	X	X	X	X	X
1,2,4-Trimethylbenzene	95-63-6	X	X	X	X	X	X
1,2-Dibromo-3-Chloropropane	96-12-8	X	X	X	X	X	X
1,2-Dibromoethane (EDB)	106-93-4	X	X	X	X	X	X
1,2-Dichlorobenzene	95-50-1	X	X	X	X	X	X
1,2-Dichloroethane	107-06-2	X	X	X	X	X	X
1,2-Dichloropropane	78-87-5	X	X	X	X	X	X
1,3,5-Trimethylbenzene	108-67-8	X	X	X	X	X	X
1,3-Dichlorobenzene	541-73-1	X	X	X	X	X	X
1,3-Dichloropropane	142-28-9	X	X	X	X	X	X
1,4-Dichlorobenzene	106-46-7	X	X	X	X	X	X
2,2-Dichloropropane	594-20-7	X	X	X	X	X	X
2-Butanone (MEK)	78-93-3	X	X	X	X	X	X
2-Chlorotoluene	95-49-8	X	X	X	X	X	X
2-Phenylbutane	135-98-8	X	X	X	X	X	X
4-Chlorotoluene	106-43-4	X	X	X	X	X	X
4-Methyl-2-pentanone (MIBK)	108-10-1	X	X	X	X	X	X
Acetone	67-64-1	X	X	X	X	X	X
Allyl chloride	107-05-1	X	X	X	X	X	X
Benzene	71-43-2	X	X	X	X	X	X
Bromobenzene	108-86-1	X	X	X	X	X	X
Bromochloromethane	74-97-5	X	X	X	X	X	X
Bromodichloromethane	75-27-4	X	X	X	X	X	X
Bromoform (Tribromomethane)	75-25-2	X	X	X	X	X	X
Bromomethane	74-83-9	X	X	X	X	X	X
Carbon Tetrachloride	56-23-5	X	X	X	X	X	X
Chlorobenzene	108-90-7	X	X	X	X	X	X
Chloroethane	75-00-3	X	X	X	X	X	X
Chloroform	67-66-3	X	X	X	X	X	X
Chloromethane	74-87-3	X	X	X	X	X	X
cis-1,2-Dichloroethene	156-59-2	X	X	X	X	X	X
cis-1,3-Dichloropropene	10061-01-5	X	X	X	X	X	X
Dibromochloromethane	124-48-1	X	X	X	X	X	X
Dibromomethane	74-95-3	X	X	X	X	X	X
Dichlorodifluoromethane (CFC-12)	75-71-8	X	X	X	X	X	X
Dichlorofluoromethane	75-43-4	X	X	X	X	X	X
Diethyl ether (Ethyl ether)	60-29-7	X	X	X	X	X	X
Ethylbenzene	100-41-4	X	X	X	X	X	X
Hexachloro-1,3-Butadiene	87-68-3	X	X	X	X	X	X
Isopropylbenzene (Cumene)	98-82-8	X	X	X	X	X	X
Methyl-tert-butyl ether	1634-04-4	X	X	X	X	X	X
Methylene Chloride (Dichloromethane)	75-09-2	X	X	X	X	X	X
n-Butylbenzene	104-51-8	X	X	X	X	X	X
n-Propylbenzene	103-65-1	X	X	X	X	X	X
p-Isopropyltoluene (Cymene)	99-87-6	X	X	X	X	X	X
Styrene	100-42-5	X	X	X	X	X	X
Tert-Butylbenzene	98-06-6	X	X	X	X	X	X
Tetrachloroethene	127-18-4	X	X	X	X	X	X
Tetrahydrofuran	109-99-9	X	X	X	X	X	X
Toluene	108-88-3	X	X	X	X	X	X
trans-1,2-Dichloroethene	156-60-5	X	X	X	X	X	X
trans-1,3-Dichloropropene	10061-02-6	X	X	X	X	X	X
Trichloroethene	79-01-6	X	X	X	X	X	X
Trichlorofluoromethane (CFC-11)	75-69-4	X	X	X	X	X	X
Vinyl Chloride	75-01-4	X	X	X	X	X	X
Xylene (Total)	1330-20-7	X	X	X	X	X	X

Table 2-3  
List of Compounds Analyzed in Soils and Sediments

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Analyte	CAS Number	Soil Analytes			Sediment Analytes		Background Sediment Analyte (0-0.5 ft)
		Surface Samples (0-0.5 ft)	Subsurface Samples (deeper than 0.5 ft)	Background Soil Analyte (0-0.5 ft)	Surface Samples (0-0.5 ft)	Subsurface Samples (deeper than 0.5 ft)	
<b>PAHs</b>							
<b>Non-alkylated</b>							
Acenaphthene	83-32-9	X	X	X	X	X	X
Acenaphthylene	208-96-8	X	X	X	X	X	X
Anthracene	120-12-7	X	X	X	X	X	X
Benzo(a)Anthracene	56-55-3	X	X	X	X	X	X
Benzo(a)Pyrene	50-32-8	X	X	X	X	X	X
Benzo(b)Fluoranthene	205-99-2	X	X	X	X	X	X
Benzo(e)Pyrene	192-97-2	X	X	X	X	X	X
Benzo(g,h,i)Perylene	191-24-2	X	X	X	X	X	X
Benzo(j)+k)Fluoranthene	--	X	X	X	X	X	X
Chrysene/Triphenylene	--	X	X	X	X	X	X
Dibenz(a,h)Anthracene	53-70-3	X	X	X	X	X	X
Dibenzothiophene	132-65-0	X	X	X	X	X	X
Fluoranthene	206-44-0	X	X	X	X	X	X
Fluorene	86-73-7	X	X	X	X	X	X
Indeno[1,2,3-cd]pyrene	193-39-5	X	X	X	X	X	X
Naphthalene	91-20-3	X	X	X	X	X	X
Perylene	198-55-0	X	X	X	X	X	X
Phenanthrene	85-01-8	X	X	X	X	X	X
Pyrene	129-00-0	X	X	X	X	X	X
<b>Alkylated</b>							
1-Methylnaphthalene	90-12-0	X	X	X	X	X	X
2-Methylnaphthalene	91-57-6	X	X	X	X	X	X
C1-Benzanthrene/chrysenes	--	X	X	X	X	X	X
C1-Dibenzothiophenes	--	X	X	X	X	X	X
C1-Fluoranthenes/Pyrenes	--	X	X	X	X	X	X
C1-Fluorenes	--	X	X	X	X	X	X
C1-Naphthalenes	--	X	X	X	X	X	X
C1-Phenanthrenes/Anthracenes	--	X	X	X	X	X	X
C2-Benzanthrene/chrysenes	--	X	X	X	X	X	X
C2-Dibenzothiophenes	--	X	X	X	X	X	X
C2-Fluoranthenes/Pyrenes	--	X	X	X	X	X	X
C2-Fluorenes	--	X	X	X	X	X	X
C2-Naphthalenes	--	X	X	X	X	X	X
C2-Phenanthrenes/Anthracenes	--	X	X	X	X	X	X
C3-Benzanthrene/chrysenes	--	X	X	X	X	X	X
C3-Dibenzothiophenes	--	X	X	X	X	X	X
C3-Fluoranthenes/Pyrenes	--	X	X	X	X	X	X
C3-Fluorenes	--	X	X	X	X	X	X
C3-Naphthalenes	--	X	X	X	X	X	X
C3-Phenanthrenes/Anthracenes	--	X	X	X	X	X	X
C4-Benzanthrene/chrysenes	--	X	X	X	X	X	X
C4-Dibenzothiophenes	--	X	X	X	X	X	X
C4-Fluoranthenes/Pyrenes	--	X	X	X	X	X	X
C4-Naphthalenes	--	X	X	X	X	X	X
C4-Phenanthrenes/Anthracenes	--	X	X	X	X	X	X
<b>Forensic</b>							
Phenanthrene, 2-methyl-	2531-84-2	NA	NA	X	X	NA	X
1,1-Biphenyl	92-52-4	NA	NA	X	X	NA	X
1-Methyldibenzothiophene(1MDT)	31317-07-4	NA	NA	X	X	NA	X
1-Methylfluorene	1730-37-6	NA	NA	X	X	NA	X
1-Methylphenanthrene	832-69-9	NA	NA	X	X	NA	X
18a-Oleanane	30759-92-3	NA	NA	X	X	NA	X
2,3,5-Trimethylnaphthalene	2245-38-7	NA	NA	X	X	NA	X
2-Methylantracene	613-12-7	NA	NA	X	X	NA	X
2-Methylfluoranthene	33543-31-6	NA	NA	X	X	NA	X
2/3-Methyldibenzothiophene(2MDT)	--	NA	NA	X	X	NA	X
3,6-Dimethylphenanthrene	1576-67-6	NA	NA	X	X	NA	X
3-Methylphenanthrene (3MP)	832-71-3	NA	NA	X	X	NA	X
4-Methyldibenzothiophene(4MDT)	7372-88-5	NA	NA	X	X	NA	X
9/4-Methylphenanthrene (9MP)	--	NA	NA	X	X	NA	X
Benzo(a)Fluoranthene	203-33-8	NA	NA	X	X	NA	X
Benzo(b)fluorene	30777-19-6	NA	NA	X	X	NA	X
Benzothiophene	11095-43-5	NA	NA	X	X	NA	X

**Table 2-3**  
**List of Compounds Analyzed in Soils and Sediments**

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Analyte	CAS Number	Soil Analytes			Sediment Analytes			Background Sediment Analyte (0-0.5 ft)
		Surface Samples (0-0.5 ft)	Subsurface Samples (deeper than 0.5 ft)	Background Soil Analyte (0-0.5 ft)	Surface Samples (0-0.5 ft)	Subsurface Samples (deeper than 0.5 ft)		
C1-Benzo(b)thiophenes	--	NA	NA	X	X	NA	X	
C1-Decalins	--	NA	NA	X	X	NA	X	
C1-Naphthobenzothiophenes	--	NA	NA	X	X	NA	X	
C2-Benzo(b)thiophenes	--	NA	NA	X	X	NA	X	
C2-Decalins	--	NA	NA	X	X	NA	X	
C2-Naphthobenzothiophenes	--	NA	NA	X	X	NA	X	
C20-TAS	--	NA	NA	X	X	NA	X	
C21-TAS	--	NA	NA	X	X	NA	X	
C26(20R)/C27(20S)-TAS	--	NA	NA	X	X	NA	X	
C26(20S)-TAS	--	NA	NA	X	X	NA	X	
C27(20R)-TAS	--	NA	NA	X	X	NA	X	
C28(20R)-TAS	--	NA	NA	X	X	NA	X	
C28(20S)-TAS	--	NA	NA	X	X	NA	X	
C29-Hopane	--	NA	NA	X	X	NA	X	
C3-Benzo(b)thiophenes	--	NA	NA	X	X	NA	X	
C3-Decalins	--	NA	NA	X	X	NA	X	
C3-Naphthobenzothiophenes	--	NA	NA	X	X	NA	X	
C30-Hopane	--	NA	NA	X	X	NA	X	
C4-Benzo(b)thiophenes	--	NA	NA	X	X	NA	X	
C4-Decalins	--	NA	NA	X	X	NA	X	
C4-Naphthobenzothiophenes	--	NA	NA	X	X	NA	X	
Carbazole	86-74-8	NA	NA	X	X	NA	X	
cis/trans-Decalin (Decahydronaphthalene)	91-17-8	NA	NA	X	X	NA	X	
Dibenzofuran	132-64-9	NA	NA	X	X	NA	X	
Naphthalene, 2,6-dimethyl-	581-42-0	NA	NA	X	X	NA	X	
Naphthobenzothiophene	--	NA	NA	X	X	NA	X	
Retene	483-65-8	NA	NA	X	X	NA	X	
<b>TEH</b>								
EOM (Extracted Organic Material)	--	NA	NA	NA	X	NA	X	
i-C15	3891-98-3	NA	NA	NA	X	NA	X	
i-C16	3891-99-4	NA	NA	NA	X	NA	X	
i-C18	3892-00-0	NA	NA	NA	X	NA	X	
n-C10 (n-Decane)	124-18-5	NA	NA	NA	X	NA	X	
n-C11 (n-Undecane)	1120-21-4	NA	NA	NA	X	NA	X	
n-C12 (n-Dodecane)	112-40-3	NA	NA	NA	X	NA	X	
n-C13 (n-Tridecane)	629-50-5	NA	NA	NA	X	NA	X	
n-C14 (n-Tetradecane)	629-59-4	NA	NA	NA	X	NA	X	
n-C15 (Pentadecane)	629-62-9	NA	NA	NA	X	NA	X	
n-C16 (n-Hexadecane)	544-76-3	NA	NA	NA	X	NA	X	
n-C17 (Heptadecane)	629-78-7	NA	NA	NA	X	NA	X	
n-C18 (Octadecane)	593-45-3	NA	NA	NA	X	NA	X	
n-C19 (Nonadecane)	629-92-5	NA	NA	NA	X	NA	X	
n-C20 (Eicosane)	112-95-8	NA	NA	NA	X	NA	X	
n-C21 (Heneicosane)	629-94-7	NA	NA	NA	X	NA	X	
n-C22 (Docosane)	629-97-0	NA	NA	NA	X	NA	X	
n-C23 (Tricosane)	638-67-5	NA	NA	NA	X	NA	X	
n-C24 (Tetracosane)	646-31-1	NA	NA	NA	X	NA	X	
n-C25 (Pentacosane)	629-99-2	NA	NA	NA	X	NA	X	
n-C26 (Hexacosane)	630-01-3	NA	NA	NA	X	NA	X	
n-C27 (Heptacosane)	593-49-7	NA	NA	NA	X	NA	X	
n-C28 (Octacosane)	630-02-4	NA	NA	NA	X	NA	X	
n-C29 (Nonacosane)	630-03-5	NA	NA	NA	X	NA	X	
n-C30 (n-Triacontane)	638-68-6	NA	NA	NA	X	NA	X	
n-C31 (Hentriacontane)	630-04-6	NA	NA	NA	X	NA	X	
n-C32 (Dotriacontane)	544-85-4	NA	NA	NA	X	NA	X	
n-C33	630-05-7	NA	NA	NA	X	NA	X	
n-C34 (Tetracontane)	14167-59-0	NA	NA	NA	X	NA	X	
n-C35	630-07-9	NA	NA	NA	X	NA	X	
n-C36 (Hexatriacontane)	630-06-8	NA	NA	NA	X	NA	X	
n-C37	7194-84-5	NA	NA	NA	X	NA	X	
n-C38 (Octatriacontane)	7194-85-6	NA	NA	NA	X	NA	X	
n-C39 (Nonatriacontane)	7194-86-7	NA	NA	NA	X	NA	X	
n-C40 (Tetracontane)	4181-95-7	NA	NA	NA	X	NA	X	
n-C9 (Nonane)	111-84-2	NA	NA	NA	X	NA	X	
Phytane (Hexadecane, 2,6,10,14-tetramethyl-)	638-36-8	NA	NA	NA	X	NA	X	
Pristane (2,6,10,14-Tetramethylpentadecane)	1921-70-6	NA	NA	NA	X	NA	X	
Total Alkanes	--	NA	NA	NA	X	NA	X	
Total Petroleum Hydrocarbons	--	NA	NA	NA	X	NA	X	
Total Resolvable Hydrocarbons	--	NA	NA	NA	X	NA	X	
Unresolved Complex Mixture	--	NA	NA	NA	X	NA	X	

**Table 2-3**  
**List of Compounds Analyzed in Soils and Sediments**

**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident, Mayflower, Arkansas**

Analyte	CAS Number	Soil Analytes		Background Soil Analyte (0-0.5 ft)	Sediment Analytes		Background Sediment Analyte (0-0.5 ft)
		Surface Samples (0-0.5 ft)	Subsurface Samples (deeper than 0.5 ft)		Surface Samples (0-0.5 ft)	Subsurface Samples (deeper than 0.5 ft)	
<b>Metals</b>							
Arsenic	7440-38-2	X	X	X	X	X	X
Barium	7440-39-3	X	X	X	X	X	X
Cadmium	7440-43-9	X	X	X	X	X	X
Chromium	7440-47-3	X	X	X	X	X	X
Lead	7439-92-1	X	X	X	X	X	X
Mercury	7439-97-6	X	X	X	X	X	X
Nickel	7440-02-0	X	X	X	X	X	X
Selenium	7782-49-2	X	X	X	X	X	X
Silver	7440-22-4	X	X	X	X	X	X
Vanadium	7440-62-2	X	X	X	X	X	X
<b>Grain Size (ASTM D422)</b>							
Sieve 3 inch, % passing	--	X	NA	X	X	NA	X
Sieve 1.5 inch, % passing	--	X	NA	X	X	NA	X
Sieve 0.75 inch, % passing	--	X	NA	X	X	NA	X
Sieve, 4750 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 3350 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 2360 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 1180 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 600 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 300 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 150 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 75 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 64 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 50 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 20 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 5 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 2 micron, % passing	--	X	NA	X	X	NA	X
Sieve, 1 micron, % passing	--	X	NA	X	X	NA	X
<b>Other</b>							
Black Carbon	--	X	NA	X	X	NA	X
Percent Moisture	--	X	X	X	X	X	X
Total Organic Carbon	--	X	NA	X	X	NA	X

**Notes:**

- = not available
- % = percent
- ASTM = American Society for Testing and Materials
- CAS = Chemical Abstract Service
- ft = foot/feet
- NA = not analyzed
- PAH = polycyclic aromatic hydrocarbon
- SIM = selective ion monitoring
- TEH = total extractable hydrocarbon
- VOC = volatile organic compound

**Table 2-4**  
**Summary of Laboratory Analytical Methods**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Parameters	Method	Soil <sup>1</sup>	Soil Background	Sediment <sup>1,2</sup>	Sediment Background <sup>1</sup>
Sample Locations	--	30	6	53	12
Total Sample Count	--	99 (6)	6	178 (8)	12 (1)
Surface Sample Count	--	30 (6)	6	53 (8)	12 (1)
Subsurface Sample Count for Analytical Testing	--	60	--	125	--
Deep Subsurface Samples for Possible Future Analysis	--	9	--	27	--
Dart Locations	--	3	--	7	--
<b>Laboratory Analyses - ALS Environmental, Tucson, AZ</b>					
Total Organic Carbon	Lloyd Kahn	30 (6)	6	53 (8)	12 (1)
Black Carbon	Gustaffson et al.	30 (6)	6	53 (8)	12 (1)
<b>Laboratory Analyses - Lancaster Laboratories, Lancaster, PA</b>					
Grain Size	ASTM D422	30	6	53	12
Moisture Content	ASTM D2216	99 (6)	6	178 (8)	12 (1)
RCRA Metals, Nickel, Vanadium	USEPA Method 6010/7471 (Mercury)	90 (6)	6	154 (8)	12 (1)
VOCs	USEPA Method 8260	99 (6)	6	178 (8)	12 (1)
Archive	--	99	6	178	12
Deep Subsurface Samples - held for metals	--	9	--	24	--
<b>Laboratory Analyses - B&amp;B Laboratories, College Station, TX</b>					
PAHs	Modified USEPA Method 8270	90 (6)	6	157 (8)	12 (1)
TEHs	Modified USEPA Method 8015	--	--	53 (8)	12 (1)
Deep Subsurface Samples - held for PAHs	--	9	--	21	--
<b>Total Samples</b>		<b>105 (6)</b>		<b>190 (9)</b>	

**Notes:**

<sup>1</sup> The primary sample counts include only parent samples. Sample count for duplicates are included in parentheses.

<sup>2</sup> Deep subsurface samples (collected from the intervals below 1.5 ft) were held for future analysis of metals and/or PAHs. Some of the deep subsurface sediment samples were mistakenly analyzed for metals and/or PAHs. The analytical results for these samples are provided in this report.

-- = not applicable

ASTM = American Society for Testing and Materials

PAH = polycyclic aromatic hydrocarbon

RCRA = Resource Conservation and Recovery Act

TEH = total extractable hydrocarbon

USEPA = U.S. Environmental Protection Agency

VOC = volatile organic compound

**Table 2-5  
Sediment Sampling Summary**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location ID	Area	Latitude (N) <sup>1</sup>	Longitude (W) <sup>1</sup>	Water Depth (ft)	Shallow or Deep Core?	Location Relocated (Yes/No)	Target Depth Met? (Yes/No)	Sampling Depth (ft)	Number of Normal Samples Collected <sup>2</sup>	Sample Intervals Submitted for Full Analysis <sup>2</sup> (ft)	Deep Subsurface Sample Intervals <sup>3</sup> (ft)	Duplicate Sample Interval Submitted for Analysis <sup>4</sup> (ft)	Co-located Dart Core Location
SED-DA-001	Drainage Ways - Main St	34.96318	92.42571	0.3	Shallow	No	Yes	1.0	2	0-0.5, 0.5-1.0			
SED-DA-002	Drainage Ways - Main St	34.96352	92.42558	0.3	Shallow	No	Yes	1.0	2	0-0.5, 0.5-1.0			
SED-DA-003	Drainage Ways - Main St	34.96404	92.42547	0.5	Shallow	No	Yes	1.0	2	0-0.5, 0.5-1.0		0-0.5	
SED-DA-004	Drainage Ways - Main St	34.96436	92.42538	0.2	Shallow	No	Yes	1.0	2	0-0.5, 0.5-1.0			
SED-DA-005	Drainage Ways - 365W	34.96448	92.42480	0.5	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-006	Drainage Ways - 365W	34.96460	92.42429	0.3	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-007	Drainage Ways - 365W	34.96465	92.42382	0.3	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5		0-0.5	
SED-DA-008	Drainage Ways - 365W	34.96472	92.42332	0.0	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-009	Drainage Ways - 365W	34.96483	92.42290	0.0	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-010	Drainage Ways - 365E	34.96482	92.42234	0.3	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-011	Drainage Ways - 365E	34.96491	92.42206	0.2	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-012	Drainage Ways - 365E	34.96501	92.42180	--	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-013	Drainage Ways - 365E	34.96502	92.42154	--	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-014	Dawson Cove - Inlet Channel	34.96484	92.42021	--	Shallow	No	No - Refusal	1.0	2	0-0.5, 0.5-1.0			
SED-DA-015	Dawson Cove - Inlet Channel	34.96497	92.41965	--	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-016	Dawson Cove - Inlet Channel	34.96521	92.41930	--	Shallow	No	No - Refusal	1.0	2	0-0.5, 0.5-1.0			
SED-DA-017	Dawson Cove - Inlet Channel	34.96533	92.41893	--	Shallow	No	No - Refusal	1.0	2	0-0.5, 0.5-1.0			
SED-DA-018	Dawson Cove	34.96677	92.41438	1.8	Deep	No	Yes	3.2	6	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0, 3.0-3.2	0-0.5	X
SED-DA-019	Dawson Cove	34.96719	92.41388	2.1	Deep	No	Yes	3.3	6	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0, 3.0-3.3		X
SED-DA-020	Dawson Cove	34.96732	92.41354	2.0	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-021	Dawson Cove	34.96711	92.41432	1.4	Deep	No	Yes	3.3	6	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0, 3.0-3.3		X
SED-DA-022	Dawson Cove	34.96761	92.41389	--	Deep	No	Yes	3.0	5	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0		X
SED-DA-023	Dawson Cove	34.96760	92.41439	--	Deep	No	Yes	3.1	6	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0, 3.0-3.1		X
SED-DA-024	Dawson Cove	34.96807	92.41383	3.0	Deep	No	Yes	3.0	5	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0		
SED-DA-025	Dawson Cove	34.96796	92.41434	1.9	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-026	Dawson Cove	34.96850	92.41382	3.2	Deep	No	Yes	3.4	6	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0, 3.0-3.4	0-0.5	
SED-DA-027	Dawson Cove	34.96883	92.41444	2.1	Deep	No	Yes	3.6	6	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0, 3.0-3.6		
SED-DA-028	Dawson Cove	34.96919	92.41403	4.2	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-029	Dawson Cove	34.96943	92.41464	3.0	Deep	No	Yes	3.0	5	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-3.0		
SED-DA-030	Dawson Cove	34.96979	92.41437	3.0	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-031	Dawson Cove	34.97002	92.41502	3.5	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-032	Dawson Cove	34.97046	92.41477	3.2	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-033	Lake Conway	34.97121	92.41513	4.3	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-034	Lake Conway	34.97142	92.41458	4.1	Shallow	Yes - Very close to H-89	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-035	Lake Conway	34.97212	92.41557	4.6	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-036	Lake Conway	34.97232	92.41431	4.7	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5		0-0.5	
SED-DA-037	Lake Conway	34.97302	92.41502	4.8	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-038	Lake Conway	34.97314	92.41387	5.3	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-039	Dawson Cove - Inlet Channel	34.96554	92.41815	--	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-040	Dawson Cove - Inlet Channel	34.96587	92.41811	--	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5		0-0.5	
SED-DA-041	Dawson Cove	34.96753	92.41454	2.5	Shallow	Yes - Heavy Vegetation	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-042	Dawson Cove	34.96649	92.41409	1.7	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-043	Dawson Cove	34.96572	92.41691	0.6	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-044	Dawson Cove	34.96533	92.41625	0.5	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			



**Table 2-5  
Sediment Sampling Summary**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location ID	Area	Latitude (N) <sup>1</sup>	Longitude (W) <sup>1</sup>	Water Depth (ft)	Shallow or Deep Core?	Location Relocated (Yes/No)	Target Depth Met? (Yes/No)	Sampling Depth (ft)	Number of Normal Samples Collected <sup>2</sup>	Sample Intervals Submitted for Full Analysis <sup>2</sup> (ft)	Deep Subsurface Sample Intervals <sup>3</sup> (ft)	Duplicate Sample Interval Submitted for Analysis <sup>4</sup> (ft)	Co-located Dart Core Location
SED-DA-045	Dawson Cove	34.96590	92.41630	0.8	Deep	No	No - Refusal	1.5	3	0-0.5, 0.5-1.0	1.0-1.5		X
SED-DA-046	Dawson Cove	34.96632	92.41637	0.8	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5		0-0.5	
SED-DA-047	Dawson Cove	34.96695	92.41633	0.6	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-048	Dawson Cove	34.96591	92.41562	1.1	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-049	Dawson Cove	34.96624	92.41563	0.9	Shallow	Yes - Heavy Vegetation	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-050	Dawson Cove	34.96696	92.41542	0.8	Shallow	No	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5		0-0.5	
SED-DA-051	Dawson Cove	34.96616	92.41496	1.3	Shallow	Yes - Heavy Vegetation	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			
SED-DA-052	Dawson Cove	34.96643	92.41496	1.2	Deep	No	No - Refusal	2.6	5	0-0.5, 0.5-1.0, 1.0-1.5	1.5-2.0, 2.0-2.6		X
SED-DA-053	Dawson Cove	34.96680	92.41486	1.6	Shallow	Yes - Heavy Vegetation	Yes	1.5	3	0-0.5, 0.5-1.0, 1.0-1.5			

**Notes:**

<sup>1</sup> Coordinates are recorded in North American Datum of 1983.

<sup>2</sup> Samples collected from the top three 6-inch intervals were analyzed for metals (RCRA 8 metals, nickel, and vanadium), VOCs, and moisture content. Surface samples (0-0.5 ft) were also analyzed for an additional 87 PAHs, TEH, total organic carbon, black carbon, and grain size. Subsurface samples (0.5-1.0 ft and 1.0-1.5 ft) were also analyzed for 45 PAHs. In addition, an archive sample was collected from each of the sample intervals.

<sup>3</sup> Deep subsurface samples (collected from the intervals below 1.5 ft) were held for possible future analysis of metals and/or PAHs, pending analysis of the top three 6-inch sample intervals. Due to short holding times for VOC analysis, the samples were analyzed only for moisture content and VOCs. In addition, an archive sample was collected from each of the sample intervals.

<sup>4</sup> Duplicate samples were analyzed for metals (RCRA 8 metals, nickel, and vanadium), 88 PAHs, TEH, VOCs, moisture content, total organic carbon, and black carbon. Grain size was not included in the duplicate analysis.

-- = not available

ft = foot/feet

N = north

PAH = polycyclic aromatic hydrocarbon

RCRA = Resource Conservation and Recovery Act

TEH = total extractable hydrocarbon

VOC = volatile organic compound

W = west

**Table 2-6**  
**Background Sediment Sampling Summary**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location ID	Area	Latitude (N) <sup>1</sup>	Longitude (W) <sup>1</sup>	Water Depth (ft)	Number of Normal Samples Collected <sup>2</sup>	Sample Intervals Submitted for Full Analysis <sup>2</sup> (ft)	Duplicate Sample Interval Submitted for Analysis <sup>2</sup> (ft)
SED-DA-BG-001	Background Drainage Way	34.95941	92.42677	0.0	1	0-0.5	
SED-DA-BG-002	Background Drainage Way	34.96200	92.42607	0.0	1	0-0.5	
SED-DA-BG-003	Background Drainage Way	34.96510	92.42509	0.6	1	0-0.5	
SED-DA-BG-004	Background Drainage Way	34.96512	92.42275	--	1	0-0.5	
SED-DA-BG-005	Background Drainage Way	34.96329	92.42292	--	1	0-0.5	
SED-DA-BG-006	Background Drainage Way	34.96209	92.42110	--	1	0-0.5	
SED-DA-BG-007	Background Lake Conway	34.99088	92.40414	3.8	1	0-0.5	
SED-DA-BG-008	Background Lake Conway	35.02178	92.40728	3.8	1	0-0.5	
SED-DA-BG-009	Background Lake Conway	35.02400	92.41103	1.6	1	0-0.5	0-0.5
SED-DA-BG-010	Background Lake Conway	35.04678	92.41186	1.3	1	0-0.5	
SED-DA-BG-011	Background Lake Conway	35.04942	92.41176	1.0	1	0-0.5	
SED-DA-BG-012	Background Lake Conway	35.05030	92.41362	1.8	1	0-0.5	

**Notes:**

<sup>1</sup> Coordinates are recorded in North American Datum of 1983.

<sup>2</sup> Samples were analyzed for metals (RCRA 8 metals, nickel, and vanadium), 88 PAHs, TEH, VOCs, moisture content, total organic carbon, black carbon, and grain size. In addition, an archive sample was collected from each of the sample intervals.

-- = not available

ft = foot/feet

N = north

PAH = polycyclic aromatic hydrocarbon

RCRA = Resource Conservation and Recovery Act

TEH = total extractable hydrocarbon

VOC = volatile organic compound

W = west

**Table 2-7  
Surface Water Sampling Summary**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

<b>Location ID</b>	<b>Latitude (N)<sup>1</sup></b>	<b>Longitude (W)<sup>1</sup></b>	<b>Date</b>	<b>Time</b>	<b>Water Depth (ft)</b>	<b>Sample Depth</b>	<b>Number of Samples Analyzed (Duplicate)<sup>2</sup></b>
WS-022DA	34.96374	92.42554	8/13/2013	13:00	--	Surface	1
WS-023DA	34.96466	92.42382	8/13/2013	13:15	--	Surface	1
WS-024DA	34.96492	92.42206	8/13/2013	13:20	1.0	Mid-Depth	1
WS-025DA	34.96520	92.41911	8/15/2013	15:30	0.5	Mid-Depth	1
WS-026DA	34.96692	92.41449	8/15/2013	15:00	1.6	Mid-Depth	1
WS-027DA	34.96897	92.41436	8/15/2013	14:30	4.5	Mid-Depth	1 (1)
<b>Total Samples</b>							<b>6 (1)</b>

**Notes:**

<sup>1</sup> Coordinates are recorded in North American Datum of 1983.

<sup>2</sup> All samples (including duplicate) were analyzed for VOCs, 88 PAHs, total metals (RCRA 8, calcium, managesium [for hardness calculations], nickel, and vanadium), dissolved metals (RCRA 8, nickel, and vanadium), oil and grease, and TSS.

-- = not applicable

ft = foot/feet

N = north

PAH = polycyclic aromatic hydrocarbon

RCRA = Resource Conservation and Recovery Act

TSS = total suspended solids

VOC = volatile organic compound

W = west

**Table 2-8  
List of Compounds Analyzed in Surface Water**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident, Mayflower, Arkansas**

Analyte	CAS Number	Daily Surface Water Analyte	DARSP Surface Water Analyte
<b>VOCs</b>			
1,1,1,2-Tetrachloroethane	630-20-6	X	X
1,1,1-Trichloroethane	71-55-6	X	X
1,1,2,2-Tetrachloroethane	79-34-5	X	X
1,1,2-Trichloroethane	79-00-5	X	X
1,1,2-Trichlorotrifluoroethane	76-13-1	X	X
1,1-Dichloroethane	75-34-3	X	X
1,1-Dichloroethene	75-35-4	X	X
1,1-Dichloropropene	563-58-6	X	X
1,2,3-Trichlorobenzene	87-61-6	X	X
1,2,3-Trichloropropane	96-18-4	X	X
1,2,4-Trichlorobenzene	120-82-1	X	X
1,2,4-Trimethylbenzene	95-63-6	X	X
1,2-Dibromo-3-Chloropropane	96-12-8	X	X
1,2-Dibromoethane (EDB)	106-93-4	X	X
1,2-Dichlorobenzene	95-50-1	X	X
1,2-Dichloroethane	107-06-2	X	X
1,2-Dichloropropane	78-87-5	X	X
1,3,5-Trimethylbenzene	108-67-8	X	X
1,3-Dichlorobenzene	541-73-1	X	X
1,3-Dichloropropane	142-28-9	X	X
1,4-Dichlorobenzene	106-46-7	X	X
2,2-Dichloropropane	594-20-7	X	X
2-Butanone (MEK)	78-93-3	X	X
2-Chlorotoluene	95-49-8	X	X
2-Phenylbutane	135-98-8	X	X
4-Chlorotoluene	106-43-4	X	X
4-Methyl-2-pentanone (MIBK)	108-10-1	X	X
Acetone	67-64-1	X	X
Allyl chloride	107-05-1	X	X
Benzene	71-43-2	X	X
Bromobenzene	108-86-1	X	X
Bromochloromethane	74-97-5	X	X
Bromodichloromethane	75-27-4	X	X
Bromoform (Tribromomethane)	75-25-2	X	X
Bromomethane	74-83-9	X	X
Carbon Tetrachloride	56-23-5	X	X
Chlorobenzene	108-90-7	X	X
Chloroethane	75-00-3	X	X
Chloroform	67-66-3	X	X
Chloromethane	74-87-3	X	X
cis-1,2-Dichloroethene	156-59-2	X	X
cis-1,3-Dichloropropene	10061-01-5	X	X
Dibromochloromethane	124-48-1	X	X
Dibromomethane	74-95-3	X	X
Dichlorodifluoromethane (CFC-12)	75-71-8	X	X
Dichlorofluoromethane	75-43-4	X	X
Diethyl ether (Ethyl ether)	60-29-7	X	X
Ethylbenzene	100-41-4	X	X
Hexachloro-1,3-Butadiene	87-68-3	X	X
Isopropylbenzene (Cumene)	98-82-8	X	X
Methyl-tert-butyl ether	1634-04-4	X	X
Methylene Chloride (Dichloromethane)	75-09-2	X	X
n-Butylbenzene	104-51-8	X	X
n-Propylbenzene	103-65-1	X	X
p-Isopropyltoluene (Cymene)	99-87-6	X	X
Styrene	100-42-5	X	X
Tert-Butylbenzene	98-06-6	X	X
Tetrachloroethane	127-18-4	X	X
Tetrahydrofuran	109-99-9	X	X
Toluene	108-88-3	X	X
trans-1,2-Dichloroethene	156-60-5	X	X
trans-1,3-Dichloropropene	10061-02-6	X	X
Trichloroethene	79-01-6	X	X
Trichlorofluoromethane (CFC-11)	75-69-4	X	X
Vinyl Chloride	75-01-4	X	X
Xylene (Total)	1330-20-7	X	X

**Table 2-8  
List of Compounds Analyzed in Surface Water**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident, Mayflower, Arkansas**

Analyte	CAS Number	Daily Surface Water Analyte	DARSP Surface Water Analyte
<b>PAHs</b>			
<i><b>Non-Alkylated</b></i>			
Acenaphthene	83-32-9	X	X
Acenaphthylene	208-96-8	X	X
Anthracene	120-12-7	X	X
Benzo(a)Anthracene	56-55-3	X	X
Benzo(a)Pyrene	50-32-8	X	X
Benzo(b)Fluoranthene	205-99-2	X	X
Benzo(e)Pyrene	192-97-2	--	X
Benzo(g,h,i)Perylene	191-24-2	X	X
Benzo(j)+(k)Fluoranthene	--	X	X
Chrysene/Triphenylene	--	X	X
Dibenz(a,h)Anthracene	53-70-3	X	X
Fluoranthene	206-44-0	X	X
Fluorene	86-73-7	X	X
Indeno[1,2,3-cd]pyrene	193-39-5	X	X
Naphthalene	91-20-3	X	X
Perylene	198-55-0	--	X
Phenanthrene	85-01-8	X	X
Pyrene	129-00-0	X	X
<i><b>Alkylated</b></i>			
1-Methylnaphthalene	90-12-0	X	X
2-Methylnaphthalene	91-57-6	X	X
C1-Benzanthrene/chrysenes	--	--	X
C1-Dibenzothiophenes	--	--	X
C1-Fluoranthenes/Pyrenes	--	--	X
C1-Fluorenes	--	--	X
C1-Naphthalenes	--	--	X
C1-Phenanthrenes/Anthracenes	--	--	X
C2-Benzanthrene/chrysenes	--	--	X
C2-Dibenzothiophenes	--	--	X
C2-Fluoranthenes/Pyrenes	--	--	X
C2-Fluorenes	--	--	X
C2-Naphthalenes	--	--	X
C2-Phenanthrenes/Anthracenes	--	--	X
C3-Benzanthrene/chrysenes	--	--	X
C3-Dibenzothiophenes	--	--	X
C3-Fluoranthenes/Pyrenes	--	--	X
C3-Fluorenes	--	--	X
C3-Naphthalenes	--	--	X
C3-Phenanthrenes/Anthracenes	--	--	X
C4-Benzanthrene/chrysenes	--	--	X
C4-Dibenzothiophenes	--	--	X
C4-Fluoranthenes/Pyrenes	--	--	X
C4-Naphthalenes	--	--	X
C4-Phenanthrenes/Anthracenes	--	--	X
<i><b>Forensic</b></i>			
1,1-Biphenyl	92-52-4	--	X
1-Methyldibenzothiophene(1MDT)	31317-07-4	--	X
1-Methylfluorene	1730-37-6	--	X
1-Methylphenanthrene	832-69-9	--	X
18a-Oleanane	30759-92-3	--	X
2,3,5-Trimethylnaphthalene	2245-38-7	--	X
2-Methylantracene	613-12-7	--	X
2-Methylfluoranthene	33543-31-6	--	X
2/3-Methyldibenzothiophene(2MDT)	--	--	X
3,6-Dimethylphenanthrene	1576-67-6	--	X
3-Methylphenanthrene (3MP)	832-71-3	--	X
4-Methyldibenzothiophene(4MDT)	7372-88-5	--	X
9/4-Methylphenanthrene (9MP)	--	--	X
Benzo(a)Fluoranthene	203-33-8	--	X
Benzo(b)fluorene	30777-19-6	--	X
Benzothiophene	11095-43-5	--	X
C1-Benzo(b)thiophenes	--	--	X
C1-Decalins	--	--	X
C1-Naphthobenzothiophenes	--	--	X
C2-Benzo(b)thiophenes	--	--	X
C2-Decalins	--	--	X

**Table 2-8  
List of Compounds Analyzed in Surface Water**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident, Mayflower, Arkansas**

Analyte	CAS Number	Daily Surface Water Analyte	DARSP Surface Water Analyte
C2-Naphthobenzothiophenes	--	--	X
C20-TAS	--	--	X
C21-TAS	--	--	X
C26(20R)/C27(20S)-TAS	--	--	X
C26(20S)-TAS	--	--	X
C27(20R)-TAS	--	--	X
C28(20R)-TAS	--	--	X
C28(20S)-TAS	--	--	X
C29-Hopane	--	--	X
C3-Benzo(b)thiophenes	--	--	X
C3-Decalins	--	--	X
C3-Naphthobenzothiophenes	--	--	X
C30-Hopane	--	--	X
C4-Benzo(b)thiophenes	--	--	X
C4-Decalins	--	--	X
C4-Naphthobenzothiophenes	--	--	X
Carbazole	86-74-8	--	X
cis/trans-Decalin (Decahydronaphthalene)	91-17-8	--	X
Dibenzofuran	132-64-9	--	X
Dibenzothiophene	132-65-0	--	X
Naphthalene, 2,6-dimethyl-	581-42-0	--	X
Naphthobenzothiophene	--	--	X
Phenanthrene, 2-methyl-	2531-84-2	--	X
Retene	483-65-8	--	X
<b>TPH</b>			
Oil & Grease	--	X	X
<b>Total Metals</b>			
Arsenic	7440-38-2	X	X
Barium	7440-39-3	X	X
Cadmium	7440-43-9	X	X
Calcium	7440-70-2	X	X
Chromium	7440-47-3	X	X
Lead	7439-92-1	X	X
Magnesium	7439-95-4	X	X
Mercury	7439-97-6	X	X
Nickel	7440-02-0	X	X
Selenium	7782-49-2	X	X
Silver	7440-22-4	X	X
Vanadium	7440-62-2	X	X
<b>Dissolved Metals</b>			
Arsenic	7440-38-2	X	X
Barium	7440-39-3	X	X
Cadmium	7440-43-9	X	X
Chromium	7440-47-3	X	X
Lead	7439-92-1	X	X
Mercury	7439-97-6	X	X
Nickel	7440-02-0	X	X
Selenium	7782-49-2	X	X
Silver	7440-22-4	X	X
Vanadium	7440-62-2	X	X
<b>Other</b>			
Total Suspended Solids	--	--	X

**Notes:**

- = not available
- CAS = Chemical Abstract Service
- PAH = polycyclic aromatic hydrocarbon
- TPH = total petroleum hydrocarbon
- VOC = volatile organic compound

**Table 2-9**  
**Summary of Lake Conway Depositional Layer Assessment**

**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location ID	Latitude (N) <sup>1</sup>	Longitude (W) <sup>1</sup>	Water Depth (ft)	Depth Interval (inches)	Textural Description of Sediment Layers <sup>2</sup>
DEP-01	34.97121	92.41566	4.2	0 - 0.04	SILT (ML), wet, very loose, brown
				0.04 - 1	SILT (ML), trace clay, wet, very loose, gray
				1 - 6	SILT (ML), little clay, wet, very loose, gray
DEP-02	34.97127	92.41505	5.9	0 - 0.04	SILT (ML), wet, very loose, brown
				0.04 - 2	SILT (ML), trace fine sand, trace wood debris, wet, very loose, gray
				2 - 4	CLAY (CL), some silt, trace wood debris, wet, soft, light brown
DEP-03	34.97125	92.41447	3.8	0 - 0.08	SILT (ML), wet, very loose, brown
				0.08 - 3	CLAY (CL), little silt, trace wood debris, wet, loose, gray
				3 - 10	CLAY (CL), moist, medium stiff, light brown to light gray
DEP-04	34.97204	92.41311	4.8	0 - 0.04	SILT (ML), wet, very loose, brown
				0.04 - 1.5	SILT (ML), wet, very loose, gray
				1.5 - 6	CLAY (CL), some silt, wet, soft, dark brown
DEP-05	34.97269	92.41148	4.5	0 - 0.04	SILT (ML), wet, very soft, brown
				0.04 - 0.5	SILT (ML), trace clay, wet, very soft, gray
				0.5 - 1.5	SILT (ML), little clay, wet, very soft, gray, red worm-like organism
				1.5 - 6.5	CLAY (CL), trace wood debris, wet, soft, brown, red worm-like organism
DEP-06	34.97381	92.40993	6.4	0 - 0.04	SILT (ML), wet, very soft, brown
				0.04 - 1	SILT (ML), wet, very soft, gray
				1 - 6	SILT (ML), trace clay, wet, very soft, gray
				6 - 8	SILT (ML), little clay, wet, soft, gray
DEP-07	34.97458	92.40847	5.9	0 - 0.04	SILT (ML), wet, very soft, brown
				0.04 - 1	SILT (ML), wet, very soft, gray
				1 - 3	SILT (ML), trace clay, wet, very soft, gray
				3 - 9	SILT (ML), little clay, wet, very soft, brown
				9 - 10	CLAY (CL), moist, medium stiff, light brown
DEP-08	34.97520	92.40719	6.7	0 - 2	SILT (ML), trace fine sand, wet, very soft, gray
				2 - 8	SILT (ML), trace fine sand, trace clay, trace wood debris, wet, very soft, brown
				8 - 9	SILT (ML), little clay, little wood debris, wet, soft, brown
DEP-09	34.97428	92.40547	6.8	0 - 3	SILT (ML), trace fine sand, wet, very soft, gray
				3 - 8	SILT (ML), trace fine sand, trace clay, trace wood debris, wet, very soft, gray
DEP-10	34.97301	92.40440	7.2	0 - 1	SILT (ML), little fine sand, trace wood debris, wet, very soft, gray
				1 - 6	SILT (ML), little fine sand, little wood debris, wet, very soft, brown
				6 - 7	SILT (ML), trace fine sand, little clay, little wood debris, wet, soft, brown
DEP-11	34.97155	92.40302	6.6	0 - 3	Fine SAND (SM), some silt, wet, very loose, gray
				3 - 6	SILT (ML), trace sand, trace clay, trace wood debris, wet, very soft, brown
				6 - 7	CLAY (CL), little wood debris, wet, soft, brown
DEP-12	34.96890	92.40151	5.8	0 - 3	Fine SAND (SM), some silt, wet, very loose, gray, red worm-like organism
				3 - 7	Fine SAND (SM), some silt, trace clay, trace wood debris, wet, very loose, brown
				7 - 9	CLAY (CL), trace wood debris, wet, soft, brown

**Notes:**

<sup>1</sup> Coordinates are recorded in North American Datum of 1983.

<sup>2</sup> Sediment intervals were selected based on sediment type and texture.

CL = inorganic clay of low plasticity, lean clay; per the Unified Soil Classification System definition

ft = foot/feet

ML = inorganic silts and very fine sands, per the Unified Soil Classification System definition

N = north

SM = silty sand

W = west

**Table 2-10**  
**Summary of Lake Conway Background Depositional Layer Assessment**

**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location ID	Latitude (N) <sup>1</sup>	Longitude (W) <sup>1</sup>	Water Depth (ft)	Depth Interval (inches)	Textural Description of Sediment Layers <sup>2</sup>
DEP-BG-008	35.02176	92.40729	3.5	0 - 0.5	SAND and SILT (SM), wet, very loose, gray, one worm burrow tube
				0.5 - 10	CLAY (CL), trace wood debris, wet, soft to medium stiff, brown
DEP-BG-010	35.04555	92.41171	1.2	0 - 0.04	SILT and SAND (ML), wet, very soft, brown
				0.04 - 0.5	SILT and SAND (ML), wet, very soft, gray
				0.5 - 6	CLAY (CL), trace organic debris, wet, medium stiff, brown
DEP-BG-011	35.04953	92.41174	0.7	0 - 0.08	SAND and SILT (SM), wet, very loose, brown, red worm-like organisms (approximately 0.08 inch in length), worm burrow tubes
				0.08 - 0.5	SAND and SILT (SM), wet, very loose, gray
				0.5 - 13	CLAY (CL), little vegetation debris, moist, medium stiff, brown with red mottling along vegetation debris
DEP-BG-012	35.05026	92.41353	5.7	0 - 1	SILT (ML), some sand, trace organic debris, wet, very soft, brown, red worm-like organisms (approximately 0.08 inch in length)
				1 - 8	CLAY (CL), trace organic debris, moist, soft, gray

**Notes:**

<sup>1</sup> Coordinates are recorded in North American Datum of 1983.

<sup>2</sup> Sediment intervals were selected based on sediment type and texture.

CL = inorganic clay of low plasticity, lean clay; per the Unified Soil Classification System definition

ft = foot/feet

ML = inorganic silts and very fine sands, per the Unified Soil Classification System definition

N = north

SM = silty sand

W = west



**Table 4-1  
Summary of QA/QC Field Samples**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Sample ID	Date and Time Sampled	Sample Info <sup>1,2</sup>
SED-DA-EB-01-072713	7/27/13 15:00	Equipment rinsate blank
SED-TB-01-072713	7/27/13 17:10	Trip blank
SED-DA-TB-02-072813	7/28/13 10:30	Trip blank
SED-DA-EB-02-072913	7/29/13 11:10	Equipment rinsate blank
SED-DA-TB-02-072913	7/29/13 11:15	Trip blank
SED-DA-EB-03-073013	7/30/13 9:00	Equipment rinsate blank
SED-DA-TB-03-073013	7/30/13 9:15	Trip blank
SED-DA-EB-04-073113	7/31/13 9:00	Equipment rinsate blank
SED-DA-TB-04-073113	7/31/13 9:05	Trip blank
SO-DA-TB-01-080113	8/1/13 15:30	Trip blank
SO-DA-EB-01-080213	8/2/2013 13:00	Equipment blank
SO-DA-TB-02-080213	8/2/2013 13:30	Trip blank
SO-DA-TB-03-080213	8/2/2013 13:35	Trip blank
SED-DA-EB-05-080313	8/3/2013 16:30	Equipment rinsate blank
SED-DA-TB-05-080313	8/3/2013 16:40	Trip blank
SED-DA-TB-06-080413	8/4/2013 12:00	Trip blank
SED-DA-TB-07	8/5/2013 16:00	Trip blank
SED-DA-EB-06-080613	8/6/2013 8:00	Equipment rinsate blank
SED-DA-TB-08-080613	8/6/2013 8:00	Trip blank
SO-DA-TB-03-080613	8/6/2013 11:15	Trip blank
SO-DA-EB-02-080713	8/7/2013 11:10	Equipment rinsate blank
SO-DA-TB-04-080713	8/7/2013 11:20	Trip blank
SO-DA-EB-03-080813	8/8/2013 14:00	Equipment rinsate blank
SO-DA-TB-05-080813	8/8/2013 14:05	Trip blank
SO-DA-TB-06-080813	8/8/2013 14:10	Trip blank
SED-DA-TB-09-080913	8/9/2013 10:08	Trip blank
SED-DA-EB-07-080913	8/9/2013 10:15	Equipment rinsate blank
SED-DA-TB-010-081013	8/10/2013 8:15	Trip blank
SED-DA-EB-08-081013	8/10/2013 8:35	Equipment rinsate blank
SO-DA-TB-07-081113	8/11/2013 12:05	Trip blank
SO-DA-EB-04-081113	8/11/2013 13:00	Equipment rinsate blank
SED-DA-TB-11-081213	8/12/2013 8:30	Trip blank
SED-DA-TB-12-081213	8/12/2013 15:00	Trip blank
SO-DA-TB-08-081313	8/13/2013 16:00	Trip blank
SO-DA-EB-05-081313	8/13/2013 16:10	Equipment rinsate blank
SED-DA-TB-12-081413	8/14/2013	Trip blank
SED-DA-EB-09-081513	8/15/2013 8:00	Equipment rinsate blank
SED-DA-TB-13-081513	8/15/2013 8:20	Trip blank
SO-DA-EB-06-081513	8/15/2013 15:30	Equipment rinsate blank
SO-DA-TB-09-081513	8/15/2013 15:30	Trip blank
SED-DA-EB-10-081613	8/16/2013 8:45	Equipment rinsate blank
SED-DA-TB-14-081613	8/16/2013 8:50	Trip blank

**Notes:**

<sup>1</sup> Soil equipment rinsate blanks were analyzed for total metals (RCRA 8 metals, nickel, and vanadium), 44 PAHs, VOCs, black carbon, and total organic carbon. Sediment equipment rinsate blank samples were analyzed for metals (RCRA 8 metals, nickel, and vanadium), 88 PAHs, TEH, VOCs, black carbon, and total organic carbon.

<sup>2</sup> Trip blanks were analyzed for VOCs.

PAH = polycyclic aromatic hydrocarbon

QA/QC = quality assurance/quality control

RCRA = Resource Conservation and Recovery Act

TEH = total extractable hydrocarbon

VOC = volatile organic compound

**Table 4-2  
Evaluation of Reporting Limits for Soil Samples**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte Group	Result Units	Applicable Screening Value	Number of Samples	Number of Non-Detects	RL Range	MDL Range	Number of RL Above Applicable Screening Value	Frequency of RL Above Applicable Screening Value	Number of MDL Above Applicable Screening Value	Frequency of MDL Above Applicable Screening Value
<b>VOCs</b>										
1,2,4-Trimethylbenzene	µg/kg	--	105	105	4 - 310	0.9 - 62	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	--	105	105	4 - 310	0.9 - 62	--	--	--	--
2-Phenylbutane	µg/kg	--	105	105	4 - 310	0.9 - 62	--	--	--	--
Benzene	µg/kg	10	105	102	4 - 9	0.4 - 0.9	0	0	0	0
Ethylbenzene	µg/kg	30	105	105	4 - 310	0.9 - 62	1	1%	1	1%
Isopropylbenzene (Cumene)	µg/kg	--	105	102	4 - 9	0.9 - 2	--	--	--	--
n-Butylbenzene	µg/kg	--	105	105	4 - 310	0.9 - 62	--	--	--	--
n-Propylbenzene	µg/kg	--	105	105	4 - 310	0.9 - 62	--	--	--	--
p-Isopropyltoluene (Cymene)	µg/kg	--	105	101	4 - 9	0.9 - 2	--	--	--	--
Tert-Butylbenzene	µg/kg	--	105	105	4 - 310	0.9 - 62	--	--	--	--
Toluene	µg/kg	10	105	99	4 - 310	0.9 - 62	1	1%	1	1%
Xylene (Total)	µg/kg	100	105	105	4 - 310	0.9 - 62	1	1%	0	0%
<b>Metals</b>										
Selenium	mg/kg	1.7	99	58	2.13 - 11.9	0.853 - 4.75	28	28%	34	34%
Silver	mg/kg	4.2	99	77	0.526 - 2.8	0.179 - 0.952	0	0%	0	0%

**Notes:**

1. Applicable screening values are discussed in Section 5.
2. Nickel was detected in all samples, and therefore not included in this evaluation.
3. There were no non-detect PAH results with MDL above applicable screening value.

-- = not available or not applicable

MDL = method detection limit

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram

PAH = polycyclic aromatic hydrocarbon

RL = reporting limit

VOC = volatile organic compound

**Table 4-3**  
**Evaluation of Reporting Limits for Sediment Samples**

**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	Units	Applicable Screening Value	Number of Samples	Number of Non-Detects	RL Range	MDL Range	Number of RL Above Applicable Screening Value	Frequency of RL Above Applicable Screening Value	Number of MDL Above Applicable Screening Value	Frequency of MDL Above Applicable Screening Value
<b>VOCs</b>										
1,2,4-Trimethylbenzene	µg/kg	--	190	170	4 - 89	0.9 - 18	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	--	190	183	4 - 89	0.9 - 18	--	--	--	--
2-Phenylbutane	µg/kg	--	190	181	4 - 350	0.9 - 70	--	--	--	--
Benzene	µg/kg	141.57	190	176	4 - 350	0.4 - 35	2	1%	0	0%
Ethylbenzene	µg/kg	1100	190	180	4 - 89	0.9 - 18	0	0%	0	0%
Isopropylbenzene (Cumene)	µg/kg	86	190	182	4 - 350	0.9 - 70	2	1%	0	0%
n-Butylbenzene	µg/kg	--	190	180	4 - 89	0.9 - 18	--	--	--	--
n-Propylbenzene	µg/kg	--	190	181	4 - 89	0.9 - 18	--	--	--	--
Tert-Butylbenzene	µg/kg	--	190	190	4 - 350	0.9 - 70	--	--	--	--
Toluene	µg/kg	1220	190	176	4 - 340	0.9 - 68	0	0%	0	0%
Xylene (Total)	µg/kg	25.2	190	166	4 - 89	0.9 - 18	17	9%	0	0%
<b>Metals</b>										
Selenium	mg/kg	2	166	142	2.22 - 21.1	0.889 - 8.43	142	86%	31	19%
Silver	mg/kg	2	166	155	0.553 - 5.27	0.188 - 1.79	13	8%	0	0%

**Notes:**

1. Applicable screening values are discussed in Section 5.
2. Nickel and vanadium analytes were detected in all samples, and therefore not included in this evaluation.
3. There were no non-detect PAH results with MDL above applicable screening value.

-- = not available or not applicable

MDL = method detection limit

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram

PAH = polycyclic aromatic hydrocarbon

RL = reporting limit

VOC = volatile organic compound

**Table 5-1  
Crude Oil Sampling Results**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location Sample Date	Units	PR-MF-001 4/5/2013	PR-MF-002 4/5/2013	Is Analyte Detected in Crude Oil?
<b>VOCs</b>				
1,1,1,2-Tetrachloroethane	µg/kg	< 10000 U	< 99000 U	No
1,1,1-Trichloroethane	µg/kg	< 10000 U	< 99000 U	No
1,1,2,2-Tetrachloroethane	µg/kg	R	< 99000 U	No
1,1,2-Trichloroethane	µg/kg	R	< 99000 U	No
1,1,2-Trichlorotrifluoroethane	µg/kg	< 20000 U	< 200000 U	No
1,1-Dichloroethane	µg/kg	< 10000 U	< 99000 U	No
1,1-Dichloroethene	µg/kg	< 10000 U	< 99000 U	No
1,1-Dichloropropene	µg/kg	< 10000 U	< 99000 U	No
1,2,3-Trichlorobenzene	µg/kg	< 10000 U	< 99000 U	No
1,2,3-Trichloropropane	µg/kg	< 10000 U	< 99000 U	No
1,2,4-Trichlorobenzene	µg/kg	< 10000 U	< 99000 U	No
1,2,4-Trimethylbenzene	µg/kg	680000 DJ	650000 J	<b>Yes</b>
1,2-Dibromo-3-Chloropropane	µg/kg	< 10000 U	< 99000 U	No
1,2-Dibromoethane (EDB)	µg/kg	< 10000 U	< 99000 U	No
1,2-Dichlorobenzene	µg/kg	< 10000 U	< 99000 U	No
1,2-Dichloroethane	µg/kg	R	< 99000 U	No
1,2-Dichloropropane	µg/kg	< 10000 U	< 99000 U	No
1,3,5-Trimethylbenzene	µg/kg	320000 J	300000 J	<b>Yes</b>
1,3-Dichlorobenzene	µg/kg	< 10000 U	< 99000 U	No
1,3-Dichloropropane	µg/kg	< 10000 U	< 99000 U	No
1,4-Dichlorobenzene	µg/kg	< 10000 U	< 99000 U	No
2,2-Dichloropropane	µg/kg	< 10000 U	< 99000 U	No
2-Butanone (MEK)	µg/kg	< 20000 U	< 200000 U	No
2-Chlorotoluene	µg/kg	< 10000 U	< 99000 U	No
2-Phenylbutane	µg/kg	75000 J	61000 J	<b>Yes</b>
4-Chlorotoluene	µg/kg	< 10000 U	< 99000 U	No
4-Methyl-2-pentanone (MIBK)	µg/kg	< 20000 U	< 200000 U	No
Acetone	µg/kg	< 40000 U	< 400000 U	No
Allyl chloride	µg/kg	< 10000 U	< 99000 U	No
Benzene	µg/kg	1000000 DJ	1100000 J	<b>Yes</b>
Bromobenzene	µg/kg	< 10000 U	< 99000 U	No
Bromochloromethane	µg/kg	< 10000 U	< 99000 U	No
Bromodichloromethane	µg/kg	R	< 99000 U	No
Bromoform (Tribromomethane)	µg/kg	< 10000 U	< 99000 U	No
Bromomethane	µg/kg	R	< 99000 U	No
Carbon Tetrachloride	µg/kg	< 10000 U	< 99000 U	No
Chlorobenzene	µg/kg	< 10000 U	< 99000 U	No
Chloroethane	µg/kg	R	< 99000 U	No
Chloroform	µg/kg	< 10000 U	< 99000 U	No
Chloromethane	µg/kg	R	< 99000 U	No
cis-1,2-Dichloroethene	µg/kg	< 10000 U	< 99000 U	No
cis-1,3-Dichloropropene	µg/kg	< 10000 U	< 99000 U	No
Dibromochloromethane	µg/kg	< 10000 U	< 99000 U	No
Dibromomethane	µg/kg	< 10000 U	< 99000 U	No
Dichlorodifluoromethane (CFC-12)	µg/kg	< 10000 U	< 99000 U	No
Dichlorofluoromethane	µg/kg	< 10000 U	< 99000 U	No
Diethyl ether (Ethyl ether)	µg/kg	< 10000 UJ	< 99000 UJ	No
Ethylbenzene	µg/kg	440000 J	420000 J	<b>Yes</b>
Hexachloro-1,3-Butadiene	µg/kg	< 10000 U	< 99000 U	No
Isopropylbenzene (Cumene)	µg/kg	100000 J	88000 J	<b>Yes</b>
Methylene Chloride (Dichloromethane)	µg/kg	< 10000 U	< 99000 U	No
Methyl-tert-butyl ether	µg/kg	< 10000 U	< 99000 U	No
n-Butylbenzene	µg/kg	100000 J	88000 J	<b>Yes</b>

**Table 5-1  
Crude Oil Sampling Results**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location Sample Date	Units	PR-MF-001 4/5/2013	PR-MF-002 4/5/2013	Is Analyte Detected in Crude Oil?
n-Propylbenzene	µg/kg	180000 J	170000 J	Yes
p-Isopropyltoluene (Cymene)	µg/kg	72000 J	61000 J	Yes
Styrene	µg/kg	< 10000 U	< 99000 U	No
Tert-Butylbenzene	µg/kg	3700 J	< 99000 U	Yes
Tetrachloroethene	µg/kg	< 10000 U	< 99000 U	No
Tetrahydrofuran	µg/kg	< 10000 U	< 99000 U	No
Toluene	µg/kg	2500000 DJ	2500000 J	Yes
trans-1,2-Dichloroethene	µg/kg	< 10000 U	< 99000 U	No
trans-1,3-Dichloropropene	µg/kg	< 10000 U	< 99000 U	No
Trichloroethene	µg/kg	< 10000 U	< 99000 U	No
Trichlorofluoromethane (CFC-11)	µg/kg	< 10000 U	< 99000 U	No
Vinyl Chloride	µg/kg	< 10000 U	< 99000 U	No
Xylene (Total)	µg/kg	2500000 DJ	2400000 J	Yes
<b>PAHs</b>				
1-Methylnaphthalene	µg/kg	277000	262000	Yes
2-Methylnaphthalene	µg/kg	400000	376000	Yes
Acenaphthene	µg/kg	12200	11800	Yes
Acenaphthylene	µg/kg	8680 J	8260 J	Yes
Anthracene	µg/kg	243 J	272 J	Yes
Benz(a)anthracene	µg/kg	6910 J	6510 J	Yes
Benzo(a)pyrene	µg/kg	8280 J	9170 J	Yes
Benzo(b)fluoranthene	µg/kg	9800 J	11400	Yes
Benzo(g,h,i)perylene	µg/kg	11800	11700	Yes
Benzo(k,j)fluoranthene	µg/kg	3600 J	2720 J	Yes
Chrysene/Triphenylene	µg/kg	33600	32200	Yes
Dibenzo(a,h)anthracene	µg/kg	2520 J	2280 J	Yes
Fluoranthene	µg/kg	8070 J	8000 J	Yes
Fluorene	µg/kg	46300	46300	Yes
Indeno(1,2,3-c,d)pyrene	µg/kg	3150 J	3080 J	Yes
Naphthalene	µg/kg	129000	123000	Yes
Phenanthrene	µg/kg	105000	102000	Yes
Pyrene	µg/kg	29400	30900	Yes
cis/trans Decalin	µg/kg	327000	323000	Yes
C1-Decalins	µg/kg	493000	471000	Yes
C2-Decalins	µg/kg	622000	581000	Yes
C3-Decalins	µg/kg	596000	582000	Yes
C4-Decalins	µg/kg	434000	349000	Yes
C1-Naphthalenes	µg/kg	420000	396000	Yes
C2-Naphthalenes	µg/kg	790000	764000	Yes
C3-Naphthalenes	µg/kg	729000	691000	Yes
C4-Naphthalenes	µg/kg	611000	578000	Yes
Benzothiophene	µg/kg	19900	18900	Yes
C1-Benzothiophenes	µg/kg	75100	73400	Yes
C2-Benzothiophenes	µg/kg	159000	152000	Yes
C3-Benzothiophenes	µg/kg	274000	272000	Yes
C4-Benzothiophenes	µg/kg	192000	178000	Yes
Biphenyl	µg/kg	37800	36900	Yes
Dibenzofuran	µg/kg	20000	19000	Yes
C1-Fluorenes	µg/kg	120000	116000	Yes
C2-Fluorenes	µg/kg	257000	261000	Yes
C3-Fluorenes	µg/kg	277000	279000	Yes
Carbazole	µg/kg	4600 J	4530 J	Yes
C1-Phenanthrenes/Anthracenes	µg/kg	342000	340000	Yes
C2-Phenanthrenes/Anthracenes	µg/kg	563000	567000	Yes

**Table 5-1  
Crude Oil Sampling Results**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location Sample Date	Units	PR-MF-001 4/5/2013	PR-MF-002 4/5/2013	Is Analyte Detected in Crude Oil?
C3-Phenanthrenes/Anthracenes	µg/kg	465000	549000	Yes
C4-Phenanthrenes/Anthracenes	µg/kg	459000	374000	Yes
Dibenzothiophene	µg/kg	102000	98700	Yes
C1-Dibenzothiophenes	µg/kg	291000	293000	Yes
C2-Dibenzothiophenes	µg/kg	467000	459000	Yes
C3-Dibenzothiophenes	µg/kg	531000	525000	Yes
C4-Dibenzothiophenes	µg/kg	333000	296000	Yes
C1-Fluoranthenes/Pyrenes	µg/kg	116000	125000	Yes
C2-Fluoranthenes/Pyrenes	µg/kg	183000	163000	Yes
C3-Fluoranthenes/Pyrenes	µg/kg	161000	173000	Yes
C4-Fluoranthenes/Pyrenes	µg/kg	173000	171000	Yes
Naphthobenzothiophene	µg/kg	69500	62300	Yes
C1-Naphthobenzothiophenes	µg/kg	172000	161000	Yes
C2-Naphthobenzothiophenes	µg/kg	241000	233000	Yes
C3-Naphthobenzothiophenes	µg/kg	212000	202000	Yes
C4-Naphthobenzothiophenes	µg/kg	70300	64000	Yes
C1-Chrysenes	µg/kg	108000	112000	Yes
C2-Chrysenes	µg/kg	90100	152000	Yes
C3-Chrysenes	µg/kg	95900	126000	Yes
C4-Chrysenes	µg/kg	45800	42800	Yes
Benzo(a)fluoranthene	µg/kg	< 10000 U	< 10000 U	No
Benzo(e)pyrene	µg/kg	14000	15400	Yes
Perylene	µg/kg	10400	11500	Yes
Total PAHs	µg/kg	12194000	11873000	Yes
2,6-Dimethylnaphthalene	µg/kg	377000	363000	Yes
1,6,7-Trimethylnaphthalene	µg/kg	103000	103000	Yes
1-Methylfluorene	µg/kg	113000	112000	Yes
4-Methyldibenzothiophene	µg/kg	183000	190000	Yes
2/3-Methyldibenzothiophene	µg/kg	127000	125000	Yes
1-Methyldibenzothiophene	µg/kg	122000	120000	Yes
3-Methylphenanthrene	µg/kg	74200	76100	Yes
2-Methylphenanthrene	µg/kg	77700	77100	Yes
2-Methylanthracene	µg/kg	4200 J	4660 J	Yes
4/9-Methylphenanthrene	µg/kg	105000	104000	Yes
1-Methylphenanthrene	µg/kg	87100	84000	Yes
3,6-Dimethylphenanthrene	µg/kg	59700	62100	Yes
Retene	µg/kg	27600	27500	Yes
2-Methylfluoranthene	µg/kg	8950 J	8750 J	Yes
Benzo(b)fluorene	µg/kg	13200	14000	Yes
C29-Hopane	µg/kg	234000	259000	Yes
18a-Oleanane	µg/kg	< 10000 U	< 10000 U	No
C30-Hopane	µg/kg	296000	319000	Yes
C20-TAS	µg/kg	6980 J	8830 J	Yes
C21-TAS	µg/kg	8380 J	10000	Yes
C26(20S)-TAS	µg/kg	13000	14700	Yes
C26(20R)/C27 (20S)-TAS	µg/kg	40000	44800	Yes
C28(20S)-TAS	µg/kg	31900	35000	Yes
C27(20R)-TAS	µg/kg	30000	31900	Yes
C28(20R)-TAS	µg/kg	28700	28700	Yes
<b>TPH</b>				
Total Petroleum Hydrocarbons	mg/kg	362000	337000	Yes
Total Resolved Hydrocarbons	mg/kg	39600	32400	Yes
Unresolved Complex Mixture	mg/kg	323000	304000	Yes

**Table 5-1  
Crude Oil Sampling Results**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location Sample Date	Units	PR-MF-001 4/5/2013	PR-MF-002 4/5/2013	Is Analyte Detected in Crude Oil?
<b>Metals</b>				
Arsenic	mg/kg	0.361 J	1.02 J	Yes
Barium	mg/kg	0.108 J	0.145 J	Yes
Cadmium	mg/kg	< 0.500 U	< 0.500 U	No
Chromium	mg/kg	0.278 J	0.229 J	Yes
Lead	mg/kg	< 1.50 U	< 1.50 U	No
Mercury	mg/kg	< 0.288 UB	< 0.292 UB	No
Nickel	mg/kg	50.3	50.5	Yes
Selenium	mg/kg	1.82 J	2.66	Yes
Silver	mg/kg	0.600	0.613	Yes
Vanadium	mg/kg	122	123	Yes

**Notes:**

1. Two bulk samples of crude oil from the Pegasus pipeline were collected, along with samples split with USEPA on April 5, 2013. The VOCs and metals were analyzed by Lancaster Laboratories in Lancaster, PA. The PAHs and TPH were analyzed by B&B Laboratories in College Station, TX.

< = less than the limit of quantitation

CFC = chlorofluorocarbon

D = Compound was quantitated on a diluted sample.

DJ = Diluted sample result less than the calibration range.

EDB = ethylene dibromide

J = Compound was positively identified; however, the associated numerical value is an estimated concentration only.

MEK = methyl ethyl ketone

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram

MIBK = methyl isobutyl ketone

PAH = polycyclic aromatic hydrocarbon

R = The sample results are rejected.

TPH = total petroleum hydrocarbon

U = Compound was not detected.

UB = Compound was considered non-detect at the listed value due to associated blank contamination.

UJ = Compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

USEPA = U.S. Environmental Protection Agency

VOC = volatile organic compound

**Table 5-2  
Ecological Screening Values**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	CAS Number	Detected in Crude Oil?	Soil ESV <sup>1</sup>			Sediment ESV <sup>2</sup>			Surface Water ESV <sup>3</sup>		
			Value	Units	Source	Value	Units	Source	Value	Units	Source
<b>VOCs<sup>4</sup></b>											
1,2,4-Trimethylbenzene	95-63-6	Yes	–			–			33	µg/L	R3
1,3,5-Trimethylbenzene	108-67-8	Yes	–			–			71	µg/L	R3
2-Butanone (MEK)	78-93-3	No <sup>5</sup>	89600	µg/kg	R5	42.4	µg/kg	R5	14000	µg/L	R3
2-Phenylbutane	135-98-8	Yes	–			–			–		
Acetone	67-64-1	Yes	2500	µg/kg	R5	9.9	µg/kg	R5	1500	µg/L	R3
Benzene	71-43-2	Yes	10	µg/kg	R4	141.57	µg/kg	R5	53	µg/L	R4
Ethylbenzene	100-41-4	Yes	30	µg/kg	R4	1100	µg/kg	R3	453	µg/L	R4
Isopropylbenzene (Cumene)	98-82-8	Yes	–			86	µg/kg	R3	2.6	µg/L	R3
Methylene Chloride	75-09-2	No <sup>5</sup>	400	µg/kg	R4	159	µg/kg	R5	1930	µg/L	R4
n-Butylbenzene	104-51-8	Yes	–			–			–		
n-Propylbenzene	103-65-1	Yes	–			–			128	µg/L	R3
p-Isopropyltoluene (Cymene)	99-87-6	Yes	–			–			85	µg/L	R3
Toluene	108-88-3	Yes	10	µg/kg	R4	1220	µg/kg	R5	175	µg/L	R4
Trichloroethene	79-01-6	No <sup>5</sup>	100	µg/kg	R4	96.9	µg/kg	R3	21	µg/L	R3
Xylene (Total)	1330-20-7	Yes	100	µg/kg	R4	25.2	µg/kg	R3	13	µg/L	R3
<b>PAHs - Non-alkylated</b>											
Acenaphthene	83-32-9	Yes	–			330	µg/kg	R4	17	µg/L	R4
Acenaphthylene	208-96-8	Yes	–			330	µg/kg	R4	4840	µg/L	R5
Anthracene	120-12-7	No	–			330	µg/kg	R4	0.012	µg/L	R3
Benzo(a)anthracene	56-55-3	Yes	–			330	µg/kg	R4	0.018	µg/L	R3
Benzo(a)pyrene	50-32-8	Yes	–			330	µg/kg	R4	0.015	µg/L	R3
Benzo(a)Fluoranthene	203-33-8	Yes	–			330	µg/kg	R4	–		
Benzo(b)fluoranthene	30777-19-6	Yes	–			330	µg/kg	R4	9.07	µg/L	R5
Benzo(b)fluorene	205-99-2	Yes	–			330	µg/kg	R4	–		
Benzo(e)pyrene	192-97-2	Yes	–			–			–		
Benzo(g,h,i)perylene	191-24-2	Yes	–			330	µg/kg	R4	7.64	µg/L	R5
Benzo(k)fluoranthene ***	207-08-9	Yes	–			330	µg/kg	R4	–		
Chrysene ***	218-01-9	Yes	–			330	µg/kg	R4	–		
Dibenz(a,h)anthracene	53-70-3	No	–			330	µg/kg	R4	–		
Fluoranthene	206-44-0	Yes	–			330	µg/kg	R4	39.8	µg/L	R4
Fluorene	86-73-7	Yes	–			330	µg/kg	R4	3	µg/L	R3
Indeno[1,2,3-cd]pyrene	193-39-5	Yes	–			330	µg/kg	R4	4.31	µg/L	R5
Naphthalene	91-20-3	Yes	–			330	µg/kg	R4	62	µg/L	R4
Perylene	198-55-0	Yes	–			–			–		
Phenanthrene	85-01-8	Yes	–			330	µg/kg	R4	0.4	µg/L	R3
Pyrene	129-00-0	Yes	–			330	µg/kg	R4	0.025	µg/L	R3
<b>PAHs - Alkylated</b>											
1-Methylnaphthalene	90-12-0	Yes	–			330	µg/kg	R4	2.1	µg/L	R3
2-Methylnaphthalene	91-57-6	Yes	–			330	µg/kg	R4	4.7	µg/L	R3
C1-Chrysenes	–	Yes	–			–			–		
C1-Fluoranthenes/Pyrenes	–	Yes	–			–			–		
C1-Fluorenes	–	Yes	–			–			–		
C1-Phenanthrenes/Anthracenes	–	Yes	–			–			–		
C2-Benzanthrene/chrysenes	–	Yes	–			–			–		
C2-Fluoranthenes/Pyrenes	–	Yes	–			–			–		
C2-Fluorenes	–	Yes	–			–			–		
C2-Naphthalenes	–	Yes	–			–			–		
C2-Phenanthrenes/Anthracenes	–	Yes	–			–			–		
C3-Benzanthrene/chrysenes	–	Yes	–			–			–		
C3-Fluoranthenes/Pyrenes	–	Yes	–			–			–		
C3-Fluorenes	–	Yes	–			–			–		
C3-Naphthalenes	–	Yes	–			–			–		
C3-Phenanthrenes/Anthracenes	–	Yes	–			–			–		
C4-Benzanthrene/chrysenes	–	Yes	–			–			–		
C4-Fluoranthenes/Pyrenes	–	Yes	–			–			–		
C4-Naphthalenes	–	Yes	–			–			–		
C4-Phenanthrenes/Anthracenes	–	Yes	–			–			–		
Total HMW PAHs	–	--	1100	µg/kg	USEPA	655	µg/kg	R4	–		
Total LMW PAHs	–	--	29000	µg/kg	USEPA	330	µg/kg	R4	–		
Toxic Unit	–	--	–			1		USEPA	1		USEPA



**Table 5-2  
Ecological Screening Values**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	CAS Number	Detected in Crude Oil?	Soil ESV <sup>1</sup>			Sediment ESV <sup>2</sup>			Surface Water ESV <sup>3</sup>		
			Value	Units	Source	Value	Units	Source	Value	Units	Source
<b>Total Metals</b>											
Arsenic	7440-38-2	Yes	18	mg/kg	USEPA	7.24	mg/kg	R4	-		
Barium	7440-39-3	Yes	330	mg/kg	USEPA	-			-		
Cadmium	7440-43-9	No <sup>5</sup>	0.36	mg/kg	USEPA	1	mg/kg	R4	-		
Chromium	7440-47-3	Yes	26	mg/kg	USEPA	52.3	mg/kg	R4	-		
Lead	7439-92-1	No <sup>5</sup>	11	mg/kg	USEPA	30.2	mg/kg	R4	-		
Mercury	7439-97-6	Yes	0.1	mg/kg	R4	0.13	mg/kg	R4	-		
Nickel	7440-02-0	No <sup>5</sup>	38	mg/kg	USEPA	15.9	mg/kg	R4	-		
Selenium	7782-49-2	Yes	0.52	mg/kg	USEPA	2	mg/kg	R3	0.005	mg/L	USEPA
Silver	7440-22-4	Yes	4.2	mg/kg	USEPA	2	mg/kg	R4	-		
Vanadium	7440-62-2	Yes	7.8	mg/kg	USEPA	-			-		
<b>Dissolved Metals (Applicable to Surface Water only)</b>											
Arsenic - dissolved	7440-38-2		-			-			0.15	mg/L	USEPA
Barium - dissolved	7440-39-3		-			-			0.004	mg/L	R3
Cadmium - dissolved	7440-43-9		-			-			0.00037	mg/L	Reg 2
Chromium - dissolved	7440-47-3		-			-			0.0572	mg/L	Reg 2 *
Lead - dissolved	7439-92-1		-			-			0.00054	mg/L	Reg 2 *
Mercury - dissolved	7439-97-6		-			-			0.00077	mg/L	USEPA
Nickel - dissolved	7440-02-0		-			-			0.049	mg/L	Reg 2 *
Selenium - dissolved	7782-49-2		-			-			-		
Silver - dissolved	7440-22-4		-			-			0.0003	mg/L	Reg 2 *, **
Vanadium - dissolved	7440-62-2		-			-			0.02	mg/L	R3

**Table 5-2  
Ecological Screening Values**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

**Notes:**

1. Ecological soil screening levels were from the following sources in order of priority:  
USEPA Ecological Soil Screening Levels (EcoSSLs; USEPA 2005). The lowest value for all available endpoints was selected.  
Region 4 Ecological Screening Levels (R4; USEPA 2001).  
Region 5 Ecological Screening Levels (R5; USEPA 2003a).  
Others as described in Appendix I.
2. Ecological sediment screening levels were from the following sources in order of priority:  
Region 4 Ecological Screening Levels (R4; USEPA 2001).  
Region 3 Sediment Screening Levels (R3; USEPA 2006a).  
Region 5 Ecological Screening Levels (R5; USEPA 2003a).  
Others as described in Appendix I.  
TU based on USEPA (2003b). TU equal to 1 or less indicates that risk to benthic receptors is not likely. A TU above 1 indicates that more evaluation is necessary to evaluate potential risk to the benthic receptors.
3. Ecological surface water screening levels were from the following sources in order of priority:  
APCEC Reg. 2 (Reg 2; APCEC 2011)  
USEPA Freshwater Chronic Aquatic Life National Ambient Water Quality Criteria (USEPA 2013)  
Region 4 Ecological Screening Levels (R4; USEPA 2001).  
Region 3 Fresh Water Screening Levels (R3; USEPA 2006b).  
Region 5 Ecological Screening Levels (R5; USEPA 2003a).  
Others as described in Appendix I.  
TU based on USEPA (2003b). TU equal to 1 or less indicates that risk to benthic receptors is not likely. A TU above 1 indicates that more evaluation is necessary to evaluate potential risk to the benthic receptors.
4. Data for detected VOCs are presented in this table. Complete analytical data for VOCs are included in Appendix F.
5. Although these analytes were not detected in the crude oil, they were detected in the soil, sediment, and surface water sampling, and the respective ESVs are included in the report for completeness.

– = Not available or applicable

\* = hardness-adjusted criterion based on representative hardness value of 25 mg/L

\*\* = based on Acute Criteria, Criteria Maximum Concentration (USEPA 2006b)

\*\*\* = Chrysene is applied to chrysene/triphenylene and benzo(k)fluoranthene is applied to benzo(j)+(k)fluoranthene.

APCEC = Arkansas Pollution Control and Ecology Commission

CAS = Chemical Abstract Service

ESV = ecological screening value

HMW = high molecular weight

LMW = low molecular weight

MEK = methyl ethyl ketone

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

µg/kg = micrograms per kilogram

µg/L = micrograms per liter

PAH = polycyclic aromatic hydrocarbon

RCRA = Resource Conservation and Recovery Act

TU = toxic unit

VOC = volatile organic compound

USEPA = United States Environmental Protection Agency

**References:**

APCEC. 2011. Regulation No 0.2 (Reg 2) - Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas - adopted August 26, 2011.

na

Efroymsen, R., M. Will, and G. Suter II. 1997a. Toxicological Benchmarks for Contaminants of Potential Concern for Effects on Soil and Litter Invertebrates and Heterotrophic Processes: 1997 Revision. Oak Ridge National Laboratory, Oak Ridge TN. ES/ER/TM-126/R2.

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[http://www.esd.ornl.gov/programs/ecorisk/benchmark\\_reports.html](http://www.esd.ornl.gov/programs/ecorisk/benchmark_reports.html)

**Table 5-2  
Ecological Screening Values**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Talmage, S.S., D.M. Opresko, C.J. Maxwell, J.E. Welsh, M. Cretella, P.H. Reno, and F.B. Daniel. 1999. Nitroaromatic munition compounds: Environmental effects and screening values. *Reviews in Environmental Contamination and Toxicology*.

USEPA. 2001. Region IV Ecological Risk Assessment Bulletins – Supplement to RAGS. Available at: <http://www.epa.gov/region4/superfund/programs/riskassess/ecolbul.html>

USEPA. 2003a. Region V RCRA Corrective Action – Ecological Screening Benchmarks. Available at: <http://epa.gov/region05/waste/cars/pdfs/ecological-screening-levels-200308.pdf>

USEPA. 2003b. Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks for the Protection of Benthic Organisms: PAH Mixtures. Environmental Protection Agency, Office of Research and Development. EPA-600-R-02-013. November 2003.

USEPA. 2005. Guidance for Developing Ecological Soil Screening Levels. Available at <http://www.epa.gov/ecotox/ecoss/SOPs.htm>

USEPA. 2006a; 2006b. Region III Ecological Screening Benchmarks. Available at: <http://epa.gov/reg3hscd/risk/eco/index.htm>

USEPA. 2013. National Recommended Water Quality Criteria. Available at: <http://water.epa.gov/scitech/swguidance/standards/criteria/index.cfm>

**Table 5-3**  
**List of Individual PAHs Used in Total PAH Summations**

**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

PAH Analyte	CAS Number	Total PAHs (Long List)	Total PAHs (Priority+2 List)	PAHs used in TU Calculations
<b>Non-alkylated</b>				
Acenaphthene	83-32-9	LMW	LMW	Yes
Acenaphthylene	208-96-8	LMW	LMW	Yes
Anthracene	120-12-7	LMW	LMW	Yes
Benzo(a)anthracene	56-55-3	HMW	HMW	Yes
Benzo(a)pyrene	50-32-8	HMW	HMW	Yes
Benzo(a)Fluoranthene *	203-33-8	HMW	--	No
Benzo(b)fluorene *	30777-19-6	LMW	--	No
Benzo(b)fluoranthene	205-99-2	HMW	HMW	Yes
Benzo(e)pyrene	192-97-2	HMW	--	Yes
Benzo(g,h,i)perylene	191-24-2	HMW	HMW	Yes
Benzo(k)fluoranthene **	207-08-9	HMW	HMW	Yes
Chrysene **	218-01-9	HMW	HMW	Yes
Dibenz(a,h)anthracene	53-70-3	HMW	HMW	Yes
Fluoranthene	206-44-0	HMW	HMW	Yes
Fluorene	86-73-7	LMW	LMW	Yes
Indeno[1,2,3-cd]pyrene	193-39-5	HMW	HMW	Yes
Naphthalene	91-20-3	LMW	LMW	Yes
Perylene	198-55-0	HMW	--	Yes
Phenanthrene	85-01-8	LMW	LMW	Yes
Pyrene	129-00-0	HMW	HMW	Yes
<b>Alkylated</b>				
1-Methylnaphthalene	90-12-0	LMW	LMW	Yes
2-Methylnaphthalene	91-57-6	LMW	LMW	Yes
C1-Chrysenes	--	HMW	--	Yes
C1-Fluoranthenes/Pyrenes	--	HMW	--	Yes
C1-Fluorenes	--	LMW	--	Yes
C1-Phenanthrenes/Anthracenes	--	LMW	--	Yes
C2-Benzanthrene/chrysenes	--	HMW	--	Yes
C2-Fluoranthenes/Pyrenes	--	HMW	--	No
C2-Fluorenes	--	LMW	--	Yes
C2-Naphthalenes	--	LMW	--	Yes
C2-Phenanthrenes/Anthracenes	--	LMW	--	Yes
C3-Benzanthrene/chrysenes	--	HMW	--	Yes
C3-Fluoranthenes/Pyrenes	--	HMW	--	No
C3-Fluorenes	--	LMW	--	Yes
C3-Naphthalenes	--	LMW	--	Yes
C3-Phenanthrenes/Anthracenes	--	LMW	--	Yes
C4-Benzanthrene/chrysenes	--	HMW	--	Yes
C4-Fluoranthenes/Pyrenes	--	HMW	--	No
C4-Naphthalenes	--	LMW	--	Yes
C4-Phenanthrenes/Anthracenes	--	LMW	--	Yes

**Notes:**

-- = not available or not applicable

\* = Analyte not analyzed in soil and subsurface sediment samples, and therefore are not included in the summations for those samples.

\*\* = Chrysene is applied to chrysene/triphenylene and benzo(k)fluoranthene is applied to benzo(j)+(k)fluoranthene.

LMW = low molecular weight                      CAS = Chemical Abstract Service

HMW = high molecular weight

PAH = polycyclic aromatic hydrocarbons

TU = Toxic unit

**Table 5-4**  
**Arkansas Background Soil and Sediment Data**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Parameter	Units	Number of Detects	Total Samples	Frequency of Detect	Minimum	Maximum	Average	Median	99 <sup>th</sup> Percentile	Goodness of Fit - Distribution	95% UTL (with 90% Coverage)
<b>Soil</b>											
Arsenic	mg/kg	347	347	100%	0.8	38.1	6.4	5.7	16.2	Gamma	14
Barium	mg/kg	347	347	100%	117	2820	507	518	791	Nonparametric	753
Chromium	mg/kg	347	347	100%	3.0	775	32.4	28.0	76.5	Nonparametric	69
Lead	mg/kg	347	347	100%	6.0	62.0	16.5	15.0	38.5	Nonparametric	29
Mercury	mg/kg	347	347	100%	0.02	0.09	0.03	0.03	0.08	Nonparametric	0.06
Nickel	mg/kg	231	347	67%	4.0	539	19.4	15.0	67.6	Nonparametric	40
Selenium	mg/kg	217	347	63%	0.2	11.7	0.4	0.3	1.8	Nonparametric	1.7
Vanadium	mg/kg	347	347	100%	13.0	217	62.5	53.0	161	Nonparametric	146
<b>Sediment</b>											
Arsenic	mg/kg	605	605	100%	0.7	52.3	6.4	4.9	26.6	Lognormal	14
Barium	mg/kg	605	605	100%	19.0	12330	298	244	785	Lognormal	558
Chromium	mg/kg	602	605	100%	2.0	203	38.0	30.0	133	Nonparametric	80
Lead	mg/kg	583	605	96%	4.0	1250	22.0	14.0	118.9	Nonparametric	36
Mercury	mg/kg	387	549	71%	0.02	5.55	0.08	0.03	0.22	Nonparametric	0.07
Nickel	mg/kg	535	605	88%	3.0	150	16.9	11.0	51.0	Nonparametric	35
Selenium	mg/kg	419	605	69%	0.2	5.4	0.5	0.3	1.5	Nonparametric	0.7
Vanadium	mg/kg	605	605	100%	4.0	196	46.4	39.0	158	Nonparametric	88

**Notes:**

1. Arkansas background data are not available for cadmium and silver

mg/kg = milligrams per kilogram

UTL = upper tolerance limit

**Table 5-5  
Comparison of Metals Concentrations in Crude Oil to Arkansas Background**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

<b>Parameter</b>	<b>Units</b>	<b>Arkansas Background (95% UTL)</b>	<b>Range of Concentrations in Crude Oil</b>	<b>Was analyte detected in crude oil above Arkansas background?</b>
<b>Soil</b>				
Arsenic	mg/kg	14	0.361 J - 1.02 J	No
Barium	mg/kg	753	0.108 J - 0.145 J	No
Cadmium	mg/kg	--	< 0.500 U	No
Chromium	mg/kg	69	0.229 J - 0.278 J	No
Lead	mg/kg	29	< 1.50 U	No
Mercury	mg/kg	0.06	<0.228 UB	No
Nickel	mg/kg	40	50.3 - 50.5	<b>Yes</b>
Selenium	mg/kg	1.7	1.82 J - 2.66	<b>Yes</b>
Silver	mg/kg	--	0.600 - 0.613	<b>Yes</b>
Vanadium	mg/kg	146	122 -123	No
<b>Sediment</b>				
Arsenic	mg/kg	14	0.361 J - 1.02 J	No
Barium	mg/kg	558	0.108 J - 0.145 J	No
Cadmium	mg/kg	--	< 0.500 U	No
Chromium	mg/kg	80	0.229 J - 0.278 J	No
Lead	mg/kg	36	< 1.50 U	No
Mercury	mg/kg	0.07	<0.228 UB	No
Nickel	mg/kg	35	50.3 - 50.5	<b>Yes</b>
Selenium	mg/kg	0.7	1.82 J - 2.66	<b>Yes</b>
Silver	mg/kg	--	0.600 - 0.613	<b>Yes</b>
Vanadium	mg/kg	88	122 -123	<b>Yes</b>

**Notes:**

-- = Arkansas 95% UTL not available for this analyte

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

mg/kg = milligrams per kilogram

UTL = upper tolerance limit

**Table 5-6  
Summary of Site Background Soil and Sediment Data**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte <sup>1</sup>	Units	Site Background Soil Data			Site Drainage Way Background Sediment Data			Site Lake Conway Background Sediment Data		
		Frequency of Detection	Range of Detected Values	Number Above ESV	Frequency of Detection	Range of Detected Values	Number Above ESV	Frequency of Detection	Range of Detected Values	Number Above ESV
<b>VOCs<sup>2</sup></b>										
2-Butanone	µg/kg	4/6 (67%)	8 - 16	0	4/6 (67%)	5.00 - 12.0	0	1/6 (17%)	17.0 - 17.0	0
Acetone	µg/kg	6/6 (100%)	48 - 170	0	6/6 (100%)	66 - 120	6	6/6 (100%)	33.0 - 100	6
Trichloroethene	µg/kg	5/6 (83%)	2 - 4	0	3/6 (50%)	2.00 - 2.00	0	1/6 (17%)	9.00 - 9.00	0
<b>PAH - Non-alkylated</b>										
Acenaphthene	µg/kg	6/6 (100%)	0.335 - 1.96	--	5/6 (83%)	0.300 - 27.1	0	6/6 (100%)	1.55 - 3.84	0
Acenaphthylene	µg/kg	6/6 (100%)	0.565 - 14.2	--	6/6 (100%)	0.376 - 259	0	6/6 (100%)	2.88 - 19.2	0
Anthracene	µg/kg	6/6 (100%)	0.726 - 18.5	--	5/6 (83%)	1.70 - 264	0	6/6 (100%)	6.99 - 30.3	0
Benzo(a)Anthracene	µg/kg	6/6 (100%)	0.858 - 51.3	--	6/6 (100%)	0.185 - 687	1	6/6 (100%)	9.46 - 49.6	0
Benzo(a)Pyrene	µg/kg	6/6 (100%)	0.697 - 36.5	--	6/6 (100%)	0.153 - 1448	1	6/6 (100%)	5.27 - 57.9	0
Benzo(a)Fluoranthene	µg/kg	6/6 (100%)	0.287 - 12.4	0	5/6 (83%)	1.72 - 154	0	6/6 (100%)	5.04 - 16.9	0
Benzo(b)Fluoranthene	µg/kg	6/6 (100%)	3.63 - 139	--	5/6 (83%)	0.682 - 4060	3	6/6 (100%)	21.3 - 169	5
Benzo(b)Fluorene	µg/kg	6/6 (100%)	0.535 - 4.24	0	6/6 (100%)	0.082 - 158	0	6/6 (100%)	5.39 - 37.1	0
Benzo(e)Pyrene	µg/kg	6/6 (100%)	1.92 - 66.3	--	6/6 (100%)	0.362 - 1899	--	6/6 (100%)	9.6 - 78.6	--
Benzo(g,h,i)Perylene	µg/kg	6/6 (100%)	1.75 - 52.1	--	6/6 (100%)	0.316 - 2121	2	6/6 (100%)	5.84 - 74.2	0
Benzo(j)+(k)Fluoranthene	µg/kg	6/6 (100%)	0.731 - 52.4	--	6/6 (100%)	0.243 - 1409	--	6/6 (100%)	4.78 - 40.9	--
Chrysene	µg/kg	6/6 (100%)	2.78 - 86.2	--	6/6 (100%)	0.438 - 2601	--	6/6 (100%)	16.7 - 109	--
Dibenz(a,h)Anthracene	µg/kg	5/6 (83%)	1.2 - 17	--	6/6 (100%)	0.1 - 441	1	6/6 (100%)	2.04 - 10.9	0
Fluoranthene	µg/kg	6/6 (100%)	2.8 - 98.5	--	6/6 (100%)	1.65 - 2671	2	6/6 (100%)	28.5 - 200	0
Fluorene	µg/kg	6/6 (100%)	2.68 - 9.17	--	6/6 (100%)	2.47 - 41.2	0	6/6 (100%)	10.2 - 21.3	0
Indeno[1,2,3-cd]pyrene	µg/kg	6/6 (100%)	1.25 - 47.1	--	6/6 (100%)	0.321 - 1878	3	6/6 (100%)	5.2 - 41	3
Naphthalene	µg/kg	6/6 (100%)	1.92 - 14.9	--	6/6 (100%)	2.13 - 39.8	0	6/6 (100%)	6.08 - 15.3	0
Perylene	µg/kg	5/6 (83%)	0.676 - 5.55	--	4/6 (67%)	0.452 - 254	--	6/6 (100%)	54.8 - 753	--
Phenanthrene	µg/kg	6/6 (100%)	8.27 - 42.2	--	6/6 (100%)	9.05 - 966	1	6/6 (100%)	29.8 - 106	0
Pyrene	µg/kg	6/6 (100%)	2.34 - 72.2	--	6/6 (100%)	0.585 - 2201	2	6/6 (100%)	24.5 - 192	0
Total HMW PAHs (Priority+2 List)	µg/kg	--	--	--	6/6 (100%)	4.67 - 19500	3	6/6 (100%)	124 - 901	1
Total LMW PAHs (Priority+2 List)	µg/kg	--	--	--	6/6 (100%)	19 - 1190	2	6/6 (100%)	67.1 - 182	0
<b>PAH - Alkylated</b>										
1-Methylnaphthalene	µg/kg	6/6 (100%)	1.09 - 10.7	--	6/6 (100%)	1.21 - 11.6	0	6/6 (100%)	2.61 - 6.92	0
2-Methylnaphthalene	µg/kg	6/6 (100%)	2.73 - 15.8	--	6/6 (100%)	2.41 - 22.8	0	6/6 (100%)	6.82 - 19.1	0
C1-Benzanthrene/chrysenes	µg/kg	5/6 (83%)	2.37 - 37.4	--	5/6 (83%)	3.98 - 527	--	6/6 (100%)	24.2 - 147	--
C1-Fluoranthenes/Pyrenes	µg/kg	6/6 (100%)	3.56 - 38.5	--	6/6 (100%)	0.931 - 705	--	6/6 (100%)	18.8 - 175	--

**Table 5-6  
Summary of Site Background Soil and Sediment Data**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte <sup>1</sup>	Units	Site Background Soil Data			Site Drainage Way Background Sediment Data			Site Lake Conway Background Sediment Data		
		Frequency of Detection	Range of Detected Values	Number Above ESV	Frequency of Detection	Range of Detected Values	Number Above ESV	Frequency of Detection	Range of Detected Values	Number Above ESV
C1-Fluorenes	µg/kg	6/6 (100%)	2.34 - 4.14	--	4/6 (67%)	0.189 - 15.0	--	6/6 (100%)	5.51 - 24.2	--
C1-Phenanthrenes/Anthracenes	µg/kg	6/6 (100%)	7.36 - 37.7	--	6/6 (100%)	4.66 - 219	--	6/6 (100%)	17 - 77.3	--
C2-Benzanthrene/chrysenes	µg/kg	5/6 (83%)	2.42 - 20	--	5/6 (83%)	3.84 - 225	--	6/6 (100%)	9.2 - 80.9	--
C2-Fluorenes	µg/kg	3/6 (50%)	5.24 - 14.2	--	1/6 (17%)	30.1 - 30.1	--	6/6 (100%)	13.6 - 69.3	--
C2-Naphthalenes	µg/kg	6/6 (100%)	5.87 - 29.9	--	6/6 (100%)	4.23 - 34.5	--	5/6 (83%)	9.95 - 47.9	--
C2-Phenanthrenes/Anthracenes	µg/kg	6/6 (100%)	7.61 - 32.5	--	5/6 (83%)	10.3 - 128	--	6/6 (100%)	21 - 154	--
C3-Benzanthrene/chrysenes	µg/kg	2/6 (33%)	2.75 - 13.2	--	3/6 (50%)	2.84 - 107	--	6/6 (100%)	5.24 - 43.6	--
C3-Fluorenes	µg/kg	3/6 (50%)	8.36 - 25	--	1/6 (17%)	38.5 - 38.5	--	5/6 (83%)	14.6 - 161	--
C3-Naphthalenes	µg/kg	6/6 (100%)	7.85 - 29	--	6/6 (100%)	2.63 - 26.6	--	5/6 (83%)	16.2 - 58.4	--
C3-Phenanthrenes/Anthracenes	µg/kg	6/6 (100%)	4.2 - 23	--	4/6 (67%)	6.11 - 94.4	--	6/6 (100%)	22.6 - 270	--
C4-Benzanthrene/chrysenes	µg/kg	1/6 (17%)	7.75 - 7.75	--	1/6 (17%)	50.1 - 50.1	--	4/6 (67%)	8.45 - 20.5	--
C4-Naphthalenes	µg/kg	6/6 (100%)	5.92 - 17.9	--	5/6 (83%)	2.64 - 19.5	--	5/6 (83%)	11.5 - 88.8	--
C4-Phenanthrenes/Anthracenes	µg/kg	5/6 (83%)	2.1 - 17.2	--	3/6 (50%)	3.44 - 68.7	--	5/6 (83%)	22.7 - 310	--
Total HMW PAHs (Long List)	µg/kg	6/6 (100%)	31.8 - 982	0	6/6 (100%)	6.41 - 24800	3	6/6 (100%)	543 - 2130	5
Total LMW PAHs (Long List)	µg/kg	6/6 (100%)	66.2 - 351	0	6/6 (100%)	34.7 - 1820	2	6/6 (100%)	222 - 1430	4
Total PAH Toxic Unit	unitless	--	--	--	--	0.02 - 1	0	--	0.04 - 0.1	0
<b>TPH</b>										
Total Petroleum Hydrocarbons	mg/kg	--	--	--	6/6 (100%)	15 - 454	--	6/6 (100%)	300 - 1051	--
Total Resolvable Hydrocarbons	mg/kg	--	--	--	6/6 (100%)	12 - 106	--	6/6 (100%)	140 - 315	--
Unresolved Complex Mixture	mg/kg	--	--	--	6/6 (100%)	3 - 377	--	6/6 (100%)	160 - 813	--
<b>Metals</b>										
Arsenic	mg/kg	6/6 (100%)	3.68 - 17.3	0	6/6 (100%)	5.41 - 39.8	4	6/6 (100%)	3.6 - 7.18	0
Barium	mg/kg	6/6 (100%)	63.7 - 125	0	6/6 (100%)	68.8 - 384	--	6/6 (100%)	90.8 - 174	--
Cadmium	mg/kg	5/6 (83%)	0.173 - 0.313	0	2/6 (33%)	0.105 - 0.318	0	6/6 (100%)	0.25 - 0.662	0
Chromium	mg/kg	6/6 (100%)	15.3 - 42.8	3	6/6 (100%)	15.5 - 34.8	0	6/6 (100%)	18 - 103	1
Lead	mg/kg	6/6 (100%)	10.9 - 115	5	6/6 (100%)	15.6 - 59.5	1	6/6 (100%)	18 - 55.5	5
Mercury	mg/kg	6/6 (100%)	0.0125 - 0.0724	0	5/6 (83%)	0.0107 - 0.0605	0	6/6 (100%)	0.0551 - 0.204	3
Nickel	mg/kg	6/6 (100%)	7.93 - 50.9	1	6/6 (100%)	6.58 - 52.8	1	6/6 (100%)	17.8 - 66.2	6
Selenium	mg/kg	4/6 (67%)	1.13 - 2.5	4	3/6 (50%)	1.05 - 1.81	0	0/6 (0%)	--	0
Silver	mg/kg	4/6 (67%)	0.219 - 0.709	0	2/6 (33%)	0.259 - 0.269	0	3/6 (50%)	0.679 - 1.33	0
Vanadium	mg/kg	6/6 (100%)	20.9 - 33.4	6	6/6 (100%)	20.5 - 47.6	--	6/6 (100%)	19 - 46.2	--



**Table 5-6  
Summary of Site Background Soil and Sediment Data**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte <sup>1</sup>	Units	Site Background Soil Data			Site Drainage Way Background Sediment Data			Site Lake Conway Background Sediment Data		
		Frequency of Detection	Range of Detected Values	Number Above ESV	Frequency of Detection	Range of Detected Values	Number Above ESV	Frequency of Detection	Range of Detected Values	Number Above ESV
<b>Grain Size</b>										
Gravel	%	--	0.10 - 27	--	--	0 - 12	--	--	0	--
Sand	%	--	8.9 - 56	--	--	1.1 - 33	--	--	2.4 - 29	--
Fines	%	--	17 - 91	--	--	55 - 99	--	--	71 - 98	--
<b>Other</b>										
Black Carbon	%	2/6 (33%)	0.18 - 0.48	--	2/6 (33%)	0.220 - 1.22	--	1/6 (17%)	0.220 - 0.220	--
Percent Moisture	%	6/6 (100%)	14.8 - 30.4	--	6/6 (100%)	11.7 - 27.1	--	6/6 (100%)	35.4 - 55.1	--
Total Organic Carbon	%	6/6 (100%)	0.53 - 2.39	--	6/6 (100%)	0.310 - 4.27	--	6/6 (100%)	1.86 - 4.18	--

**Notes:**

<sup>1</sup> Duplicate samples were not included in this analysis.

<sup>2</sup> Data for detected VOCs are presented in this table. Complete analytical data for VOCs are included in Appendix F.

-- = not applicable

% = percent

ESV = ecological screening value

HMW = high molecular weight

LMW = low molecular weight

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram

PAH = polycyclic aromatic hydrocarbon

TPH = total petroleum hydrocarbon

VOC = volatile organic compound

**Table 6-1  
Surface Soil Grain Size Summary**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location ID	Fine Grain Material Fraction (%)	Sand Fraction (%)	Gravel Fraction (%)
<b>Drainage Ways</b>			
SO-DA-001	70.2	22	7.8
SO-DA-002	58.3	37.6	4.1
SO-DA-003	58	38.5	3.5
SO-DA-004	59.3	27.2	13.5
SO-DA-005	83.4	15.1	1.5
SO-DA-006	76.9	20	3.1
SO-DA-007	71.9	27.3	0.8
SO-DA-008	83.3	16.6	0.1
SO-DA-009	76.3	22.8	0.9
SO-DA-010	90.2	9.8	0
SO-DA-011	85.6	14.3	0.1
SO-DA-012	67.9	32.1	0
SO-DA-013	72.8	27.1	0.1
SO-DA-014	79.4	20.6	0
SO-DA-015	75.2	24.7	0.1
<b>Dawson Cove</b>			
SO-DA-016	78.9	21	0.1
SO-DA-017	90.2	9.7	0.1
SO-DA-018	89.6	9.3	1.1
SO-DA-019	91.7	8.1	0.2
SO-DA-020	96.8	3.2	0
SO-DA-021	89.1	10.9	0
SO-DA-022	91.5	8.4	0.1
SO-DA-023	94.9	5.1	0
SO-DA-024	79.2	20.4	0.4
SO-DA-025	94.6	4.9	0.5
SO-DA-026	97.4	2.6	0
SO-DA-027	83.5	16.5	0
SO-DA-028	94.4	5.2	0.4
SO-DA-029	95	4.9	0.1
SO-DA-032	94.1	5.9	0

**Notes:**

1. All grain size samples collected from the surface (0- to 0.5-foot interval).
  2. Unified Soil Classification System Definitions:
    - Gravel: Material retained on the No. 4 sieve (greater than 4.75 mm).
    - Sand: Material passing No. 4 sieve and retained on the No. 200 sieve (less than 4.75 mm and greater than 75 microns).
    - Fine Material: Material passing the No. 200 sieve (less than 75 microns).
- % = percent  
mm = millimeters









**Table 6-2  
Soil Sampling Results in Drainage Ways**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

**Notes:**

1. For analytes that were detected in soil samples collected under the Downstream Areas Remedial Sampling Plan (ARCADIS 2013), but were not detected in crude oil samples, the data and associated ESVs are presented, if available, for completeness; however, the analytes were not evaluated further. In addition, only the PAHs associated with the risk screening (as discussed in Section 5) are presented in this table. Complete analytical data are included in Appendix F.
2. As discussed in Section 5, analytes screened against the ESVs, and are screened further if the analyte is associated with the crude oil at concentrations that could have resulted in the observed concentrations in soil and sediment.

The following screening is utilized:

**Bold** = Analyte above the soil ESV but not highlighted due to one of the following reasons (1) the analyte was not detected in the crude oil, (2) the analyte was detected in crude oil at concentrations below the Arkansas soil background values (metals only), or (3) the analyte was not detected above the Arkansas soil background.

**Highlight** = Analyte above the Arkansas background value (metals only) and the soil ESV

3. Table 5-4 lists the Arkansas background soil values based on 95% upper tolerance level concentrations; an Arkansas background soil value was not available for cadmium or silver.
4. Table 5-2 lists the available soil ESVs.
5. Table 5-6 lists the maximum concentration detected in the site background soil samples. The maximum concentrations are shown for comparison only.
6. Table 5-3 describes the summations of total HMW PAHs (Long List) and total LMW PAHs (Long List).

**Acronyms and Abbreviations:**

-- = not available or not applicable

AR Soil Bkg = Arkansas background soil value (95% UTL)

ESV = ecological screening value

ft = foot/feet

HMW = high molecular weight

LMW = low molecular weight

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

NA = not analyzed

PAH = polycyclic aromatic hydrocarbon

Site Soil Bkg (Max) = maximum detects from the site background soil data

VOC = volatile organic compound

**Laboratory Data Qualifiers:**

< = less than the reporting limit

E = Concentration exceeds the calibration range of the instrument (organic); estimate due to interference (inorganic).

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

R = The sample results are rejected.

U = Compound was not detected.

UB = Compound considered non-detect at the listed value due to associated blank contamination.

UJ = The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

**Reference:**

ARCADIS. 2013. Downstream Areas Remedial Sampling Plan. Mayflower Pipeline Incident, Mayflower, Arkansas. July.













**Table 6-3  
Soil Sampling Results in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

**Notes:**

1. For analytes that were detected in soil samples collected under the Downstream Areas Remedial Sampling Plan (ARCADIS 2013), but were not detected in crude oil samples, the data and associated ESVs are presented, if available, for completeness; however, the analytes were not evaluated further. In addition, only the PAHs associated with the risk screening (as discussed in Section 5) are presented in this table. Complete analytical data are included in Appendix F.
2. As discussed in Section 5, analytes are screened further if the analyte is associated with the crude oil at concentrations that could have resulted in the observed concentrations in soil and sediment. The following screening is utilized:
  - Bold** = Analyte above the soil ESV but not highlighted due to one of the following reasons (1) the analyte was not detected in the crude oil, (2) the analyte was detected in crude oil at concentrations below the Arkansas soil background values (metals only), or (3) the analyte was not detected above the Arkansas soil background.
  - Highlight** = Analyte above the Arkansas background value (metals only) and the soil ESV.
3. Table 5-4 lists the Arkansas background soil values based on 95% upper tolerance level concentrations; an Arkansas background soil value was not available for cadmium or silver.
4. Table 5-2 lists the available soil ESVs.
5. Table 5-6 lists the maximum concentration detected in the site background soil samples. The maximum concentrations are shown for comparison only.
6. Table 5-3 describes the summations of total HMW PAHs (Long List) and total LMW PAHs (Long List).
7. The TU calculation was completed only for the surface samples (0 to 0.5 ft below ground surface) for the six soil locations in the "Transitional Area" for comparison to sediment screening values. The six soil locations include SO-DA-023, SO-DA-025, SO-DA-026, SO-DA-027, SO-DA-028, and SO-DA-029.

**Acronyms and Abbreviations:**

-- = not available or not applicable  
AR Soil Bkg = Arkansas background soil value (95% UTL)  
ESV = ecological screening value  
ft = foot/feet  
HMW = high molecular weight  
LMW = low molecular weight  
µg/kg = micrograms per kilogram  
mg/kg = milligrams per kilogram  
NA = not analyzed  
PAH = polycyclic aromatic hydrocarbon  
Site Soil Bkg (Max) = maximum detects from the site background soil data  
TU = toxic unit  
VOC = volatile organic compound

**Laboratory Data Qualifiers:**

< = less than the reporting limit  
E = Concentration exceeds the calibration range of the instrument (organic); estimate due to interference (inorganic).  
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.  
R = The sample results are rejected.  
U = Compound was not detected.  
UB = Compound considered non-detect at the listed value due to associated blank contamination.  
UJ = The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

**Reference:**

ARCADIS. 2013. Downstream Areas Remedial Sampling Plan. Mayflower Pipeline Incident, Mayflower, Arkansas. July.

**Table 6-4**  
**Soil Sampling Statistics in Drainage Ways**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte <sup>1</sup>	Units	Frequency of Detection	Range of Detected Values	Maximum Detect Location	ESV	Numbers Above ESV	Site Background Maximum	Number Above Site Background Maximum
<b>VOCs</b>								
Benzene	µg/kg	3/45 (7%)	0.6 - 34	SO-DA-015(0.0-0.5)	10	1	ND	--
Isopropylbenzene (Cumene)	µg/kg	3/45 (7%)	3 - 620	SO-DA-015(0.0-0.5)	--	--	ND	--
p-Isopropyltoluene (Cymene)	µg/kg	4/45 (9%)	5 - 120	SO-DA-015(0.0-0.5)	--	--	ND	--
Toluene	µg/kg	6/45 (13%)	1 - 5	SO-DA-015(0.5-1.0)	10	0	ND	--
<b>PAHs - Non-alkylated</b>								
Acenaphthene	µg/kg	34/45 (76%)	0.039 - 9.5	SO-DA-003(0.5-1.0)	--	--	--	--
Acenaphthylene	µg/kg	41/45 (91%)	0.052 - 25.4	SO-DA-005(0.5-1.0)	--	--	--	--
Anthracene	µg/kg	36/45 (80%)	0.035 - 53.8	SO-DA-005(0.5-1.0)	--	--	--	--
Benzo(a)Anthracene	µg/kg	41/45 (91%)	0.087 - 68.5	SO-DA-003(0.5-1.0)	--	--	--	--
Benzo(a)Pyrene	µg/kg	37/45 (82%)	0.041 - 43.7	SO-DA-003(0.0-0.5)	--	--	--	--
Benzo(b)Fluoranthene	µg/kg	39/45 (87%)	0.203 - 153	SO-DA-005(0.5-1.0)	--	--	--	--
Benzo(e)Pyrene	µg/kg	39/45 (87%)	0.134 - 77.9	SO-DA-003(0.0-0.5)	--	--	--	--
Benzo(g,h,i)Perylene	µg/kg	39/45 (87%)	0.05 - 59	SO-DA-003(0.0-0.5)	--	--	--	--
Benzo(j)+(k)Fluoranthene	µg/kg	39/45 (87%)	0.061 - 54.5	SO-DA-005(0.5-1.0)	--	--	--	--
Chrysene/Triphenylene	µg/kg	41/45 (91%)	0.11 - 99.4	SO-DA-005(0.5-1.0)	--	--	--	--
Dibenz(a,h)Anthracene	µg/kg	39/45 (87%)	0.021 - 13.4	SO-DA-005(0.5-1.0)	--	--	--	--
Fluoranthene	µg/kg	43/45 (96%)	0.462 - 179	SO-DA-003(0.5-1.0)	--	--	--	--
Fluorene	µg/kg	44/45 (98%)	0.759 - 20	SO-DA-002(0.5-1.0)	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/kg	38/45 (84%)	0.063 - 33.2	SO-DA-005(0.5-1.0)	--	--	--	--
Naphthalene	µg/kg	44/45 (98%)	0.648 - 27.7	SO-DA-004(0.5-1.0)	--	--	--	--
Perylene	µg/kg	42/45 (93%)	0.028 - 20.8	SO-DA-003(0.0-0.5)	--	--	--	--
Phenanthrene	µg/kg	45/45 (100%)	2.26 - 169	SO-DA-003(0.5-1.0)	--	--	--	--
Pyrene	µg/kg	36/45 (80%)	0.159 - 127	SO-DA-003(0.5-1.0)	--	--	--	--
<b>PAHs - Alkylated</b>								
1-Methylnaphthalene	µg/kg	45/45 (100%)	0.183 - 17.8	SO-DA-004(0.5-1.0)	--	--	--	--
2-Methylnaphthalene	µg/kg	45/45 (100%)	0.451 - 27.5	SO-DA-004(0.5-1.0)	--	--	--	--
C1-Chrysenes	µg/kg	36/45 (80%)	0.111 - 184	SO-DA-005(0.0-0.5)	--	--	--	--
C1-Fluoranthenes/Pyrenes	µg/kg	36/45 (80%)	0.167 - 182	SO-DA-003(0.0-0.5)	--	--	--	--
C1-Fluorenes	µg/kg	43/45 (96%)	0.258 - 38.1	SO-DA-003(0.0-0.5)	--	--	--	--
C1-Phenanthrenes/Anthracenes	µg/kg	37/45 (82%)	3.52 - 115	SO-DA-005(0.0-0.5)	--	--	--	--
C2-Chrysenes	µg/kg	32/45 (71%)	0.092 - 244	SO-DA-005(0.0-0.5)	--	--	--	--
C2-Fluoranthenes/Pyrenes	µg/kg	34/45 (76%)	0.117 - 318	SO-DA-003(0.0-0.5)	--	--	--	--

**Table 6-4**  
**Soil Sampling Statistics in Drainage Ways**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte <sup>1</sup>	Units	Frequency of Detection	Range of Detected Values	Maximum Detect Location	ESV	Numbers Above ESV	Site Background Maximum	Number Above Site Background Maximum	
C2-Fluorenes	µg/kg	13/45 (29%)	2.2 - 77.3	SO-DA-005(0.0-0.5)	--	--	--	--	
C2-Naphthalenes	µg/kg	45/45 (100%)	0.704 - 74.4	SO-DA-003(0.0-0.5)	--	--	--	--	
C2-Phenanthrenes/Anthracenes	µg/kg	30/45 (67%)	5.99 - 306	SO-DA-005(0.0-0.5)	--	--	--	--	
C3-Chrysenes	µg/kg	30/45 (67%)	0.071 - 183	SO-DA-003(0.0-0.5)	--	--	--	--	
C3-Fluoranthenes/Pyrenes	µg/kg	31/45 (69%)	0.138 - 254	SO-DA-003(0.0-0.5)	--	--	--	--	
C3-Fluorenes	µg/kg	13/45 (29%)	1.31 - 277	SO-DA-005(0.0-0.5)	--	--	--	--	
C3-Naphthalenes	µg/kg	44/45 (98%)	0.99 - 196	SO-DA-003(0.0-0.5)	--	--	--	--	
C3-Phenanthrenes/Anthracenes	µg/kg	27/45 (60%)	2.82 - 445	SO-DA-003(0.0-0.5)	--	--	--	--	
C4-Chrysenes	µg/kg	17/45 (38%)	1.05 - 107	SO-DA-003(0.0-0.5)	--	--	--	--	
C4-Fluoranthenes/Pyrenes	µg/kg	24/45 (53%)	0.114 - 261	SO-DA-003(0.0-0.5)	--	--	--	--	
C4-Naphthalenes	µg/kg	24/45 (53%)	1.59 - 350	SO-DA-003(0.0-0.5)	--	--	--	--	
C4-Phenanthrenes/Anthracenes	µg/kg	25/45 (56%)	1.57 - 430	SO-DA-003(0.0-0.5)	--	--	--	--	
Total HMW PAHs (Long List)	µg/kg	45/45 (100%)	0 - 2280	SO-DA-003(0.0-0.5)	1100	2	982	3	
Total LMW PAHs (Long List)	µg/kg	45/45 (100%)	5.95 - 2010	SO-DA-003(0.0-0.5)	29000	0	351	8	
Analyte <sup>1</sup>	Units	Frequency of Detection	Detection Range	Maximum Detect Location	AR Bkg	Soil ESV	Number Above AR Bkg and ESV	Site Background Maximum	Number Above Site Background Maximum
<b>Metals</b>									
Nickel	mg/kg	45/45 (100%)	3.74 - 64.6	SO-DA-006(1.0-1.5)	40	38	1	51	1
Selenium	mg/kg	23/45 (51%)	0.963 - 3.4	SO-DA-001(1.0-1.5)	1.7	0.52	4	2.5	2
Silver	mg/kg	14/45 (31%)	0.201 - 0.643	SO-DA-001(1.0-1.5)	--	4.2	0	0.71	0

**Notes:**

1. Summary is shown for analytes that are screened further in Table 6-2.

-- = not available or not applicable

% = percent

AR Bkg = Arkansas soil background value (Table 5-4)

ESV = ecological screening value

HMW = high molecular weight

LMW = low molecular weight

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

PAH = polycyclic aromatic hydrocarbon

VOC = volatile organic compound

**Table 6-5  
Soil Sampling Statistics in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte <sup>1</sup>	Units	Frequency of Detection	Range of Detected Values	Maximum Detect Location	ESV	Numbers Above ESV	Site Background Maximum	Number Above Site Background Maximum
<b>VOCs (No VOCs Related to Crude Oil Detected in Dawson Cove)</b>								
<b>PAHs - Non-alkylated</b>								
Acenaphthene	µg/kg	27/45 (60%)	0.078 - 1.67	SO-DA-019(0.0-0.5)	--	--	--	--
Acenaphthylene	µg/kg	27/45 (60%)	0.044 - 4.43	SO-DA-016(0.0-0.5)	--	--	--	--
Anthracene	µg/kg	20/45 (44%)	0.057 - 7.27	SO-DA-016(0.0-0.5)	--	--	--	--
Benzo(a)Anthracene	µg/kg	35/45 (78%)	0.07 - 13.7	SO-DA-016(0.0-0.5)	--	--	--	--
Benzo(a)Pyrene	µg/kg	33/45 (73%)	0.02 - 18.8	SO-DA-016(0.0-0.5)	--	--	--	--
Benzo(b)Fluoranthene	µg/kg	37/45 (82%)	0.081 - 71.5	SO-DA-016(0.0-0.5)	--	--	--	--
Benzo(e)Pyrene	µg/kg	37/45 (82%)	0.068 - 42.9	SO-DA-016(0.0-0.5)	--	--	--	--
Benzo(g,h,i)Perylene	µg/kg	38/45 (84%)	0.023 - 28.7	SO-DA-016(0.0-0.5)	--	--	--	--
Benzo(j)+k)Fluoranthene	µg/kg	37/45 (82%)	0.019 - 34.3	SO-DA-016(0.0-0.5)	--	--	--	--
Chrysene/Triphenylene	µg/kg	37/45 (82%)	0.064 - 61.2	SO-DA-022(0.0-0.5)	--	--	--	--
Dibenz(a,h)Anthracene	µg/kg	35/45 (78%)	0.02 - 8.21	SO-DA-016(0.0-0.5)	--	--	--	--
Fluoranthene	µg/kg	45/45 (100%)	0.427 - 50.6	SO-DA-016(0.0-0.5)	--	--	--	--
Fluorene	µg/kg	43/45 (96%)	0.493 - 9.64	SO-DA-016(0.0-0.5)	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/kg	38/45 (84%)	0.042 - 27.1	SO-DA-016(0.0-0.5)	--	--	--	--
Naphthalene	µg/kg	44/45 (98%)	0.579 - 10.4	SO-DA-016(0.0-0.5)	--	--	--	--
Perylene	µg/kg	44/45 (98%)	0.069 - 9.1	SO-DA-016(0.0-0.5)	--	--	--	--
Phenanthrene	µg/kg	45/45 (100%)	2.28 - 34	SO-DA-016(0.0-0.5)	--	--	--	--
Pyrene	µg/kg	44/45 (98%)	0.059 - 40.7	SO-DA-019(0.0-0.5)	--	--	--	--
<b>PAHs - Alkylated</b>								
1-Methylnaphthalene	µg/kg	45/45 (100%)	0.274 - 5.5	SO-DA-019(0.5-1.0)	--	--	--	--
2-Methylnaphthalene	µg/kg	45/45 (100%)	0.556 - 10.1	SO-DA-019(0.0-0.5)	--	--	--	--
C1-Chrysenes	µg/kg	26/45 (58%)	1.11 - 162	SO-DA-022(0.0-0.5)	--	--	--	--
C1-Fluoranthenes/Pyrenes	µg/kg	37/45 (82%)	0.132 - 159	SO-DA-022(0.0-0.5)	--	--	--	--
C1-Fluorenes	µg/kg	41/45 (91%)	0.601 - 35.3	SO-DA-022(0.0-0.5)	--	--	--	--
C1-Phenanthrenes/Anthracenes	µg/kg	33/45 (73%)	3.16 - 143	SO-DA-022(0.0-0.5)	--	--	--	--
C2-Chrysenes	µg/kg	22/45 (49%)	1.27 - 223	SO-DA-022(0.0-0.5)	--	--	--	--
C2-Fluoranthenes/Pyrenes	µg/kg	30/45 (67%)	0.384 - 261	SO-DA-022(0.0-0.5)	--	--	--	--
C2-Fluorenes	µg/kg	11/45 (24%)	1.76 - 143	SO-DA-022(0.0-0.5)	--	--	--	--
C2-Naphthalenes	µg/kg	42/45 (93%)	1.27 - 50.9	SO-DA-022(0.0-0.5)	--	--	--	--



**Table 6-5  
Soil Sampling Statistics in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte <sup>1</sup>	Units	Frequency of Detection	Range of Detected Values	Maximum Detect Location	ESV	Numbers Above ESV	Site Background Maximum	Number Above Site Background Maximum	
C2-Phenanthrenes/Anthracenes	µg/kg	25/45 (56%)	4.46 - 446	SO-DA-022(0.0-0.5)	--	--	--	--	
C3-Chrysenes	µg/kg	22/45 (49%)	1.05 - 163	SO-DA-022(0.0-0.5)	--	--	--	--	
C3-Fluoranthenes/Pyrenes	µg/kg	27/45 (60%)	0.634 - 216	SO-DA-022(0.0-0.5)	--	--	--	--	
C3-Fluorenes	µg/kg	9/45 (20%)	15 - 281	SO-DA-022(0.0-0.5)	--	--	--	--	
C3-Naphthalenes	µg/kg	42/45 (93%)	0.785 - 160	SO-DA-022(0.0-0.5)	--	--	--	--	
C3-Phenanthrenes/Anthracenes	µg/kg	23/45 (51%)	1.09 - 780	SO-DA-022(0.0-0.5)	--	--	--	--	
C4-Chrysenes	µg/kg	16/45 (36%)	3.19 - 115	SO-DA-022(0.0-0.5)	--	--	--	--	
C4-Fluoranthenes/Pyrenes	µg/kg	23/45 (51%)	1.28 - 238	SO-DA-022(0.0-0.5)	--	--	--	--	
C4-Naphthalenes	µg/kg	31/45 (69%)	1.99 - 328	SO-DA-022(0.0-0.5)	--	--	--	--	
C4-Phenanthrenes/Anthracenes	µg/kg	22/45 (49%)	1.35 - 679	SO-DA-022(0.0-0.5)	--	--	--	--	
Total HMW PAHs (Long List) <sup>2</sup>	µg/kg	45/45 (100%)	0.504 - 1760	SO-DA-022(0.0-0.5)	1100	4	982	4	
Total LMW PAHs (Long List) <sup>2</sup>	µg/kg	45/45 (100%)	10.8 - 3100	SO-DA-022(0.0-0.5)	29000	0	351	10	
Analyte <sup>1</sup>	Units	Frequency of Detection	Detection Range	Maximum Detect Location	AR Bkg	Soil ESV	Number Above AR Bkg and ESV	Site Background Maximum	Number above Site Background Maximum
<b>Metals</b>									
Nickel	mg/kg	48/48 (100%)	6.31 - 37.7	SO-DA-027(1.0-1.5)	40	38	0	50.9	0
Selenium	mg/kg	14/48 (29%)	0.983 - 1.98	SO-DA-032(0.0-0.5)	1.7	0.52	3	2.5	0
Silver	mg/kg	4/48 (8%)	0.283 - 1.05	SO-DA-027(1.0-1.5)	--	4.2	0	0.709	1

**Notes:**

1. Summary is shown for analytes that are screened further in Table 6-3.

-- = not available or not applicable

% = percent

AR Bkg = Arkansas soil background value (Table 5-4)

ESV = ecological screening value

HMW = high molecular weight

LMW = low molecular weight

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

PAH = polycyclic aromatic hydrocarbon

VOC = volatile organic compound

**Table 7-1**  
**Surface Sediment Grain Size Summary**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Location ID	Fine Grain Material Fraction (%)	Sand Fraction (%)	Gravel Fraction (%)
<b>Drainage Ways</b>			
SED-DA-001	81	18	1
SED-DA-002	76	21	3
SED-DA-003	82	17	1
SED-DA-004	32	36	32
SED-DA-005	73	26	1
SED-DA-006	81	18	2
SED-DA-007	26	57	17
SED-DA-008	88	12	0
SED-DA-009	80	20	1
SED-DA-010	45	42	13
SED-DA-011	43	43	14
SED-DA-012	59	41	0
SED-DA-013	67	33	0
<b>Dawson Cove</b>			
SED-DA-014	79	21	0
SED-DA-015	72	28	0
SED-DA-016	69	31	0
SED-DA-017	87	13	0
SED-DA-018	71	29	0
SED-DA-019	78	21	0
SED-DA-020	97	3	0
SED-DA-021	64	36	0
SED-DA-022	93	7	0
SED-DA-023	83	17	0
SED-DA-024	94	6	0
SED-DA-025	94	6	0
SED-DA-026	66	34	0
SED-DA-027	88	12	0
SED-DA-028	98	2	0
SED-DA-029	98	2	0
SED-DA-030	96	4	0
SED-DA-031	64	36	0
SED-DA-032	64	36	0
SED-DA-039	89	11	1
SED-DA-040	93	7	0
SED-DA-041	80	20	1
SED-DA-042	61	39	0
SED-DA-043	93	7	0
SED-DA-044	93	7	0
SED-DA-045	94	6	0
SED-DA-046	88	12	0
SED-DA-047	89	11	0
SED-DA-048	93	7	0
SED-DA-049	99	1	0
SED-DA-050	94	6	0
SED-DA-051	66	4	30
SED-DA-052	82	18	0
SED-DA-053	96	4	0
<b>Lake Conway</b>			
SED-DA-033	89	10	0
SED-DA-034	91	9	0
SED-DA-035	94	6	0
SED-DA-036	91	9	0
SED-DA-037	90	10	0
SED-DA-038	77	23	0

**Notes:**

1. All grain size samples collected from the surface (0 to 0.5 foot) interval.
  2. Unified Soil Classification System Definitions:
    - Gravel: Material retained on the No. 4 sieve (greater than 4.75 mm).
    - Sand: Material passing No. 4 sieve and retained on the No. 200 sieve (less than 4.75 mm and greater than 75 microns).
    - Fine Material: Material passing the No. 200 sieve (less than 75 microns).
- mm = millimeter



Table 7-2  
Sediment Sampling Results in Drainage Ways

Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas

Analyte <sup>1</sup>	Units	Is Analyte Screened Further? <sup>2</sup>	AR Soil Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site DW Bkg (Max) <sup>5</sup>	Location Depths (ft)	SED-DA-001	SED-DA-001	SED-DA-002	SED-DA-002	SED-DA-003	SED-DA-003	SED-DA-003	SED-DA-004	SED-DA-004	SED-DA-005	SED-DA-005	SED-DA-005
						Sample Date	0-0.5 ft	0.5-1 ft	0-0.5 ft	0.5-1 ft	0-0.5 ft	0.5-1 ft	0-0.5 ft	0.5-1 ft	0-0.5 ft	0.5-1 ft	0-0.5 ft	0.5-1 ft
Sample ID						SED-DA-001(0.0-0.5)	SED-DA-001(0.5-1.0)	SED-DA-002(0.0-0.5)	SED-DA-002(0.5-1.0)	SED-DA-003(0.0-0.5)	SED-DA-DUP-09-081513FD	SED-DA-003(0.5-1.0)	SED-DA-004(0.0-0.5)	SED-DA-004(0.5-1.0)	SED-DA-005(0.0-0.5)	SED-DA-005(0.5-1.0)	SED-DA-005(1.0-1.5)	
<b>TEH</b>																		
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--	21	NA	87	NA	57 J	181 J	NA	2277	NA	59	NA	NA	
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--	6	NA	20	NA	12 J	26 J	NA	162	NA	11	NA	NA	
Unresolved Complex Mixture	mg/kg	No	--	--	--	15	NA	66	NA	45 J	155 J	NA	2115	NA	48	NA	NA	
<b>Metals</b>																		
Arsenic	mg/kg	No	14	7.24	17.3	9.07 J	7.49 J	2.89 J	9.11 J	10.5 J	7.18 J	12.0 J	11.5 J	10.5 J	7.97	4.65	4.38	
Barium	mg/kg	No	558	--	125	78.0	47.6	103	66.5	110	151	204	106	394	54.9	50.3	45.4	
Cadmium	mg/kg	No	--	1	0.31	< 0.610 U	< 0.613 U	< 0.649 U	< 0.644 U	< 0.633 U	< 0.607 U	< 0.636 U	< 0.658 U	< 0.659 U	< 0.621 U	< 0.564 U	< 0.568 U	
Chromium	mg/kg	No	80	52.3	43	20.2 J	12.7 J	50.8 J	23.7 J	21.0 J	25.3 J	29.0 J	21.2 J	30.0 J	23.1 J	13.7 J	12.8 J	
Lead	mg/kg	No	36	30.2	115	16.3	9.40	23.4	19.8	10.5 J	21.8 J	23.4	18.7	16.5	14.1 J	10.8 J	7.34 J	
Mercury	mg/kg	No	0.07	0.13	0.07	< 0.123 U	< 0.119 U	0.0231 J	0.0215 J	0.0159 J	0.0234 J	< 0.121 U	< 0.133 U	< 0.123 U	0.0363 J	0.0277 J	0.0243 J	
Nickel	mg/kg	Yes	35	15.9	53	15.3	8.91	18.8	11.8	13.3	19.6	25.3	20.4	42.8	10.7	10.0	7.87	
Selenium	mg/kg	Yes	0.7	2	1.8	< 2.44 U	< 2.45 U	< 2.60 U	< 2.58 U	< 2.53 U	< 2.43 U	< 2.54 U	< 2.63 U	< 2.64 U	1.43 J	1.56 J	< 2.27 U	
Silver	mg/kg	Yes	--	2	0.27	< 0.610 U	< 0.613 U	0.338 J	< 0.644 U	< 0.633 U	< 0.607 U	< 0.636 U	< 0.658 U	< 0.659 U	< 0.621 U	< 0.564 U	< 0.568 U	
Vanadium	mg/kg	Yes	88	--	48	24.2 J	19.4 J	38.0 J	31.9 J	29.0 J	33.8 J	35.2 J	23.1 J	36.4 J	30.3 J	22.5 J	21.1 J	
<b>Other</b>																		
Percent Moisture	%	--	--	--	--	19.7	18.4	24.5	25.4	23.3	20.8	22.9	26.9	24.1	21.0	14.8	15.3	
Total Organic Carbon	%	--	--	--	--	0.3	NA	0.49	NA	0.49	0.53	NA	1.35	NA	0.37	NA	NA	
Black Carbon	%	--	--	--	--	< 0.2 U	NA	< 0.18 U	NA	< 0.2 U	< 0.19 U	NA	< 0.2 U	NA	< 0.2 U	NA	NA	



Table 7-2  
Sediment Sampling Results in Drainage Ways  
  
Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas

Analyte <sup>1</sup>	Units	Is Analyte Screened Further? <sup>2</sup>	AR Soil Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site DW Bkg (Max) <sup>5</sup>	Location	SED-DA-006	SED-DA-006	SED-DA-006	SED-DA-007	SED-DA-007	SED-DA-007	SED-DA-007	SED-DA-008	SED-DA-008	SED-DA-008	SED-DA-009	SED-DA-009	SED-DA-009						
						Depths (ft)	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft
						Sample Date	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/2/2013	8/2/2013	8/2/2013	
Sample ID	SED-DA-006(0.0-0.5)	SED-DA-006(0.5-1.0)	SED-DA-006(1.0-1.5)	SED-DA-007(0.0-0.5)	SED-DA-DUP-04-080313FD	SED-DA-007(0.5-1.0)	SED-DA-007(1.0-1.5)	SED-DA-008(0.0-0.5)	SED-DA-008(0.5-1.0)	SED-DA-008(1.0-1.5)	SED-DA-009(0.0-0.5)	SED-DA-009(0.5-1.0)	SED-DA-009(1.0-1.5)												
<b>TEH</b>																									
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--	10	NA	NA	69 J	293 J	NA	NA	29	NA	NA	51	NA	NA	NA						
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--	3	NA	NA	26 J	81 J	NA	NA	14	NA	NA	14	NA	NA	NA						
Unresolved Complex Mixture	mg/kg	No	--	--	--	7	NA	NA	43 J	212 J	NA	NA	15	NA	NA	37	NA	NA	NA						
<b>Metals</b>																									
Arsenic	mg/kg	No	14	7.24	17.3	4.43	2.63	6.23	8.58	5.81	3.25	17.3	3.59	3.74	4.16	4.63	3.11	3.04							
Barium	mg/kg	No	558	--	125	38.0	115	72.0	68.5	64.0	40.4	48.2	48.9	39.5	46.8	65.1	62.1	36.8							
Cadmium	mg/kg	No	--	1	0.31	< 0.640 U	< 0.570 U	< 0.564 U	< 0.630 U	< 0.613 U	< 0.575 U	< 0.551 U	< 0.590 U	< 0.580 U	< 0.553 U	0.152 J	< 0.595 U	0.0984 J							
Chromium	mg/kg	No	80	52.3	43	12.4 J	16.6 J	17.4 J	46.7 J	23.3 J	14.5 J	45.1 J	12.9 J	12.3 J	14.8 J	13.3	11.5	11.1							
Lead	mg/kg	No	36	30.2	115	11.4 J	7.39 J	14.3 J	10.6 J	20.8 J	8.64 J	23.8 J	7.57 J	8.69 J	18.4 J	12.0	10.1	9.14							
Mercury	mg/kg	No	0.07	0.13	0.07	0.0196 J	0.0181 J	0.0139 J	0.0224 J	0.0196 J	0.0202 J	0.0214 J	0.0242 J	0.0307 J	0.0183 J	0.0366 J	0.0333 J	0.0208 J							
Nickel	mg/kg	Yes	35	15.9	53	8.49	9.38	6.96	11.8	10.6	7.95	11.0	8.16	7.63	8.35	9.39	8.09	6.62							
Selenium	mg/kg	Yes	0.7	2	1.8	< 2.56 U	< 2.28 U	2.03 J	1.54 J	1.01 J	< 2.30 U	3.05	1.60 J	1.15 J	1.65 J	< 2.33 U	< 2.38 U	1.01 J							
Silver	mg/kg	Yes	--	2	0.27	< 0.640 U	< 0.570 U	< 0.564 U	< 0.630 U	0.245 J	< 0.575 U	0.429 J	< 0.590 U	< 0.580 U	< 0.553 U	< 0.581 U	< 0.595 U	< 0.572 U							
Vanadium	mg/kg	Yes	88	--	48	25.7 J	22.3 J	28.5 J	41.1 J	29.1 J	23.9 J	39.0 J	23.3 J	22.7 J	25.2 J	21.6	20.2	18.8							
<b>Other</b>																									
Percent Moisture	%	--	--	--	--	22.7	14.0	14.7	24.4	22.3	14.7	13.6	18.5	14.7	13.1	16.5	15.9	16.0							
Total Organic Carbon	%	--	--	--	--	0.14 J	NA	NA	0.26	0.56	NA	NA	0.25	NA	NA	0.31	NA	NA							
Black Carbon	%	--	--	--	--	< 0.2 U	NA	NA	< 0.2 U	< 0.19 U	NA	NA	< 0.18 U	NA	NA	< 0.19 U	NA	NA							



Table 7-2  
Sediment Sampling Results in Drainage Ways

Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas

Analyte <sup>1</sup>	Units	Is Analyte Screened Further? <sup>2</sup>	AR Soil Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site DW Bkg (Max) <sup>5</sup>	Location	SED-DA-010	SED-DA-010	SED-DA-010	SED-DA-011	SED-DA-011	SED-DA-011	SED-DA-012	SED-DA-012	SED-DA-012	SED-DA-013	SED-DA-013	SED-DA-013			
						Depths (ft)	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft
						Sample Date	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/3/2013	8/4/2013	8/4/2013	8/4/2013	8/4/2013	8/4/2013	8/4/2013	8/4/2013	8/4/2013	8/4/2013
Sample ID	SED-DA-010(0.0-0.5)	SED-DA-010(0.5-1.0)	SED-DA-010(1.0-1.5)	SED-DA-011(0.0-0.5)	SED-DA-011(0.5-1.0)	SED-DA-011(1.0-1.5)	SED-DA-012(0.0-0.5)	SED-DA-012(0.5-1.0)	SED-DA-012(1.0-1.5)	SED-DA-013(0.0-0.5)	SED-DA-013(0.5-1.0)	SED-DA-013(1.0-1.5)									
<b>TEH</b>																					
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--	54	NA	NA	19	NA	NA	12.5	NA	NA	5.10	NA	NA	NA			
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--	8	NA	NA	1.9	NA	NA	3.02	NA	NA	3.24	NA	NA	NA			
Unresolved Complex Mixture	mg/kg	No	--	--	--	45	NA	NA	17	NA	NA	9.51	NA	NA	1.86	NA	NA	NA			
<b>Metals</b>																					
Arsenic	mg/kg	No	14	7.24	17.3	14.8	24.7	26.8	2.74	1.34 J	1.79 J	2.34	3.22	2.78	2.18 J	4.51	3.30	3.30			
Barium	mg/kg	No	558	--	125	64.6	86.7	70.5	41.3	36.1	33.5	32.5	28.9	29.8	45.1	43.4	51.3	51.3			
Cadmium	mg/kg	No	--	1	0.31	< 0.584 U	< 2.97 U	< 2.82 U	< 0.664 U	< 0.565 U	< 0.556 U	< 0.579 U	< 0.570 U	< 0.584 U	< 0.588 U	< 0.564 U	< 0.579 U	< 0.579 U			
Chromium	mg/kg	No	80	52.3	43	31.4 J	65.0 J	42.8 J	12.8 J	9.70 J	10.2 J	9.34 J	11.0 J	10.3 J	9.14 J	10.2 J	12.1 J	12.1 J			
Lead	mg/kg	No	36	30.2	115	14.8 J	25.1 J	25.8 J	8.04 J	7.32 J	6.41 J	7.29	9.67	6.75	8.55	7.73	7.95	7.95			
Mercury	mg/kg	No	0.07	0.13	0.07	0.0298 J	0.0353 J	0.0356 J	0.0250 J	0.0180 J	0.0186 J	0.0154 J	< 0.114 U	0.0156 J	0.0119 J	0.0124 J	< 0.114 U	< 0.114 U			
Nickel	mg/kg	Yes	35	15.9	53	17.3	27.3	21.2	5.44	5.10	4.61	5.03	4.96	5.18	4.96	5.47	7.12	7.12			
Selenium	mg/kg	Yes	0.7	2	1.8	3.39	6.11	5.86	< 2.66 U	< 2.26 U	< 2.22 U	< 2.32 U	< 2.28 U	< 2.34 U	< 2.35 U	< 2.25 U	< 2.32 U	< 2.32 U			
Silver	mg/kg	Yes	--	2	0.27	0.470 J	28.7	34.3	< 0.664 U	< 0.565 U	< 0.556 U	< 0.579 U	< 0.570 U	< 0.584 U	< 0.588 U	< 0.564 U	< 0.579 U	< 0.579 U			
Vanadium	mg/kg	Yes	88	--	48	29.1 J	45.2 J	39.3 J	16.5 J	12.6 J	12.6 J	14.3	16.2	16.2	12.5	15.9	18.7	18.7			
<b>Other</b>																					
Percent Moisture	%	--	--	--	--	16.9	18.2	13.8	26.2	15.7	14.3	17.8	14.9	15.3	16.7	15.5	16.2	16.2			
Total Organic Carbon	%	--	--	--	--	0.19	NA	NA	0.17	NA	NA	0.18	NA	NA	0.21	NA	NA	NA			
Black Carbon	%	--	--	--	--	< 0.19 U	NA	NA	< 0.19 U	NA	NA	< 0.2 U	NA	NA	< 0.19 U	NA	NA	NA			



**Table 7-2  
Sediment Sampling Results in Drainage Ways**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

**Notes:**

1. For analytes that were detected in sediment samples collected under the DARSP (ARCADIS 2013), but were not detected in crude oil samples, the data and associated ESVs are presented, if available, for completeness; however, the analytes were not evaluated further. In addition, only the PAHs associated with the risk screening (as discussed in Section 5) are presented in this table. Complete analytical data are included in Appendix F.
2. As discussed in Section 5, analytes are screened against ESVs and screened further if the analyte is associated with the crude oil at concentrations that could have resulted in the observed concentrations in soil and sediment. The following screening is utilized:

**Bold** = Analyte above the sediment ESV but not highlighted due to one of the following reasons (1) the analyte was not detected in the crude oil, (2) the analyte was detected in crude oil at concentrations below the Arkansas sediment background values (metals only), or (3) the analyte was not detected above the Arkansas sediment background.

**Highlight** = Analyte above the Arkansas background value (metals only) and the sediment ESV

3. Table 5-4 lists the Arkansas background sediment values based on 95% upper tolerance level concentrations; an Arkansas background sediment value was not available for cadmium or silver.
4. Table 5-2 lists the available sediment ESVs.
5. Table 5-6 lists the maximum concentration detected in the site background sediment samples from the drainage ways. The maximum concentrations are shown for comparison only.
6. Table 5-3 describes the summations of total HMW and LMW PAHs (Priority+2 and Long List).
7. The TU calculation was completed for the surface samples (0 to 0.5 ft below ground surface) at all locations. The TU was also calculated for the subsurface samples if at least one of the PAH summations was above the sediment ESV.

**Acronyms and Abbreviations:**

-- = not available or not applicable

AR Sed Bkg = Arkansas background sediment value (95% UTL)

ESV = ecological screening value

ft = feet/foot

HMW = high molecular weight

LMW = low molecular weight

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

NA = not analyzed

PAH = polycyclic aromatic hydrocarbon

Site DW Bkg (Max) = maximum detects from the site background drainage way sediment data

TU = toxic unit

VOC = volatile organic compound

**Data Qualifiers:**

\* = TU calculation performed on subsurface sample using the total organic carbon from associated surface sample.

< = less than the reporting limit

E = Concentration exceeds the calibration range of the instrument (organic); estimate due to interference (inorganic)

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

R = The sample results are rejected

U = Compound was not detected.

UB = Compound considered non-detect at the listed value due to associated blank contamination.

UJ = The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

**Reference:**

ARCADIS. 2013. Downstream Areas Remedial Sampling Plan. Mayflower Pipeline Incident, Mayflower, Arkansas. July.

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-014	SED-DA-014	SED-DA-015	SED-DA-015	SED-DA-015	SED-DA-016	SED-DA-016	SED-DA-017
						Depths (ft)	0-0.5 ft	0.5-1 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	0-0.5 ft
						Sample Date	8/5/2013	8/5/2013	8/5/2013	8/5/2013	8/5/2013	8/5/2013	8/5/2013	8/5/2013
						Sample ID	SED-DA-014(0.0-0.5)	SED-DA-014(0.5-1.0)	SED-DA-015(0.0-0.5)	SED-DA-015(0.5-1.0)	SED-DA-015(1.0-1.5)	SED-DA-016(0.0-0.5)	SED-DA-016(0.5-1.0)	SED-DA-017(0.0-0.5)
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--	< 4 U	< 5 U	520	200	< 9 U	< 9 U	< 8 U	9	
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--	< 4 U	< 5 U	270 J	100	< 9 U	< 9 U	< 8 U	6	
2-Butanone (MEK)	µg/kg	No	--	42.4	17	< 9 U	< 9 U	< 700 U	< 11 U	< 18 U	< 19 U	< 16 U	< 11 U	
2-Phenylbutane	µg/kg	Yes	--	--	--	< 4 U	< 5 U	< 350 U	26	< 9 U	< 9 U	< 8 U	2 J	
Acetone	µg/kg	No	--	9.9	100	< 18 U	7 J	< 1400 U	42	22 J	62	30 J	19 J	
Benzene	µg/kg	Yes	--	141.57	--	< 4 U	< 5 U	< 350 U	19	< 9 U	< 9 U	< 8 U	0.7 J	
Ethylbenzene	µg/kg	Yes	--	1100	--	< 4 U	< 5 U	110 J	66	< 9 U	< 9 U	< 8 U	1 J	
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--	< 4 U	< 5 U	< 350 U	29	< 9 U	< 9 U	< 8 U	1 J	
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--	< 4 U	< 5 U	< 350 U	3 J	< 9 U	< 9 U	< 8 U	< 6 U	
n-Butylbenzene	µg/kg	Yes	--	--	--	< 4 U	< 5 U	100 J	30	< 9 U	< 9 U	< 8 U	2 J	
n-Propylbenzene	µg/kg	Yes	--	--	--	< 4 U	< 5 U	100 J	48	< 9 U	< 9 U	< 8 U	2 J	
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--	< 4 U	< 5 U	130 J	40	< 9 U	< 9 U	< 8 U	2 J	
Toluene	µg/kg	Yes	--	1220	--	< 4 U	< 5 U	90 J	12	< 9 U	< 9 U	< 8 U	< 6 U	
Trichloroethene	µg/kg	No	--	96.9	9	1 J	1 J	< 350 U	2 J	2 J	2 J	< 8 U	< 6 U	
Xylene (Total)	µg/kg	Yes	--	25.2	--	< 4 U	< 5 U	730	420	< 9 U	< 9 U	< 8 U	8	
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--	0.051 J	0.338	16.4	9.53	0.687	72.7	17.3	4.24	
Acenaphthylene	µg/kg	Yes	--	330	--	0.040 J	0.121	11.8	6.15	0.908	3.79	2.12	4.06	
Anthracene	µg/kg	Yes	--	330	--	0.030 J	0.220	24.1	17.7	1.38	9.35	2.27	4.05	
Benzo(a)Anthracene	µg/kg	Yes	--	330	--	0.058 J	0.169 J	26.8	26.4	2.49	6.00	5.85	11.3	
Benzo(a)Pyrene	µg/kg	Yes	--	330	--	0.043 J	0.211	30.3	28.8	1.59	4.90	4.02	24.1	
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--	< 0.1 U	NA	< 0.1 U	NA	NA	4.03	NA	< 0.1 U	
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--	0.117 J	0.561	55.8	50.4	10.3	24.0	13.4	48.4	
Benzo(b)fluorene	µg/kg	Yes	--	330	--	0.035 J	NA	43.4	NA	NA	3.31	NA	22.3	
Benzo(e)Pyrene	µg/kg	Yes	--	--	--	0.090 J	0.343	54.2	41.5	3.87	12.5	6.02	42.6	
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--	0.080 J	0.328	32.6	28.9	2.04	13.4	4.80	27.8	
Benzo(j)+(k)Fluoranthene	µg/kg	Yes	--	330	--	0.035 J	0.236	14.6	15.5	2.12	7.71	4.62	13.7	
Chrysene/Triphenylene	µg/kg	Yes	--	330	--	0.088 J	0.342	117	74.0	9.63	11.4	11.5	65.4	
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--	0.016 J	0.084	7.98	8.77	0.897	8.38	1.94	6.77	
Fluoranthene	µg/kg	Yes	--	330	--	0.409	1.70	62.0	52.7	8.45	39.6	15.6	38.3	
Fluorene	µg/kg	Yes	--	330	--	1.16	3.43	79.0	44.5	3.86	97.5	23.6	34.0	
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--	0.054	0.254	15.7	14.2	2.34	5.60	5.21	1.06	
Naphthalene	µg/kg	Yes	--	330	--	< 0.713 UB	1.47	32.3	14.4	6.50	12.6	6.77	9.19	
Perylene	µg/kg	Yes	--	--	--	1.96	12.7	30.8	31.2	166	51.8	201	17.0	
Phenanthrene	µg/kg	Yes	--	330	--	3.39	10.9	331	203	13.0	174	22.8	141	
Pyrene	µg/kg	Yes	--	330	--	0.292	0.815	108	91.7	4.25	31.7	9.85	72.1	
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901	1.19	4.70	471	391	44.1	153	76.8	309	
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182	5.70	19.3	905	462	34.6	397	84.9	303	

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-014	SED-DA-014	SED-DA-015	SED-DA-015	SED-DA-015	SED-DA-016	SED-DA-016	SED-DA-017
						Depths (ft)	0-0.5 ft	0.5-1 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	0-0.5 ft
						Sample Date	8/5/2013	8/5/2013	8/5/2013	8/5/2013	8/5/2013	8/5/2013	8/5/2013	8/5/2013
						Sample ID	SED-DA-014(0.0-0.5)	SED-DA-014(0.5-1.0)	SED-DA-015(0.0-0.5)	SED-DA-015(0.5-1.0)	SED-DA-015(1.0-1.5)	SED-DA-016(0.0-0.5)	SED-DA-016(0.5-1.0)	SED-DA-017(0.0-0.5)
<b>PAHs - Alkylated</b>														
1-Methylnaphthalene	µg/kg	Yes	--	330	--		0.392 J	0.943	177	70.2	2.72	14.0	3.69	42.2
2-Methylnaphthalene	µg/kg	Yes	--	330	--		0.641 J	1.92	233	96.3	5.57	12.6	6.32	64.0
C1-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	340	217	10.3	< 0.2 U	< 0.2 U	188
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.265 J	0.499	328	245	5.66	18.3	9.88	187
C1-Fluorenes	µg/kg	Yes	--	--	--		0.493	1.38	317	178	3.24	12.8	4.57	121
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.1 U	5.60	926	604	11.8	27.4	11.8	464
C2-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	396	197	3.53	< 0.2 U	< 0.2 U	220
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.369 J	1.07	686	401	< 0.5 U	< 0.5 U	< 0.5 U	307
C2-Fluorenes	µg/kg	Yes	--	--	--		< 0.4 U	< 0.4 U	739	435	< 0.4 U	17.6	4.53	316
C2-Naphthalenes	µg/kg	Yes	--	--	--		1.58	4.52	1029	435	8.77	52.9	16.8	315
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	< 0.3 U	1406	1083	11.5	30.1	12.1	842
C3-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	262	157	< 0.2 U	< 0.2 U	< 0.2 U	193
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.277 J	< 0.5 U	458	254	< 0.5 U	< 0.5 U	< 0.5 U	224
C3-Fluorenes	µg/kg	Yes	--	--	--		< 0.4 U	< 0.4 U	714	483	< 0.4 U	18.9	8.90	341
C3-Naphthalenes	µg/kg	Yes	--	--	--		2.71	6.93	1519	643	12.9	27.4	13.3	570
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	< 0.3 U	1743	1073	6.10	22.6	6.15	830
C4-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	170	108	< 0.2 U	< 0.2 U	< 0.2 U	88.9
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	< 0.5 U	435	311	< 0.5 U	< 0.5 U	< 0.5 U	260
C4-Naphthalenes	µg/kg	Yes	--	--	--		1.51	5.77	1331	788	6.89	86.6	23.9	488
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	< 0.3 U	< 0.3 U	686	5.64	18.3	4.83	613
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130		4.15	19.3	<b>3630</b>	<b>2350</b>	233	239	294	<b>2040</b>
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430		12.0	43.5	<b>10700</b>	<b>6870</b>	101	<b>714</b>	192	<b>5230</b>
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1		0.01	NA	0.9	0.5 *	NA	0.03	NA	0.5
<b>TPH</b>														
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--		< 1.4 U	NA	1841	NA	NA	529	NA	1462
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--		< 1.4 U	NA	228	NA	NA	343	NA	168
Unresolved Complex Mixture	mg/kg	No	--	--	--		< 1.4 U	NA	1613	NA	NA	186	NA	1294
<b>Metals</b>														
Arsenic	mg/kg	No	14	7.24	7.2		2.52	2.57	3.05	<b>7.30</b>	5.43	4.98	<b>28.1</b>	4.07
Barium	mg/kg	No	558	--	174		58.5	64.2	70.4	83.1	271	108	89.4	89.3
Cadmium	mg/kg	No	--	1	0.66		0.0926 J	0.125 J	0.232 J	0.348 J	0.332 J	0.408 J	0.338 J	0.213 J
Chromium	mg/kg	No	80	52.3	103		15.5	12.2	12.8	25.1	28.4	20.4	<b>62.1</b>	14.7
Lead	mg/kg	No	36	30.2	56		6.87	11.7	13.5	21.0	21.2	21.3	<b>40.8</b>	16.7
Mercury	mg/kg	No	0.07	0.13	0.20		0.0123 J	0.0123 J	0.0290 J	0.0302 J	0.0495 J	0.0404 J	0.0412 J	0.0363 J
Nickel	mg/kg	Yes	35	15.9	66		6.90	7.23	9.08	11.1	<b>16.9</b>	13.4	13.7	11.0
Selenium	mg/kg	Yes	0.7	2	--		< 2.31 U	< 2.35 U	< 2.78 U	< 2.66 U	< 2.91 U	< 3.27 U	<b>2.93 J</b>	< 2.62 U
Silver	mg/kg	Yes	--	2	1.3		< 0.579 U	< 0.589 U	< 0.695 U	< 0.666 U	< 0.728 U	< 0.818 U	0.416 J	< 0.654 U
Vanadium	mg/kg	Yes	88	--	46		21.6	20.7	20.0	37.1	42.8	31.2	92.8	24.9
<b>Other</b>														
Percent Moisture	%	--	--	--	--		16.9	15.9	29.5	26.4	32.0	40.1	44.1	23.6
Total Organic Carbon	%	--	--	--	--		0.17 J	NA	2.15	NA	NA	5.48	NA	1.88
Black Carbon	%	--	--	--	--		< 0.17 U	NA	< 0.17 U	NA	NA	< 0.21 U	NA	< 0.19 U

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-017	SED-DA-018	SED-DA-018	SED-DA-018	SED-DA-018	SED-DA-018	SED-DA-018		
						Depths (ft)	0.5-1 ft	0-0.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft	2-3 ft	Sample Date	8/5/2013
Sample ID						SED-DA-017(0.5-1.0)	SED-DA-018(0.0-0.5)	SED-DA-DUP-06-081013FD	SED-DA-018(0.5-1.0)	SED-DA-018(1.0-1.5)	SED-DA-018(1.5-2.0)	SED-DA-018(2.0-3.0)			
<b>VOCs</b>															
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--	2500	12 J	10 J	< 23 U	< 8 U	< 5 U	< 7 U			
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--	1100	10 J	7 J	< 23 U	< 8 U	< 5 U	< 7 U			
2-Butanone (MEK)	µg/kg	No	--	42.4	17	< 680 U	34 J	55	34 J	< 16 U	< 10 U	< 13 U			
2-Phenylbutane	µg/kg	Yes	--	--	--	280 J	< 20 UJ	< 22 UJ	< 23 U	< 8 U	< 5 U	< 7 U			
Acetone	µg/kg	No	--	9.9	100	< 1400 U	210	260	220	18 J	< 21 U	< 26 U			
Benzene	µg/kg	Yes	--	141.57	--	< 340 U	4 J	6 J	4 J	< 8 U	< 5 U	< 7 U			
Ethylbenzene	µg/kg	Yes	--	1100	--	350	< 20 U	< 22 U	< 23 U	< 8 U	< 5 U	< 7 U			
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--	280 J	< 20 U	< 22 U	< 23 U	< 8 U	< 5 U	< 7 U			
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--	< 340 U	< 20 U	< 22 U	< 23 U	< 8 U	< 5 U	< 7 U			
n-Butylbenzene	µg/kg	Yes	--	--	--	430	< 20 UJ	< 22 UJ	< 23 U	< 8 U	< 5 U	< 7 U			
n-Propylbenzene	µg/kg	Yes	--	--	--	480	< 20 UJ	< 22 UJ	< 23 U	< 8 U	< 5 U	< 7 U			
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--	840	< 20 UJ	< 22 UJ	< 23 U	< 8 U	< 5 U	< 7 U			
Toluene	µg/kg	Yes	--	1220	--	< 340 U	5 J	< 22 U	< 23 U	< 8 U	< 5 U	< 7 U			
Trichloroethene	µg/kg	No	--	96.9	9	< 340 U	< 20 U	< 22 U	< 23 U	< 8 U	< 5 U	6 J			
Xylene (Total)	µg/kg	Yes	--	25.2	--	2600	18 J	23	7 J	< 8 U	< 5 U	< 7 U			
<b>PAHs - Non-alkylated</b>															
Acenaphthene	µg/kg	Yes	--	330	--	31.4	4.28	5.02	2.53	0.615	0.251	NA			
Acenaphthylene	µg/kg	Yes	--	330	--	19.5	12.6	10.6	5.47	0.473	0.136	NA			
Anthracene	µg/kg	Yes	--	330	--	23.7	14.4	14.1	9.05	0.597	0.135	NA			
Benzo(a)Anthracene	µg/kg	Yes	--	330	--	18.2	12.2	12.4	10.9	0.794	0.206	NA			
Benzo(a)Pyrene	µg/kg	Yes	--	330	--	39.6	13.8	17.9	10.4	< 0.1 U	0.308	NA			
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--	NA	26.6	22.9	NA	NA	NA	NA			
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--	59.5	77.1	87.1	54.8	< 0.2 U	0.686	NA			
Benzo(b)fluorene	µg/kg	Yes	--	330	--	NA	7.68	8.20	NA	NA	NA	NA			
Benzo(e)Pyrene	µg/kg	Yes	--	--	--	73.0	44.4	48.8	36.9	< 0.2 U	0.372	NA			
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--	69.6	66.3	73.2	< 0.1 U	< 0.1 U	0.592	NA			
Benzo(j)+(k)Fluoranthene	µg/kg	Yes	--	330	--	18.9	16.7	13.8	13.8	< 0.1 U	0.186	NA			
Chrysene/Triphenylene	µg/kg	Yes	--	330	--	161	35.5	33.0	38.1	3.41	0.502	NA			
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--	13.5	11.5	14.3	14.1	< 0.1 U	0.167	NA			
Fluoranthene	µg/kg	Yes	--	330	--	59.2	43.5 J	44.9 J	36.9 J	3.15 J	1.20 J	NA			
Fluorene	µg/kg	Yes	--	330	--	140	17.3 J	33.4 J	12.1	4.34	3.57	NA			
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--	21.2	40.7	45.7	16.1	< 0.1 U	0.423	NA			
Naphthalene	µg/kg	Yes	--	330	--	44.0	19.5	31.5	13.7	4.35	2.39	NA			
Perylene	µg/kg	Yes	--	--	--	37.6	171	192	330	321	13.9	NA			
Phenanthrene	µg/kg	Yes	--	330	--	416	35.6 J	64.9 J	36.1	11.2	7.38	NA			
Pyrene	µg/kg	Yes	--	330	--	111	30.8	29.3	21.8	1.90	0.503	NA			
Total HMW PAHs (Priority+2 List) <sup>6</sup>	µg/kg	Yes	--	655	901	572	348	372	217	9.25	4.77	NA			
Total LMW PAHs (Priority+2 List) <sup>6</sup>	µg/kg	Yes	--	330	182	1350	159	223	101	26.8	16.7	NA			

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-017	SED-DA-018	SED-DA-018	SED-DA-018	SED-DA-018	SED-DA-018	SED-DA-018
						Depths (ft)	0.5-1 ft	0-0.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft	2-3 ft
Sample Date						8/5/2013	8/10/2013	8/10/2013	8/10/2013	8/10/2013	8/10/2013	8/10/2013	8/14/2013
Sample ID						SED-DA-017(0.5-1.0)	SED-DA-018(0.0-0.5)	SED-DA-DUP-06-081013FD	SED-DA-018(0.5-1.0)	SED-DA-018(1.0-1.5)	SED-DA-018(1.5-2.0)	SED-DA-018(2.0-3.0)	
<b>PAHs - Alkylated</b>													
1-Methylnaphthalene	µg/kg	Yes	--	330	--		282	20.8	22.2	7.01	1.67	0.882	NA
2-Methylnaphthalene	µg/kg	Yes	--	330	--		395	34.1	40.8	15.0	3.60	1.93	NA
C1-Chrysenes	µg/kg	Yes	--	--	--		455	95.7	110	191	< 0.2 U	< 0.2 U	NA
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		484	49.8	53.4	52.5	3.14	1.14	NA
C1-Fluorenes	µg/kg	Yes	--	--	--		< 1.8 U	21.3	22.3	10.5	2.25	1.63	NA
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		1207	47.5	49.0	42.8	7.40	5.08	NA
C2-Chrysenes	µg/kg	Yes	--	--	--		628	86.3	109	118	< 0.2 U	< 0.2 U	NA
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		502	97.3	95.3	109	< 0.5 U	< 0.5 U	NA
C2-Fluorenes	µg/kg	Yes	--	--	--		< 1.8 U	65.8	51.9	49.0	< 0.4 U	< 0.4 U	NA
C2-Naphthalenes	µg/kg	Yes	--	--	--		1647	80.8	79.3	29.1	6.67	3.51	NA
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		1767	84.4	80.2	82.8	6.88	5.28	NA
C3-Chrysenes	µg/kg	Yes	--	--	--		510	69.4	85.5	93.3	< 0.2 U	< 0.2 U	NA
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		672	57.6	81.5	97.2	< 0.5 U	< 0.5 U	NA
C3-Fluorenes	µg/kg	Yes	--	--	--		< 1.8 U	64.4	55.3	49.2	< 0.4 U	< 0.4 U	NA
C3-Naphthalenes	µg/kg	Yes	--	--	--		2378	71.6	82.6	22.6	7.23	6.36	NA
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		1921	89.5	102	125	< 0.3 U	2.08	NA
C4-Chrysenes	µg/kg	Yes	--	--	--		255	42.4	61.6	31.1	< 0.2 U	< 0.2 U	NA
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		560	95.9	61.7	117	< 0.5 U	< 0.5 U	NA
C4-Naphthalenes	µg/kg	Yes	--	--	--		2056	169	66.6	39.5	11.0	< 0.7 U	NA
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		1290	50.8 J	107 J	111	< 0.3 U	< 0.3 U	NA
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130		4750	1180	1290	1390	333	20.2	NA
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430		13600	911	927	662	68.3	40.6	NA
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1		1 *	0.02	0.02	0.02 *	NA	NA	NA
<b>TPH</b>													
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--		NA	1713	1658	NA	NA	NA	NA
Total Resolveable Hydrocarbons	mg/kg	No	--	--	--		NA	687	667	NA	NA	NA	NA
Unresolved Complex Mixture	mg/kg	No	--	--	--		NA	1026	992	NA	NA	NA	NA
<b>Metals</b>													
Arsenic	mg/kg	No	14	7.24	7.2		3.67	10.9	15.5	10.0	4.76	NA	NA
Barium	mg/kg	No	558	--	174		78.0	196	250	177	110	NA	NA
Cadmium	mg/kg	No	--	1	0.66		0.234 J	< 1.31 U	< 1.72 U	< 1.20 U	< 0.718 U	NA	NA
Chromium	mg/kg	No	80	52.3	103		12.3	27.7	34.0	23.9	15.3	NA	NA
Lead	mg/kg	No	36	30.2	56		15.8	44.6	45.0	38.0	16.8	NA	NA
Mercury	mg/kg	No	0.07	0.13	0.20		0.0336 J	0.0687 J	0.0885 J	0.0662 J	0.0347 J	NA	NA
Nickel	mg/kg	Yes	35	15.9	66		9.54	25.9	31.0	23.1	12.5	NA	NA
Selenium	mg/kg	Yes	0.7	2	--		< 2.64 U	< 5.25 U	< 6.88 U	< 4.79 U	< 2.87 U	NA	NA
Silver	mg/kg	Yes	--	2	1.3		< 0.660 U	< 1.31 U	< 1.72 U	< 1.20 U	< 0.718 U	NA	NA
Vanadium	mg/kg	Yes	88	--	46		20.8	44.9	51.5	38.5	27.9	NA	NA
<b>Other</b>													
Percent Moisture	%	--	--	--	--		25.0	63.0	71.2	58.7	32.4	29.3	20.3
Total Organic Carbon	%	--	--	--	--		NA	11.34	11.72	NA	NA	NA	NA
Black Carbon	%	--	--	--	--		NA	0.38 J	0.39 J	NA	NA	NA	NA

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-018	SED-DA-019	SED-DA-019	SED-DA-019	SED-DA-019	SED-DA-019	SED-DA-020	
						Depths (ft)	3-3.2 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft	2-3 ft	3-3.3 ft	0-0.5 ft
						Sample Date	8/14/2013	8/10/2013	8/10/2013	8/10/2013	8/10/2013	8/14/2013	7/30/2013	
						Sample ID	SED-DA-018(3.0-3.2)	SED-DA-019(0.0-0.5)	SED-DA-019(0.5-1.0)	SED-DA-019(1.0-1.5)	SED-DA-019(1.5-2.0)	SED-DA-019(2.0-3.0)	SED-DA-019(3.0-3.3)	SED-DA-020(0.0-0.5)
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 44 UJ	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 44 UJ	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 13 U	42 J	87 J	< 13 U	< 12 U	< 11 U	< 10 U	54 J
2-Phenylbutane	µg/kg	Yes	--	--	--		< 6 U	< 44 UJ	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
Acetone	µg/kg	No	--	9.9	100		< 26 U	290	630	19 J	10 J	9 J	< 20 U	370
Benzene	µg/kg	Yes	--	141.57	--		< 6 U	< 44 U	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 6 U	< 44 U	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 6 U	< 44 U	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 6 U	< 44 U	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 44 UJ	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 44 UJ	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 6 U	< 44 UJ	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
Toluene	µg/kg	Yes	--	1220	--		< 6 U	< 44 U	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
Trichloroethene	µg/kg	No	--	96.9	9		2 J	< 44 U	< 89 U	< 6 U	< 6 U	< 5 U	2 J	< 56 U
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 6 U	< 44 U	< 89 U	< 6 U	< 6 U	< 5 U	< 5 U	< 56 U
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--		NA	6.31 J	2.76	0.324	NA	NA	NA	6.17
Acenaphthylene	µg/kg	Yes	--	330	--		NA	15.6 J	3.43	< 0 U	NA	NA	NA	10.4
Anthracene	µg/kg	Yes	--	330	--		NA	23.2 J	10.1	0.514	NA	NA	NA	18.8
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		NA	12.9	10.2	1.78	NA	NA	NA	23.5
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		NA	24.1 J	11.9	0.930	NA	NA	NA	26.5
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		NA	19.2	NA	NA	NA	NA	NA	13.0
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		NA	98.6 J	40.8	5.22	NA	NA	NA	104
Benzo(b)fluorene	µg/kg	Yes	--	330	--		NA	14.2	NA	NA	NA	NA	NA	14.3
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		NA	57.4	23.4	2.45	NA	NA	NA	59.9
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		NA	99.1	< 0.1 U	1.07	NA	NA	NA	66.2
Benzo(j)+(k)Fluoranthene	µg/kg	Yes	--	330	--		NA	31.9	11.9	0.87	NA	NA	NA	36.8
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		NA	54.8	22.9	4.47	NA	NA	NA	57.7
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		NA	12.6 J	< 0.1 U	1.40	NA	NA	NA	8.97
Fluoranthene	µg/kg	Yes	--	330	--		NA	58.4 J	30.9 J	3.67 J	NA	NA	NA	76.3
Fluorene	µg/kg	Yes	--	330	--		NA	25.8 J	10.5	3.20	NA	NA	NA	26.0
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		NA	50.4	14.1	1.23	NA	NA	NA	32.9
Naphthalene	µg/kg	Yes	--	330	--		NA	20.5 J	11.0	4.21	NA	NA	NA	15.3
Perylene	µg/kg	Yes	--	--	--		NA	200	334	158	NA	NA	NA	305
Phenanthrene	µg/kg	Yes	--	330	--		NA	70.6	32.5	8.72	NA	NA	NA	90.6
Pyrene	µg/kg	Yes	--	330	--		NA	50.1	16.3	1.94	NA	NA	NA	58.2
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901		NA	493	159	22.6	NA	NA	NA	491
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182		NA	226	84.2	21.0	NA	NA	NA	217

**Table 7-3  
Sediment Sampling Results in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-018	SED-DA-019	SED-DA-019	SED-DA-019	SED-DA-019	SED-DA-019	SED-DA-020	
						Depths (ft)	3-3.2 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft	2-3 ft	3-3.3 ft	0-0.5 ft
						Sample Date	8/14/2013	8/10/2013	8/10/2013	8/10/2013	8/10/2013	8/14/2013	7/30/2013	
						Sample ID	SED-DA-018(3.0-3.2)	SED-DA-019(0.0-0.5)	SED-DA-019(0.5-1.0)	SED-DA-019(1.0-1.5)	SED-DA-019(1.5-2.0)	SED-DA-019(2.0-3.0)	SED-DA-019(3.0-3.3)	SED-DA-020(0.0-0.5)
<b>PAHs - Alkylated</b>														
1-Methylnaphthalene	µg/kg	Yes	--	330	--		NA	22.9 J	4.43	1.38	NA	NA	NA	18.2
2-Methylnaphthalene	µg/kg	Yes	--	330	--		NA	41.2	9.51	2.62	NA	NA	NA	31.7
C1-Chrysenes	µg/kg	Yes	--	--	--		NA	101	< 0.2 U	< 0.2 U	NA	NA	NA	157
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		NA	86.1	40.8	3.66	NA	NA	NA	86.7
C1-Fluorenes	µg/kg	Yes	--	--	--		NA	43.1	9.87	2.14	NA	NA	NA	34.2
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		NA	108	30.4	6.81	NA	NA	NA	97.8
C2-Chrysenes	µg/kg	Yes	--	--	--		NA	94.8	< 0.2 U	< 0.2 U	NA	NA	NA	149
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		NA	165	< 0.5 U	< 0.5 U	NA	NA	NA	174
C2-Fluorenes	µg/kg	Yes	--	--	--		NA	127	18.9	< 0.4 U	NA	NA	NA	91.9
C2-Naphthalenes	µg/kg	Yes	--	--	--		NA	125	37.3	5.57	NA	NA	NA	84.0
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		NA	210	53.5	< 0.3 U	NA	NA	NA	165
C3-Chrysenes	µg/kg	Yes	--	--	--		NA	104	< 0.2 U	< 0.2 U	NA	NA	NA	132
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		NA	126	< 0.5 U	< 0.5 U	NA	NA	NA	139
C3-Fluorenes	µg/kg	Yes	--	--	--		NA	140	22.5	< 0.4 U	NA	NA	NA	124
C3-Naphthalenes	µg/kg	Yes	--	--	--		NA	178	24.8	6.41	NA	NA	NA	122
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		NA	261	59.6	< 0.3 U	NA	NA	NA	171
C4-Chrysenes	µg/kg	Yes	--	--	--		NA	85.1	< 0.2 U	< 0.2 U	NA	NA	NA	76.8
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		NA	137	< 0.5 U	< 0.5 U	NA	NA	NA	175
C4-Naphthalenes	µg/kg	Yes	--	--	--		NA	180	114	< 0.7 U	NA	NA	NA	103
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		NA	167	58.1	< 0.3 U	NA	NA	NA	163
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130		NA	<b>1670</b>	557	187	NA	NA	NA	<b>1960</b>
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430		NA	<b>1780</b>	<b>513</b>	41.9	NA	NA	NA	<b>1390</b>
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1		NA	0.04	0.01 *	NA	NA	NA	NA	0.03
<b>TPH</b>														
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--		NA	2328	NA	NA	NA	NA	NA	2225
Total Resolveable Hydrocarbons	mg/kg	No	--	--	--		NA	792	NA	NA	NA	NA	NA	1091
Unresolved Complex Mixture	mg/kg	No	--	--	--		NA	1536	NA	NA	NA	NA	NA	1133
<b>Metals</b>														
Arsenic	mg/kg	No	14	7.24	7.2		NA	<b>7.29 J</b>	<b>19.9</b>	4.95	NA	NA	NA	<b>10.1 J</b>
Barium	mg/kg	No	558	--	174		NA	112	278	113	NA	NA	NA	207
Cadmium	mg/kg	No	--	1	0.66		NA	< 3.39 U	< 4.29 U	< 0.653 U	NA	NA	NA	< 3.73 U
Chromium	mg/kg	No	80	52.3	103		NA	16.0	35.0	14.9	NA	NA	NA	28.0 J
Lead	mg/kg	No	36	30.2	56		NA	19.8	<b>58.8</b>	17.2	NA	NA	NA	<b>41.7</b>
Mercury	mg/kg	No	0.07	0.13	0.20		NA	< 0.683 U	0.102 J	0.0546 J	NA	NA	NA	0.121 J
Nickel	mg/kg	Yes	35	15.9	66		NA	14.9	<b>32.8</b>	11.8	NA	NA	NA	<b>27.5</b>
Selenium	mg/kg	Yes	0.7	2	--		NA	< 13.6 U	< 17.2 U	< 2.61 U	NA	NA	NA	< 14.9 U
Silver	mg/kg	Yes	--	2	1.3		NA	< 3.39 U	< 4.29 U	< 0.653 U	NA	NA	NA	< 3.73 U
Vanadium	mg/kg	Yes	88	--	46		NA	23.0	59.8	27.4	NA	NA	NA	45.2
<b>Other</b>														
Percent Moisture	%	--	--	--	--		18.4	85.4	88.8	23.4	21.6	21.7	17.4	87.0
Total Organic Carbon	%	--	--	--	--		NA	10.58	NA	NA	NA	NA	NA	11.6
Black Carbon	%	--	--	--	--		NA	0.37 J	NA	NA	NA	NA	NA	0.36 J

**Table 7-3  
Sediment Sampling Results in Dawson Cove  
Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location Depths (ft) Sample Date Sample ID	SED-DA-020 0.5-1 ft 7/30/2013 SED-DA-020(0.5-1.0)	SED-DA-020 1-1.5 ft 7/30/2013 SED-DA-020(1.0-1.5)	SED-DA-021 0-0.5 ft 8/9/2013 SED-DA-021(0.0-0.5)	SED-DA-021 0.5-1 ft 8/9/2013 SED-DA-021(0.5-1.0)	SED-DA-021 1-1.5 ft 8/9/2013 SED-DA-021(1.0-1.5)	SED-DA-021 1.5-2 ft 8/9/2013 SED-DA-021(1.5-2.0)	SED-DA-021 2-3 ft 8/9/2013 SED-DA-021(2.0-3.0)	SED-DA-021 3-3.3 ft 8/9/2013 SED-DA-021(3.0-3.3)
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 120 U	< 12 U	27 J	< 13 U	< 13 U	< 10 U	< 10 U	< 11 U
2-Phenylbutane	µg/kg	Yes	--	--	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
Acetone	µg/kg	No	--	9.9	100		290	17 J	180	17 J	< 25 U	< 20 U	< 21 U	< 21 U
Benzene	µg/kg	Yes	--	141.57	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
Toluene	µg/kg	Yes	--	1220	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
Trichloroethene	µg/kg	No	--	96.9	9		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 59 U	< 6 U	< 23 U	< 7 U	< 6 U	< 5 U	< 5 U	< 5 U
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--		6.17	1.67	4.66	0.702	0.337	NA	NA	NA
Acenaphthylene	µg/kg	Yes	--	330	--		3.98	0.961	9.62	0.542	0.052	NA	NA	NA
Anthracene	µg/kg	Yes	--	330	--		8.77	1.86	15.6	0.634	< 0.1 U	NA	NA	NA
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		8.97	2.14	14.5	1.32	< 0.2 U	NA	NA	NA
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		10.9	1.87	16.3	< 0.1 U	< 0.1 U	NA	NA	NA
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		NA	NA	11.1	NA	NA	NA	NA	NA
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		43.8	10.2	62.1	5.79	0.227	NA	NA	NA
Benzo(b)fluorene	µg/kg	Yes	--	330	--		NA	NA	8.50	NA	NA	NA	NA	NA
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		38.2	4.72	29.0	< 0.2 U	< 0.2 U	NA	NA	NA
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		33.6	3.08	37.5	1.93	< 0.1 U	NA	NA	NA
Benzo(j)+(k)Fluoranthene	µg/kg	Yes	--	330	--		11.8	2.73	12.1	0.831	0.082 J	NA	NA	NA
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		56.2	7.02	31.5	4.47	< 0.1 U	NA	NA	NA
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		7.3	8.77	9.01	1.19	< 0.1 U	NA	NA	NA
Fluoranthene	µg/kg	Yes	--	330	--		33.2	11.6	42.3	4.82	0.763	NA	NA	NA
Fluorene	µg/kg	Yes	--	330	--		15.7	9.55	22.6	4.73	3.43	NA	NA	NA
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		17.0	3.33	30.4	2.18	< 0.1 U	NA	NA	NA
Naphthalene	µg/kg	Yes	--	330	--		10.9	5.80	29.6	9.04	3.26	NA	NA	NA
Perylene	µg/kg	Yes	--	--	--		562 EJ	337	120	297	19.3	NA	NA	NA
Phenanthrene	µg/kg	Yes	--	330	--		46.1	35.5	54.9	11.3	7.83	NA	NA	NA
Pyrene	µg/kg	Yes	--	330	--		22.6	5.83	37.1	3.58	0.387	NA	NA	NA
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901		245	56.6	293	26.1	1.46	NA	NA	NA
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182		110	62.6	200	36.7	18.5	NA	NA	NA



**Table 7-3  
Sediment Sampling Results in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-020	SED-DA-020	SED-DA-021	SED-DA-021	SED-DA-021	SED-DA-021	SED-DA-021	SED-DA-021
						Depths (ft)	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft	2-3 ft	3-3.3 ft
Sample Date						7/30/2013	7/30/2013	8/9/2013	8/9/2013	8/9/2013	8/9/2013	8/9/2013	8/9/2013	8/9/2013
Sample ID						SED-DA-020(0.5-1.0)	SED-DA-020(1.0-1.5)	SED-DA-021(0.0-0.5)	SED-DA-021(0.5-1.0)	SED-DA-021(1.0-1.5)	SED-DA-021(1.5-2.0)	SED-DA-021(2.0-3.0)	SED-DA-021(3.0-3.3)	
<b>PAHs - Alkylated</b>														
1-Methylnaphthalene	µg/kg	Yes	--	330	--	5.46	2.33	23.3	3.25	1.19	NA	NA	NA	
2-Methylnaphthalene	µg/kg	Yes	--	330	--	12.8	4.92	39.8	6.48	2.42	NA	NA	NA	
C1-Chrysenes	µg/kg	Yes	--	--	--	369	< 0.2 U	74.5	< 0.2 U	< 0.2 U	NA	NA	NA	
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	73.5	7.61	34.2	3.21	< 0.5 U	NA	NA	NA	
C1-Fluorenes	µg/kg	Yes	--	--	--	11.3	5.44	17.4	2.48	1.50	NA	NA	NA	
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	42.2	12.1	35.7	6.53	3.05	NA	NA	NA	
C2-Chrysenes	µg/kg	Yes	--	--	--	219	< 0.2 U	68.7	< 0.2 U	< 0.2 U	NA	NA	NA	
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	160	< 0.5 U	54.9	< 0.5 U	< 0.5 U	NA	NA	NA	
C2-Fluorenes	µg/kg	Yes	--	--	--	49.8	15.2	37.6	5.79	< 0.4 U	NA	NA	NA	
C2-Naphthalenes	µg/kg	Yes	--	--	--	28.9	9.31	71.7	8.35	3.82	NA	NA	NA	
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	93.5	14.8	45.3	7.19	< 0.3 U	NA	NA	NA	
C3-Chrysenes	µg/kg	Yes	--	--	--	164	< 0.2 U	54.0	< 0.2 U	< 0.2 U	NA	NA	NA	
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	171	< 0.5 U	34.8	< 0.5 U	< 0.5 U	NA	NA	NA	
C3-Fluorenes	µg/kg	Yes	--	--	--	49.0	11.3	43.5	5.33	< 0.4 U	NA	NA	NA	
C3-Naphthalenes	µg/kg	Yes	--	--	--	29.7	9.54	71.5	9.42	7.19	NA	NA	NA	
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	129	7.57	54.6	2.91	< 0.3 U	NA	NA	NA	
C4-Chrysenes	µg/kg	Yes	--	--	--	79.5	< 0.2 U	35.3	< 0.2 U	< 0.2 U	NA	NA	NA	
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	189	< 0.5 U	48.4	< 0.5 U	< 0.5 U	NA	NA	NA	
C4-Naphthalenes	µg/kg	Yes	--	--	--	36.3	12.9	40.5	8.10	< 0.7 U	NA	NA	NA	
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	122	9.19	46.7	2.68	< 0.3 U	NA	NA	NA	
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130	<b>2270</b>	406	<b>858</b>	326	20.8	NA	NA	NA	
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430	<b>702</b>	170	<b>673</b>	95.5	34.1	NA	NA	NA	
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1	0.02 *	NA	0.01	NA	NA	NA	NA	NA	
<b>TPH</b>														
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--	NA	NA	1548	NA	NA	NA	NA	NA	
Total Resolveable Hydrocarbons	mg/kg	No	--	--	--	NA	NA	857	NA	NA	NA	NA	NA	
Unresolved Complex Mixture	mg/kg	No	--	--	--	NA	NA	691	NA	NA	NA	NA	NA	
<b>Metals</b>														
Arsenic	mg/kg	No	14	7.24	7.2	<b>12.9 J</b>	3.50	<b>10.6</b>	3.14	2.74	NA	NA	NA	
Barium	mg/kg	No	558	--	174	284	99.2	202	107	94.6	NA	NA	NA	
Cadmium	mg/kg	No	--	1	0.66	< 4.05 U	< 0.678 U	0.254 J	< 0.667 U	< 0.639 U	NA	NA	NA	
Chromium	mg/kg	No	80	52.3	103	42.4 J	14.1 J	26.5 J	17.4 J	15.5 J	NA	NA	NA	
Lead	mg/kg	No	36	30.2	56	<b>80.0</b>	15.9	<b>35.8</b>	15.6	11.5	NA	NA	NA	
Mercury	mg/kg	No	0.07	0.13	0.20	<b>0.157 J</b>	0.0412 J	0.0892 J	0.0397 J	0.0194 J	NA	NA	NA	
Nickel	mg/kg	Yes	35	15.9	66	<b>38.6</b>	11.5	<b>25.0</b>	10.3	10.0	NA	NA	NA	
Selenium	mg/kg	Yes	0.7	2	--	< 16.2 U	< 2.71 U	< 5.92 U	< 2.67 U	1.35 J	NA	NA	NA	
Silver	mg/kg	Yes	--	2	1.3	< 4.05 U	< 0.678 U	< 1.48 U	< 0.667 U	< 0.639 U	NA	NA	NA	
Vanadium	mg/kg	Yes	88	--	46	69.5	25.8	42.4	30.3	26.4	NA	NA	NA	
<b>Other</b>														
Percent Moisture	%	--	--	--	--	88.0	26.2	67.5	27.2	24.0	19.1	18.1	17.2	
Total Organic Carbon	%	--	--	--	--	NA	NA	12.63	NA	NA	NA	NA	NA	
Black Carbon	%	--	--	--	--	NA	NA	0.41 J	NA	NA	NA	NA	NA	

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-022	SED-DA-022	SED-DA-022	SED-DA-022	SED-DA-022	SED-DA-023	SED-DA-023	SED-DA-023
						Depths (ft)	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft	2-3 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft
Sample Date						8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013
Sample ID						SED-DA-022(0.0-0.5)	SED-DA-022(0.5-1.0)	SED-DA-022(1.0-1.5)	SED-DA-022(1.5-2.0)	SED-DA-022(2.0-3.0)	SED-DA-023(0.0-0.5)	SED-DA-023(0.5-1.0)	SED-DA-023(1.0-1.5)	
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--	8 J	< 7 U	< 6 U	< 7 U	< 8 U	< 45 UJ	< 32 U	< 6 U	
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--	8 J	< 7 U	< 6 U	< 7 U	< 8 U	< 45 UJ	< 32 U	< 6 U	
2-Butanone (MEK)	µg/kg	No	--	42.4	17	42 J	< 14 U	< 13 U	< 14 U	< 17 U	39 J	< 63 U	< 12 U	
2-Phenylbutane	µg/kg	Yes	--	--	--	< 38 U	< 7 U	< 6 U	< 7 U	< 8 U	< 45 U	< 32 U	< 6 U	
Acetone	µg/kg	No	--	9.9	100	250	14 J	< 25 U	< 28 U	< 34 U	270	150	13 J	
Benzene	µg/kg	Yes	--	141.57	--	< 38 U	< 7 U	< 6 U	< 7 U	< 8 U	< 45 U	< 32 U	< 6 U	
Ethylbenzene	µg/kg	Yes	--	1100	--	< 38 U	< 7 U	< 6 U	< 7 U	< 8 U	< 45 U	< 32 U	< 6 U	
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--	< 38 U	< 7 U	< 6 U	< 7 U	< 8 U	< 45 U	< 32 U	< 6 U	
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--	< 38 U	< 7 U	< 6 U	< 7 U	< 8 U	< 45 U	< 32 U	< 6 U	
n-Butylbenzene	µg/kg	Yes	--	--	--	< 38 U	< 7 U	< 6 U	< 7 U	< 8 U	< 45 UJ	< 32 U	< 6 U	
n-Propylbenzene	µg/kg	Yes	--	--	--	< 38 U	< 7 U	< 6 U	< 7 U	< 8 U	< 45 UJ	< 32 U	< 6 U	
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--	< 38 U	< 7 U	< 6 U	< 7 U	< 8 U	< 45 UJ	< 32 U	< 6 U	
Toluene	µg/kg	Yes	--	1220	--	< 38 U	< 7 U	< 6 U	< 7 U	< 8 U	< 45 U	< 32 U	< 6 U	
Trichloroethene	µg/kg	No	--	96.9	9	23 J	3 J	5 J	4 J	6 J	19 J	15 J	3 J	
Xylene (Total)	µg/kg	Yes	--	25.2	--	< 38 U	< 7 U	< 6 U	< 7 U	< 8 U	< 45 U	< 32 U	< 6 U	
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--	4.69	0.969	0.50	< 0.1 U	< 0.1 U	8.68	3.65	0.569	
Acenaphthylene	µg/kg	Yes	--	330	--	8.89	0.490	0.04	< 0 U	< 0 U	20.0	3.42	0.350	
Anthracene	µg/kg	Yes	--	330	--	13.9	0.594	< 0.1 U	< 0.1 U	< 0.1 U	34.8	5.10	0.325	
Benzo(a)Anthracene	µg/kg	Yes	--	330	--	10.5	0.671	0.154 J	< 0.2 U	< 0.2 U	27.8	5.49	0.536	
Benzo(a)Pyrene	µg/kg	Yes	--	330	--	10.5	0.565	0.167	< 0.1 U	< 0.1 U	32.3	5.00	0.512	
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--	15.8	NA	NA	NA	NA	< 0.3 U	NA	NA	
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--	43.9	2.86	0.330	< 0.2 U	< 0.2 U	124	27.3	2.74	
Benzo(b)fluorene	µg/kg	Yes	--	330	--	6.61	NA	NA	NA	NA	19.4	NA	NA	
Benzo(e)Pyrene	µg/kg	Yes	--	--	--	20.2	1.22	0.219	< 0.2 U	< 0.2 U	60.8	13.3	1.04	
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--	45.7	1.22	0.276	< 0.1 U	< 0.1 U	152	23.2	0.837	
Benzo(j)+k)Fluoranthene	µg/kg	Yes	--	330	--	13.1	0.721	0.126	< 0.1 U	< 0.1 U	39.8	6.06	0.765	
Chrysene/Triphenylene	µg/kg	Yes	--	330	--	27.9	2.14	0.274	< 0.1 U	< 0.1 U	72.4	15.4	2.26	
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--	11.2	0.949	0.300	< 0.1 U	< 0.1 U	19.0	3.62	0.428	
Fluoranthene	µg/kg	Yes	--	330	--	31.3	4.25	1.66	1.00	0.971	78.8	21.0	3.18	
Fluorene	µg/kg	Yes	--	330	--	23.5	8.45	2.81	1.53	1.84	47.9	22.1	5.54	
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--	45.4	2.50	0.345	< 0.1 U	< 0.1 U	106	15.0	1.07	
Naphthalene	µg/kg	Yes	--	330	--	16.0	3.21	1.03	< 0.855 UB	< 0.687 UB	38.0	12.8	2.83	
Perylene	µg/kg	Yes	--	--	--	266	129	25.4	14.7	0.263 J	230	640 EJ	116	
Phenanthrene	µg/kg	Yes	--	330	--	49.1	22.5	9.46	5.42	6.72	116	55.3	15.3	
Pyrene	µg/kg	Yes	--	330	--	24.4	2.39	0.719	0.384	0.303	71.4	12.9	1.67	
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901	264	18.3	4.35	1.38	1.27	724	135	14.0	
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182	146	40.5	14.6	7.44	9.03	322	122	27.8	

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-022	SED-DA-022	SED-DA-022	SED-DA-022	SED-DA-022	SED-DA-023	SED-DA-023	SED-DA-023
						Depths (ft)	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft	2-3 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft
Sample Date						8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013
Sample ID						SED-DA-022(0.0-0.5)	SED-DA-022(0.5-1.0)	SED-DA-022(1.0-1.5)	SED-DA-022(1.5-2.0)	SED-DA-022(2.0-3.0)	SED-DA-023(0.0-0.5)	SED-DA-023(0.5-1.0)	SED-DA-023(1.0-1.5)	
<b>PAHs - Alkylated</b>														
1-Methylnaphthalene	µg/kg	Yes	--	330	--	10.2	1.32	0.236 J	0.139 J	0.173 J	18.6	6.30	0.959	
2-Methylnaphthalene	µg/kg	Yes	--	330	--	19.7	2.92	0.544 J	0.351 J	0.296 J	37.6	13.6	1.97	
C1-Chrysenes	µg/kg	Yes	--	--	--	176	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	128	45.5	< 0.2 U	
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	29.7	2.13	0.361 J	0.312 J	< 0.5 U	100	18.4	1.61	
C1-Fluorenes	µg/kg	Yes	--	--	--	17.7	3.36	1.41	0.952	0.974	40.9	11.4	2.56	
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	40.7	7.69	4.96	< 0.1 U	< 0.1 U	841	26.3	6.60	
C2-Chrysenes	µg/kg	Yes	--	--	--	55.0	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	116	25.4	< 0.2 U	
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	146	28.3	< 0.5 U	
C2-Fluorenes	µg/kg	Yes	--	--	--	52.1	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	164	28.6	< 0.4 U	
C2-Naphthalenes	µg/kg	Yes	--	--	--	47.9	8.52	1.61	1.69	1.06	104	33.0	4.94	
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	73.7	5.81	< 0.3 U	< 0.3 U	< 0.3 U	277	33.0	< 0.3 U	
C3-Chrysenes	µg/kg	Yes	--	--	--	45.9	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	99.3	22.8	< 0.2 U	
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	107	21.3	< 0.5 U	
C3-Fluorenes	µg/kg	Yes	--	--	--	51.4	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	176	28.9	< 0.4 U	
C3-Naphthalenes	µg/kg	Yes	--	--	--	53.3	9.31	3.19	< 0.7 U	< 0.7 U	144	43.5	6.21	
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	80.9	2.90	< 0.3 U	< 0.3 U	< 0.3 U	305	35.7	< 0.3 U	
C4-Chrysenes	µg/kg	Yes	--	--	--	22.7	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.7 U	15.6	< 0.2 U	
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	108	25.2	< 0.5 U	
C4-Naphthalenes	µg/kg	Yes	--	--	--	54.1	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	177	28.2	6.27	
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	86.9	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	247	28.3	< 0.3 U	
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130	<b>895</b>	151	30.3	16.4	1.54	<b>1820</b>	<b>991</b>	133	
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430	<b>711</b>	78.0	25.8	10.1	11.1	<b>2820</b>	<b>419</b>	54.4	
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1	0.03	NA	NA	NA	NA	0.04	0.01 *	NA	
<b>TPH</b>														
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--	959	NA	NA	NA	NA	2275	NA	NA	
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--	536	NA	NA	NA	NA	1140	NA	NA	
Unresolved Complex Mixture	mg/kg	No	--	--	--	423	NA	NA	NA	NA	1135	NA	NA	
<b>Metals</b>														
Arsenic	mg/kg	No	14	7.24	7.2	<b>12.6</b>	3.87	3.62	NA	NA	<b>14.0</b>	<b>17.0</b>	3.89	
Barium	mg/kg	No	558	--	174	191	101	74.4	NA	NA	177	263	96.5	
Cadmium	mg/kg	No	--	1	0.66	< 2.80 U	< 0.711 U	< 0.662 U	NA	NA	< 3.34 U	< 2.64 U	< 0.648 U	
Chromium	mg/kg	No	80	52.3	103	25.3	14.2	11.6	NA	NA	23.6	35.3	14.0	
Lead	mg/kg	No	36	30.2	56	<b>35.3</b>	14.8	11.8	NA	NA	<b>32.8</b>	<b>51.2</b>	13.7	
Mercury	mg/kg	No	0.07	0.13	0.20	0.0805 J	0.0385 J	0.0256 J	NA	NA	0.0839 J	0.123 J	0.0351 J	
Nickel	mg/kg	Yes	35	15.9	66	<b>23.3</b>	9.56	7.83	NA	NA	<b>26.4</b>	<b>34.2</b>	9.86	
Selenium	mg/kg	Yes	0.7	2	--	< 11.2 U	< 2.84 U	< 2.65 U	NA	NA	< 13.4 U	< 10.5 U	< 2.59 U	
Silver	mg/kg	Yes	--	2	1.3	< 2.80 U	< 0.711 U	< 0.662 U	NA	NA	< 3.34 U	< 2.64 U	< 0.648 U	
Vanadium	mg/kg	Yes	88	--	46	41.9	24.8	20.5	NA	NA	36.3	55.6	22.9	
<b>Other</b>														
Percent Moisture	%	--	--	--	--	82.3	32.4	24.5	24.9	18.7	85.2	81.4	24.4	
Total Organic Carbon	%	--	--	--	--	6.68	NA	NA	NA	NA	13.3	NA	NA	
Black Carbon	%	--	--	--	--	0.23 J	NA	NA	NA	NA	0.42 J	NA	NA	

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-023	SED-DA-023	SED-DA-023	SED-DA-024	SED-DA-024	SED-DA-024	SED-DA-024	SED-DA-024
						Depths (ft)	1.5-2 ft	2-3 ft	3-3.09 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft	2-3 ft
						Sample Date	8/16/2013	8/16/2013	8/16/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013
						Sample ID	SED-DA-023(1.5-2.0)	SED-DA-023(2.0-3.0)	SED-DA-023(3.0-3.1)	SED-DA-024(0.0-0.5)	SED-DA-024(0.5-1.0)	SED-DA-024(1.0-1.5)	SED-DA-024(1.5-2.0)	SED-DA-024(2.0-3.0)
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--	< 7 U	< 7 U	< 5 U	< 12 U	9 J	18 J	7 J	< 45 U	
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--	< 7 U	< 7 U	< 5 U	< 12 U	10 J	20 J	7 J	< 45 U	
2-Butanone (MEK)	µg/kg	No	--	42.4	17	< 13 U	< 13 U	< 10 U	< 23 U	< 49 U	< 77 U	26 J	<b>60 J</b>	
2-Phenylbutane	µg/kg	Yes	--	--	--	< 7 U	< 7 U	< 5 U	< 12 U	< 25 U	< 38 U	< 27 U	< 45 U	
Acetone	µg/kg	No	--	9.9	100	9 J	< 26 U	< 20 U	<b>41 J</b>	<b>120</b>	<b>190</b>	<b>150</b>	<b>340</b>	
Benzene	µg/kg	Yes	--	141.57	--	< 7 U	< 7 U	< 5 U	< 12 U	< 25 U	< 38 U	< 27 U	< 45 U	
Ethylbenzene	µg/kg	Yes	--	1100	--	< 7 U	< 7 U	< 5 U	< 12 U	< 25 U	< 38 U	< 27 U	< 45 U	
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--	< 7 U	< 7 U	< 5 U	< 12 U	< 25 U	< 38 U	< 27 U	< 45 U	
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--	< 7 U	< 7 U	< 5 U	< 12 U	< 25 U	< 38 U	< 27 U	< 45 U	
n-Butylbenzene	µg/kg	Yes	--	--	--	< 7 U	< 7 U	< 5 U	< 12 U	< 25 U	< 38 U	< 27 U	< 45 U	
n-Propylbenzene	µg/kg	Yes	--	--	--	< 7 U	< 7 U	< 5 U	< 12 U	< 25 U	< 38 U	< 27 U	< 45 U	
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--	< 7 U	< 7 U	< 5 U	< 12 U	< 25 U	< 38 U	< 27 U	< 45 U	
Toluene	µg/kg	Yes	--	1220	--	< 7 U	< 7 U	< 5 U	< 12 U	< 25 U	< 38 U	< 27 U	< 45 U	
Trichloroethene	µg/kg	No	--	96.9	9	3 J	2 J	2 J	< 12 U	< 25 U	< 38 U	< 27 U	< 45 U	
Xylene (Total)	µg/kg	Yes	--	25.2	--	< 7 U	< 7 U	< 5 U	< 12 U	< 25 U	< 38 U	< 27 U	< 45 U	
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--	< 0.1 U	< 0.1 U	< 0.1 U	1.73	0.62	3.06	NA	NA	
Acenaphthylene	µg/kg	Yes	--	330	--	< 0 U	< 0.04 U	< 0 U	4.75	0.40	5.52	NA	NA	
Anthracene	µg/kg	Yes	--	330	--	< 0.1 U	< 0.1 U	< 0.1 U	8.09	1.03	11.4	NA	NA	
Benzo(a)Anthracene	µg/kg	Yes	--	330	--	< 0.2 U	< 0.2 U	< 0.2 U	10.2	1.08	11.0	NA	NA	
Benzo(a)Pyrene	µg/kg	Yes	--	330	--	< 0.1 U	< 0.1 U	< 0.1 U	9.25	1.02	15.5	NA	NA	
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--	NA	NA	NA	6.65	NA	NA	NA	NA	
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--	< 0.2 U	< 0.2 U	< 0.2 U	41.4	3.67	49.4	NA	NA	
Benzo(b)fluorene	µg/kg	Yes	--	330	--	NA	NA	NA	8.02	NA	NA	NA	NA	
Benzo(e)Pyrene	µg/kg	Yes	--	--	--	< 0.2 U	< 0.2 U	< 0.2 U	21.5	2.20	32.0	NA	NA	
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--	< 0.1 U	0.076 J	< 0.1 U	28.6	1.74	35.3	NA	NA	
Benzo(j)+k)Fluoranthene	µg/kg	Yes	--	330	--	< 0.1 U	< 0.1 U	< 0.1 U	11.0	0.818	20.3	NA	NA	
Chrysene/Triphenylene	µg/kg	Yes	--	330	--	< 0.1 U	< 0.1 U	< 0.1 U	21.2	3.06	40.7	NA	NA	
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--	< 0.1 U	0.053 J	< 0.1 U	10.5	0.619	5.71	NA	NA	
Fluoranthene	µg/kg	Yes	--	330	--	2.56	1.83	1.98	33.9	6.48	54.4	NA	NA	
Fluorene	µg/kg	Yes	--	330	--	4.33	3.18	4.33	8.50	3.36	22.1	NA	NA	
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--	< 0.1 U	0.063	< 0.1 U	23.1	1.54	22.9	NA	NA	
Naphthalene	µg/kg	Yes	--	330	--	1.13	< 0.856 UB	0.90	5.68	1.87	11.7	NA	NA	
Perylene	µg/kg	Yes	--	--	--	14.7	0.690 J	0.17 J	365	49.1	212	NA	NA	
Phenanthrene	µg/kg	Yes	--	330	--	13.2	12.4	14.3	36.6	16.2	85.6	NA	NA	
Pyrene	µg/kg	Yes	--	330	--	0.668	< 0.42 UB	0.366	26.1	3.41	39.1	NA	NA	
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901	3.23	2.02	2.35	215	23.4	294	NA	NA	
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182	19.7	15.9	20.4	86.9	27.0	182	NA	NA	

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-023	SED-DA-023	SED-DA-023	SED-DA-024	SED-DA-024	SED-DA-024	SED-DA-024	SED-DA-024			
						Depths (ft)	1.5-2 ft	2-3 ft	3-3.09 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft	2-3 ft	Sample Date	8/16/2013	8/16/2013
						Sample ID	SED-DA-023(1.5-2.0)	SED-DA-023(2.0-3.0)	SED-DA-023(3.0-3.1)	SED-DA-024(0.0-0.5)	SED-DA-024(0.5-1.0)	SED-DA-024(1.0-1.5)	SED-DA-024(1.5-2.0)	SED-DA-024(2.0-3.0)			
<b>PAHs - Alkylated</b>																	
1-Methylnaphthalene	µg/kg	Yes	--	330	--		0.349 J	< 0.5 UB	0.292 J	7.96	1.10	15.2	NA	NA			
2-Methylnaphthalene	µg/kg	Yes	--	330	--		0.664 J	0.345 J	0.529 J	13.6	2.40	27.2	NA	NA			
C1-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	< 0.2 U	78.8	< 0.2 U	87.3	NA	NA			
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	< 0.5 U	< 0.5 U	40.8	4.31	69.9	NA	NA			
C1-Fluorenes	µg/kg	Yes	--	--	--		2.18	1.52	2.23	17.9	2.94	35.9	NA	NA			
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		5.50	6.12	5.86	56.0	9.93	101	NA	NA			
C2-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	< 0.2 U	43.3	< 0.2 U	68.7	NA	NA			
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	< 0.5 U	< 0.5 U	62.3	< 0.5 U	134	NA	NA			
C2-Fluorenes	µg/kg	Yes	--	--	--		< 0.4 U	< 0.4 U	< 0.4 U	51.3	9.70	105	NA	NA			
C2-Naphthalenes	µg/kg	Yes	--	--	--		2.47	1.08	1.99	43.0	5.57	74.9	NA	NA			
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	< 0.3 U	< 0.3 U	92.9	14.7	190	NA	NA			
C3-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	< 0.2 U	33.3	< 0.2 U	60.2	NA	NA			
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	< 0.5 U	< 0.5 U	39.6	< 0.5 U	93.7	NA	NA			
C3-Fluorenes	µg/kg	Yes	--	--	--		< 0.4 U	< 0.4 U	< 0.4 U	60.1	12.2	124	NA	NA			
C3-Naphthalenes	µg/kg	Yes	--	--	--		< 0.7 U	< 0.7 U	< 0.7 U	61.1	7.83	111	NA	NA			
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	< 0.3 U	< 0.3 U	113	9.83	184	NA	NA			
C4-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	< 0.2 U	33.0	< 0.2 U	53.4	NA	NA			
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	< 0.5 U	< 0.5 U	64.1	< 0.5 U	95.8	NA	NA			
C4-Naphthalenes	µg/kg	Yes	--	--	--		< 0.7 U	< 0.7 U	< 0.7 U	60.3	< 0.7 U	116	NA	NA			
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	< 0.3 U	< 0.3 U	92.4	9.76	175	NA	NA			
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130		17.9	2.71	2.52	<b>1000</b>	79.0	<b>1200</b>	NA	NA			
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430		29.8	24.6	30.4	<b>743</b>	109	<b>1400</b>	NA	NA			
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1		NA	NA	NA	0.06	NA	0.09*	NA	NA			
<b>TPH</b>																	
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--		NA	NA	NA	770	NA	NA	NA	NA			
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--		NA	NA	NA	404	NA	NA	NA	NA			
Unresolved Complex Mixture	mg/kg	No	--	--	--		NA	NA	NA	366	NA	NA	NA	NA			
<b>Metals</b>																	
Arsenic	mg/kg	No	14	7.24	7.2		NA	NA	NA	3.81 J	5.24 J	<b>7.66 J</b>	NA	NA			
Barium	mg/kg	No	558	--	174		NA	NA	NA	104	263	241	NA	NA			
Cadmium	mg/kg	No	--	1	0.66		NA	NA	NA	< 1.14 U	< 1.74 U	< 2.62 U	NA	NA			
Chromium	mg/kg	No	80	52.3	103		NA	NA	NA	13.3 J	34.8 J	33.0 J	NA	NA			
Lead	mg/kg	No	36	30.2	56		NA	NA	NA	17.8	<b>37.4</b>	<b>41.1</b>	NA	NA			
Mercury	mg/kg	No	0.07	0.13	0.20		NA	NA	NA	0.0528 J	< 0.331 U	0.130 J	NA	NA			
Nickel	mg/kg	Yes	35	15.9	66		NA	NA	NA	11.9	<b>29.2</b>	<b>31.1</b>	NA	NA			
Selenium	mg/kg	Yes	0.7	2	--		NA	NA	NA	< 4.56 U	< 6.97 U	< 10.5 U	NA	NA			
Silver	mg/kg	Yes	--	2	1.3		NA	NA	NA	< 1.14 U	< 1.74 U	< 2.62 U	NA	NA			
Vanadium	mg/kg	Yes	88	--	46		NA	NA	NA	22.5	59.3	52.7	NA	NA			
<b>Other</b>																	
Percent Moisture	%	--	--	--	--		26.8	24.0	17.8	56.1	71.3	80.9	77.8	83.4			
Total Organic Carbon	%	--	--	--	--		NA	NA	NA	3.23	NA	NA	NA	NA			
Black Carbon	%	--	--	--	--		NA	NA	NA	< 0.19 U	NA	NA	NA	NA			

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-025	SED-DA-025	SED-DA-025	SED-DA-025	SED-DA-026	SED-DA-026	SED-DA-026
						Depths (ft)	0-0.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft
						Sample Date	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013
						Sample ID	SED-DA-025(0.0-0.5)	SED-DA-DUP-02-073013FD	SED-DA-025(0.5-1.0)	SED-DA-025(1.0-1.5)	SED-DA-026(0.0-0.5)	SED-DA-026(0.5-1.0)	SED-DA-026(1.0-1.5)
<b>VOCs</b>													
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 93 U	< 140 U	< 18 U	< 15 U	<b>160</b>	< 110 U	< 35 U
2-Phenylbutane	µg/kg	Yes	--	--	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
Acetone	µg/kg	No	--	9.9	100		<b>230</b>	<b>320</b>	<b>25 J</b>	<b>19 J</b>	<b>920</b>	<b>230</b>	<b>52 J</b>
Benzene	µg/kg	Yes	--	141.57	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
Toluene	µg/kg	Yes	--	1220	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
Trichloroethene	µg/kg	No	--	96.9	9		< 47 U	14 J	< 9 U	< 7 U	< 50 U	20 J	4 J
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 47 U	< 68 U	< 9 U	< 7 U	< 50 U	< 56 U	< 18 U
<b>PAHs - Non-alkylated</b>													
Acenaphthene	µg/kg	Yes	--	330	--		1.54	8.73	1.10	0.465	8.16	4.01	3.78
Acenaphthylene	µg/kg	Yes	--	330	--		5.21	13.6	2.15	0.373	11.8	2.35	2.14
Anthracene	µg/kg	Yes	--	330	--		12.4	32.9	5.13	0.634	26.1	5.67	5.29
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		12.2	20.6	4.22	1.04	24.9	6.98	7.60
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		16.1	28.0	4.76	< 0.1 U	30.9	7.63	6.35
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		27.7	27.9	NA	NA	< 0.3 UJ	NA	NA
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		57.7	97	17.2	4.23	114	32.6	31.0
Benzo(b)fluorene	µg/kg	Yes	--	330	--		10.6	12.1	NA	NA	16.4	NA	NA
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		37.9	44.8	7.94	< 0.2 U	66.3	23.5	22.7
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		59.9	69.3 J	10.7	< 0.1 U	145 J	18.0	16.8
Benzo(j)+(k)Fluoranthene	µg/kg	Yes	--	330	--		18.1	24.3	4.91	0.803	33.2	6.78	8.34
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		32.1	42.3	8.65	2.89	42.2	24.6	25.0
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		8.41	8.17 J	2.67	< 0.1 U	14.5 J	4.81	4.34
Fluoranthene	µg/kg	Yes	--	330	--		40.7	90.7	16.7	4.64	79.1	23.6	24.7
Fluorene	µg/kg	Yes	--	330	--		15.9	28.0	10.9	3.32	22.3	12.0	11.2
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		39.5	30.3 J	10.9	< 0.1 U	60.3 J	11.3	10.9
Naphthalene	µg/kg	Yes	--	330	--		10.5	15.1	6.21	2.99	18.5	10.0	8.18
Perylene	µg/kg	Yes	--	--	--		297	567	396	625	790	375	314
Phenanthrene	µg/kg	Yes	--	330	--		47.7	109	44.3	12.9	83.2	39.9	36.2
Pyrene	µg/kg	Yes	--	330	--		35.6	49.8	12.4	3.19	72.2	20.7	21.2
Total HMW PAHs (Priority+2 List) <sup>6</sup>	µg/kg	Yes	--	655	901		320	460	93.1	16.8	616	157	156
Total LMW PAHs (Priority+2 List) <sup>6</sup>	µg/kg	Yes	--	330	182		112	231	79.2	24.2	195	90.8	84.1

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-025	SED-DA-025	SED-DA-025	SED-DA-025	SED-DA-026	SED-DA-026	SED-DA-026
						Depths (ft)	0-0.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft
Sample Date						7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013	7/30/2013
Sample ID						SED-DA-025(0.0-0.5)	SED-DA-DUP-02-073013FD	SED-DA-025(0.5-1.0)	SED-DA-025(1.0-1.5)	SED-DA-026(0.0-0.5)	SED-DA-026(0.5-1.0)	SED-DA-026(1.0-1.5)	SED-DA-026(1.0-1.5)
<b>PAHs - Alkylated</b>													
1-Methylnaphthalene	µg/kg	Yes	--	330	--	5.33	6.64	3.05	1.14	6.62	4.75	4.87	
2-Methylnaphthalene	µg/kg	Yes	--	330	--	13.1	16.6	6.33	2.40	18.4	12.1	12.4	
C1-Chrysenes	µg/kg	Yes	--	--	--	119	80.6	31.4	< 0.2 U	130	99.2	88.7	
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	52.8	55.5	10.8	3.03	58.5	39.0	43.6	
C1-Fluorenes	µg/kg	Yes	--	--	--	11.0	16.2	5.22	1.98	15.1	8.00	8.90	
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	46.6	61.8	16.0	6.59	56.3	31.4	34.0	
C2-Chrysenes	µg/kg	Yes	--	--	--	104	52.3 J	16.8	< 0.2 U	110 J	99.1	104	
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	140	122	22.8	< 0.5 U	107	93.7	90.5	
C2-Fluorenes	µg/kg	Yes	--	--	--	63.9	54.7	22.3	5.86	69.0	37.1	39.5	
C2-Naphthalenes	µg/kg	Yes	--	--	--	25.5	38.9	11.7	7.15	36.2	27.4	32.0	
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	93.8	79.7	18.4	< 0.3 U	81.3	59.0	70.6	
C3-Chrysenes	µg/kg	Yes	--	--	--	90.9	34.7 J	17.1	< 0.2 U	92.5 J	80.4	87.0	
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	79.6	59.8	11.7	< 0.5 U	56.3	82.7	75.7	
C3-Fluorenes	µg/kg	Yes	--	--	--	53.9	70.6	17.8	6.60	71.8	30.7	34.4	
C3-Naphthalenes	µg/kg	Yes	--	--	--	31.3	46.0	11.1	7.47	37.0	35.6	49.3	
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	90.4	85.8	15.4	< 0.3 U	75.2	85.9	96.1	
C4-Chrysenes	µg/kg	Yes	--	--	--	72.8	< 0.2 UJ	13.4	< 0.2 U	109 J	49.8	46.7	
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	106	54.2 J	24.5	< 0.5 U	105 J	92.4	82.6	
C4-Naphthalenes	µg/kg	Yes	--	--	--	17.6	37.3	10.9	< 0.7 U	26.0	28.3	30.8	
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	96.1	61.4	14.4	< 0.3 U	80.7	71.9	87.6	
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130	1450	1560	646	645	2240	1190	1110	
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430	652	795	222	59.9	760	506	567	
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1	0.03	0.02	NA	NA	0.03	0.01 *	0.01 *	
<b>TPH</b>													
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--	1578	1774	NA	NA	2173	NA	NA	
Total Resolveable Hydrocarbons	mg/kg	No	--	--	--	834	940	NA	NA	1000	NA	NA	
Unresolved Complex Mixture	mg/kg	No	--	--	--	744	834	NA	NA	1173	NA	NA	
<b>Metals</b>													
Arsenic	mg/kg	No	14	7.24	7.2	16.3	17.6 J	3.82	2.24 J	17.1 J	20.2	7.25	
Barium	mg/kg	No	558	--	174	258	241	106	89.0	267	539	198	
Cadmium	mg/kg	No	--	1	0.66	1.99 J	< 4.58 U	< 0.916 U	< 0.764 U	< 4.49 U	0.790 J	0.211 J	
Chromium	mg/kg	No	80	52.3	103	36.5 J	33.5 J	16.1 J	12.5 J	38.9 J	84.4 J	33.7 J	
Lead	mg/kg	No	36	30.2	56	68.5	55.7	19.0	15.6	71.5	103	33.9	
Mercury	mg/kg	No	0.07	0.13	0.20	0.152 J	0.196 J	0.0395 J	0.0531 J	0.184 J	0.146 J	0.788	
Nickel	mg/kg	Yes	35	15.9	66	36.0	33.6	11.4	8.17	34.8	74.0	28.5	
Selenium	mg/kg	Yes	0.7	2	--	< 13.0 U	< 18.3 U	< 3.66 U	< 3.06 U	< 18.0 U	< 15.1 U	< 5.34 U	
Silver	mg/kg	Yes	--	2	1.3	< 3.25 U	< 4.58 U	< 0.916 U	< 0.764 U	< 4.49 U	< 3.76 U	< 1.34 U	
Vanadium	mg/kg	Yes	88	--	46	58.7	54.7	27.1	21.3	64.0	135	52.4	
<b>Other</b>													
Percent Moisture	%	--	--	--	--	84.9	89.3	47.5	36.5	89.2	87.1	63.3	
Total Organic Carbon	%	--	--	--	--	8.11	13.4	NA	NA	12.5	NA	NA	
Black Carbon	%	--	--	--	--	0.32 J	0.36 J	NA	NA	0.3 J	NA	NA	

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-026	SED-DA-026	SED-DA-026	SED-DA-027	SED-DA-027	SED-DA-027	SED-DA-027	SED-DA-027
						Depths (ft)	1.5-2 ft	2-3 ft	3-3.4 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft	2-3 ft
						Sample Date	7/30/2013	7/30/2013	7/30/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013
						Sample ID	SED-DA-026(1.5-2.0)	SED-DA-026(2.0-3.0)	SED-DA-026(3.0-3.4)	SED-DA-027(0.0-0.5)	SED-DA-027(0.5-1.0)	SED-DA-027(1.0-1.5)	SED-DA-027(1.5-2.0)	SED-DA-027(2.0-3.0)
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 18 U	< 13 U	< 10 U	< 36 U	< 37 U	< 15 U	< 13 U	< 12 U
2-Phenylbutane	µg/kg	Yes	--	--	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
Acetone	µg/kg	No	--	9.9	100		<b>36 J</b>	<b>17 J</b>	<b>10 J</b>	<b>69 J</b>	<b>44 J</b>	<b>14 J</b>	9 J	< 24 U
Benzene	µg/kg	Yes	--	141.57	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
Toluene	µg/kg	Yes	--	1220	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
Trichloroethene	µg/kg	No	--	96.9	9		2 J	2 J	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 9 U	< 7 U	< 5 U	< 18 U	< 18 U	< 7 U	< 6 U	< 6 U
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--		NA	NA	NA	1.57	1.85	0.655	NA	NA
Acenaphthylene	µg/kg	Yes	--	330	--		NA	NA	NA	3.48	5.02	1.07	NA	NA
Anthracene	µg/kg	Yes	--	330	--		NA	NA	NA	6.65 J	12.39 J	2.03	NA	NA
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		NA	NA	NA	12.90	19.71	3.35	NA	NA
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		NA	NA	NA	7.12	13.44	3.12	NA	NA
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		NA	NA	NA	< 0.1 U	NA	NA	NA	NA
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		NA	NA	NA	25.15	66.37	10.1	NA	NA
Benzo(b)fluorene	µg/kg	Yes	--	330	--		NA	NA	NA	4.92	NA	NA	NA	NA
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		NA	NA	NA	9.31	27.90	5.55	NA	NA
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		NA	NA	NA	16.86	36.40	4.44	NA	NA
Benzo(j)+(k)Fluoranthene	µg/kg	Yes	--	330	--		NA	NA	NA	6.07	18.39	2.13	NA	NA
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		NA	NA	NA	14.82	28.05	7.89	NA	NA
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		NA	NA	NA	28.39	48.84	13.4	NA	NA
Fluoranthene	µg/kg	Yes	--	330	--		NA	NA	NA	20.72	42.44	12.1	NA	NA
Fluorene	µg/kg	Yes	--	330	--		NA	NA	NA	5.69	16.93	4.95	NA	NA
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		NA	NA	NA	10.33	13.51	4.29	NA	NA
Naphthalene	µg/kg	Yes	--	330	--		NA	NA	NA	4.11	8.16	3.97	NA	NA
Perylene	µg/kg	Yes	--	--	--		NA	NA	NA	291.88	373.54	164	NA	NA
Phenanthrene	µg/kg	Yes	--	330	--		NA	NA	NA	20.68	47.19	16.5	NA	NA
Pyrene	µg/kg	Yes	--	330	--		NA	NA	NA	21.69	36.81	7.86	NA	NA
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901		NA	NA	NA	164	324	68.7	NA	NA
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182		NA	NA	NA	47.8	105	34.4	NA	NA



**Table 7-3  
Sediment Sampling Results in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-026	SED-DA-026	SED-DA-026	SED-DA-027	SED-DA-027	SED-DA-027	SED-DA-027	SED-DA-027
						Depths (ft)	1.5-2 ft	2-3 ft	3-3.4 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft	2-3 ft
Sample Date						7/30/2013	7/30/2013	7/30/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	
Sample ID						SED-DA-026(1.5-2.0)	SED-DA-026(2.0-3.0)	SED-DA-026(3.0-3.4)	SED-DA-027(0.0-0.5)	SED-DA-027(0.5-1.0)	SED-DA-027(1.0-1.5)	SED-DA-027(1.5-2.0)	SED-DA-027(2.0-3.0)	
<b>PAHs - Alkylated</b>														
1-Methylnaphthalene	µg/kg	Yes	--	330	--	NA	NA	NA	1.68	3.97	1.60	NA	NA	
2-Methylnaphthalene	µg/kg	Yes	--	330	--	NA	NA	NA	3.89	9.21	3.62	NA	NA	
C1-Chrysenes	µg/kg	Yes	--	--	--	NA	NA	NA	42.17	101.16	24.7	NA	NA	
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	NA	NA	15.54	39.13	9.67	NA	NA	
C1-Fluorenes	µg/kg	Yes	--	--	--	NA	NA	NA	5.05	10.49	3.47	NA	NA	
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	NA	NA	20.06	46.64	11.9	NA	NA	
C2-Chrysenes	µg/kg	Yes	--	--	--	NA	NA	NA	24.93	77.43	18.4	NA	NA	
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	NA	NA	28.37	97.97	18.6	NA	NA	
C2-Fluorenes	µg/kg	Yes	--	--	--	NA	NA	NA	14.57	27.92	15.0	NA	NA	
C2-Naphthalenes	µg/kg	Yes	--	--	--	NA	NA	NA	9.11	20.76	7.54	NA	NA	
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	NA	NA	24.56	70.25	20.8	NA	NA	
C3-Chrysenes	µg/kg	Yes	--	--	--	NA	NA	NA	15.08	53.31	14.9	NA	NA	
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	NA	NA	15.66	45.60	16.8	NA	NA	
C3-Fluorenes	µg/kg	Yes	--	--	--	NA	NA	NA	14.81	40.28	10.8	NA	NA	
C3-Naphthalenes	µg/kg	Yes	--	--	--	NA	NA	NA	16.36	25.64	18.9	NA	NA	
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	NA	NA	31.30	92.92	19.2	NA	NA	
C4-Chrysenes	µg/kg	Yes	--	--	--	NA	NA	NA	12.88	28.82	10.4	NA	NA	
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	NA	NA	17.37	57.67	19.6	NA	NA	
C4-Naphthalenes	µg/kg	Yes	--	--	--	NA	NA	NA	10.79	22.78	10.8	NA	NA	
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	NA	NA	33.85	72.06	15.1	NA	NA	
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130	NA	NA	NA	637	<b>1230</b>	371	NA	NA	
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430	NA	NA	NA	233	<b>534</b>	168	NA	NA	
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1	NA	NA	NA	0.02	0.03 *	NA	NA	NA	
<b>TPH</b>														
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--	NA	NA	NA	393	NA	NA	NA	NA	
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--	NA	NA	NA	309	NA	NA	NA	NA	
Unresolved Complex Mixture	mg/kg	No	--	--	--	NA	NA	NA	83	NA	NA	NA	NA	
<b>Metals</b>														
Arsenic	mg/kg	No	14	7.24	7.2	NA	NA	NA	6.17	<b>7.60</b>	3.27	NA	NA	
Barium	mg/kg	No	558	--	174	NA	NA	NA	127	148	115	NA	NA	
Cadmium	mg/kg	No	--	1	0.66	NA	NA	NA	< 1.50 U	< 1.76 U	< 0.738 U	NA	NA	
Chromium	mg/kg	No	80	52.3	103	NA	NA	NA	19.6	22.8	18.9	NA	NA	
Lead	mg/kg	No	36	30.2	56	NA	NA	NA	20.1	27.2	17.5	NA	NA	
Mercury	mg/kg	No	0.07	0.13	0.20	NA	NA	NA	0.0535 J	0.0481 J	0.0344 J	NA	NA	
Nickel	mg/kg	Yes	35	15.9	66	NA	NA	NA	14.6	<b>17.8</b>	12.0	NA	NA	
Selenium	mg/kg	Yes	0.7	2	--	NA	NA	NA	< 6.01 U	< 7.04 U	< 2.95 U	NA	NA	
Silver	mg/kg	Yes	--	2	1.3	NA	NA	NA	< 1.50 U	< 1.76 U	< 0.738 U	NA	NA	
Vanadium	mg/kg	Yes	88	--	46	NA	NA	NA	32.0	36.7	32.3	NA	NA	
<b>Other</b>														
Percent Moisture	%	--	--	--	--	42.0	29.9	21.4	67.7	71.6	33.6	24.0	26.2	
Total Organic Carbon	%	--	--	--	--	NA	NA	NA	5.35	NA	NA	NA	NA	
Black Carbon	%	--	--	--	--	NA	NA	NA	< 0.17 U	NA	NA	NA	NA	

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-027	SED-DA-028	SED-DA-028	SED-DA-028	SED-DA-029	SED-DA-029	SED-DA-029	SED-DA-029
						Depths (ft)	3-3.6 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft
						Sample Date	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013
						Sample ID	SED-DA-027(3.0-3.6)	SED-DA-028(0.0-0.5)	SED-DA-028(0.5-1.0)	SED-DA-028(1.0-1.5)	SED-DA-029(0.0-0.5)	SED-DA-029(0.5-1.0)	SED-DA-029(1.0-1.5)	SED-DA-029(1.5-2.0)
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 12 U	< 37 U	13 J	7 J	90 J	< 38 U	< 17 U	< 14 U
2-Phenylbutane	µg/kg	Yes	--	--	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
Acetone	µg/kg	No	--	9.9	100		< 25 U	65 J	63	36	420	66 J	18 J	11 J
Benzene	µg/kg	Yes	--	141.57	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
Toluene	µg/kg	Yes	--	1220	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
Trichloroethene	µg/kg	No	--	96.9	9		< 6 U	< 19 UB	< 10 UB	< 8 UB	< 60 U	< 19 U	< 8 UB	< 7 UB
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 6 U	< 19 U	< 10 U	< 8 U	< 60 U	< 19 U	< 8 U	< 7 U
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--		NA	7.58	2.51	0.63	2.67	0.685	0.580	NA
Acenaphthylene	µg/kg	Yes	--	330	--		NA	65.22	9.19	0.79	3.02	0.797	0.449	NA
Anthracene	µg/kg	Yes	--	330	--		NA	115.96 J	12.27 J	1.23 J	5.33 J	1.28 J	0.828 J	NA
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		NA	171.95	44.98	2.65	11.6	2.41	2.15	NA
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		NA	123.60	16.71	< 0.1 U	5.87	1.47	< 0.1 U	NA
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		NA	47.22	NA	NA	< 0.1 U	NA	NA	NA
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		NA	385.97	62.78	4.36	24.0	6.16	3.40	NA
Benzo(b)fluorene	µg/kg	Yes	--	330	--		NA	35.9	NA	NA	6.09	NA	NA	NA
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		NA	151.56	24.27	< 0.2 U	12.3	3.72	< 0.2 U	NA
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		NA	87.72	14.04	< 0.1 U	12.2	3.40	1.64	NA
Benzo(j)+k)Fluoranthene	µg/kg	Yes	--	330	--		NA	142.21	12.35	1.28	5.43	1.58	0.944	NA
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		NA	191.05	41.44	3.66	22.2	6.69	3.95	NA
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		NA	29.02	6.81	< 0.1 U	3.53	1.00	0.793	NA
Fluoranthene	µg/kg	Yes	--	330	--		NA	252.66	50.82	3.84	18.6	5.05	4.88	NA
Fluorene	µg/kg	Yes	--	330	--		NA	20.86	9.22	3.06	8.67	3.71	4.27	NA
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		NA	93.73	14.65	< 0.1 U	11.4	2.65	1.57	NA
Naphthalene	µg/kg	Yes	--	330	--		NA	11.12	5.94	2.43	5.21	3.20	2.74	NA
Perylene	µg/kg	Yes	--	--	--		NA	439.59	549.39	344.83	1905 EJ	153	567 EJ	NA
Phenanthrene	µg/kg	Yes	--	330	--		NA	103.97	28.98	7.59	24.0	8.96	11.9	NA
Pyrene	µg/kg	Yes	--	330	--		NA	199.19	53.46	3.73	21.1	4.98	4.02	NA
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901		NA	1680	318	19.5	136	35.4	23.3	NA
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182		NA	343	75.7	18.4	62.2	23.6	23.7	NA

**Table 7-3  
Sediment Sampling Results in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-027	SED-DA-028	SED-DA-028	SED-DA-028	SED-DA-029	SED-DA-029	SED-DA-029	SED-DA-029
						Depths (ft)	3-3.6 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	1.5-2 ft
Sample Date						7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	
Sample ID						SED-DA-027(3.0-3.6)	SED-DA-028(0.0-0.5)	SED-DA-028(0.5-1.0)	SED-DA-028(1.0-1.5)	SED-DA-029(0.0-0.5)	SED-DA-029(0.5-1.0)	SED-DA-029(1.0-1.5)	SED-DA-029(1.5-2.0)	
<b>PAHs - Alkylated</b>														
1-Methylnaphthalene	µg/kg	Yes	--	330	--	NA	5.93	2.34	0.838	4.48	1.49	0.982	NA	
2-Methylnaphthalene	µg/kg	Yes	--	330	--	NA	12.2	5.29	1.80	8.86	3.47	2.00	NA	
C1-Chrysenes	µg/kg	Yes	--	--	--	NA	164.46	< 0.2 U	< 0.2 U	55.8	20.3	13.0	NA	
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	145.56	37.90	2.68	21.8	6.05	2.81	NA	
C1-Fluorenes	µg/kg	Yes	--	--	--	NA	10.69	4.75	1.40	8.59	2.05	1.94	NA	
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	80.24	26.44	5.95	29.5	9.14	7.44	NA	
C2-Chrysenes	µg/kg	Yes	--	--	--	NA	88.01	< 0.2 U	< 0.2 U	42.3	17.7	3.06	NA	
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	119.03	30.77	< 0.5 U	46.9	13.6	3.06	NA	
C2-Fluorenes	µg/kg	Yes	--	--	--	NA	48.20	11.25	2.04	22.57	10.7	3.59	NA	
C2-Naphthalenes	µg/kg	Yes	--	--	--	NA	29.42	10.79	3.51	21.3	7.73	4.41	NA	
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	84.71	28.37	6.40	64.5	16.3	7.84	NA	
C3-Chrysenes	µg/kg	Yes	--	--	--	NA	34.67	< 0.2 U	< 0.2 U	31.5	15.7	1.75	NA	
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	79.04	18.39	< 0.5 U	37.3	13.2	2.25	NA	
C3-Fluorenes	µg/kg	Yes	--	--	--	NA	26.49	14.34	< 0.4 U	30.88	10.8	6.02	NA	
C3-Naphthalenes	µg/kg	Yes	--	--	--	NA	< 0.7 U	15.63	7.14	< 0.7 U	13.3	5.68	NA	
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	83.36	18.66	2.01	56.2	16.5	3.72	NA	
C4-Chrysenes	µg/kg	Yes	--	--	--	NA	24.21	< 0.2 U	< 0.2 U	17.4	7.18	< 0.2 U	NA	
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	57.46	18.38	< 0.5 U	38.5	13.1	3.74	NA	
C4-Naphthalenes	µg/kg	Yes	--	--	--	NA	< 0.7 U	20.46	< 0.7 U	22.8	6.58	6.96	NA	
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	57.33	18.24	2.77	46.1	14.0	3.40	NA	
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130	NA	<b>3030</b>	<b>997</b>	367	<b>2340</b>	299	620	NA	
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430	NA	<b>799</b>	245	49.6	<b>371</b>	131	74.7	NA	
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1	NA	0.05	0.02 *	NA	0.09	NA	NA	NA	
<b>TPH</b>														
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--	NA	1296	NA	NA	510	NA	NA	NA	
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--	NA	717	NA	NA	248	NA	NA	NA	
Unresolved Complex Mixture	mg/kg	No	--	--	--	NA	579	NA	NA	262	NA	NA	NA	
<b>Metals</b>														
Arsenic	mg/kg	No	14	7.24	7.2	NA	5.20 J	4.05	2.65 J	<b>20.8 J</b>	4.15 J	2.35 J	NA	
Barium	mg/kg	No	558	--	174	NA	84.2	97.6	82.0	511	143	109	NA	
Cadmium	mg/kg	No	--	1	0.66	NA	< 1.45 U	0.174 J	< 0.701 U	< 5.27 U	< 1.32 U	< 0.743 U	NA	
Chromium	mg/kg	No	80	52.3	103	NA	11.4	13.8	15.8	<b>81.8</b>	27.4	17.2	NA	
Lead	mg/kg	No	36	30.2	56	NA	19.1	23.3	14.9	<b>97.7</b>	24.7	13.2	NA	
Mercury	mg/kg	No	0.07	0.13	0.20	NA	< 0.280 U	0.0431 J	0.0300 J	<b>0.155 J</b>	0.0613 J	0.0243 J	NA	
Nickel	mg/kg	Yes	35	15.9	66	NA	10.6	11.1	9.59	<b>61.8</b>	<b>17.6</b>	10.7	NA	
Selenium	mg/kg	Yes	0.7	2	--	NA	< 5.81 U	< 3.51 U	< 2.80 U	< 21.1 U	< 5.26 U	< 2.97 U	NA	
Silver	mg/kg	Yes	--	2	1.3	NA	< 1.45 U	< 0.878 U	< 0.701 U	< 5.27 U	< 1.32 U	< 0.743 U	NA	
Vanadium	mg/kg	Yes	88	--	46	NA	18.2	23.9	26.6	137	44.6	28.9	NA	
<b>Other</b>														
Percent Moisture	%	--	--	--	--	23.7	65.9	43.6	29.4	90.6	63.1	33.4	29.5	
Total Organic Carbon	%	--	--	--	--	NA	8.65 J	NA	NA	3.26	NA	NA	NA	
Black Carbon	%	--	--	--	--	NA	0.21 J	NA	NA	< 0.2 U	NA	NA	NA	

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-029	SED-DA-030	SED-DA-030	SED-DA-030	SED-DA-031	SED-DA-031	SED-DA-031	SED-DA-032
						Depths (ft)	2-3 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft
						Sample Date	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/28/2013	7/28/2013	7/28/2013	7/28/2013
						Sample ID	SED-DA-029(2.0-3.0)	SED-DA-030(0.0-0.5)	SED-DA-030(0.5-1.0)	SED-DA-030(1.0-1.5)	SED-DA-031(0.0-0.5)	SED-DA-031(0.5-1.0)	SED-DA-031(1.0-1.5)	SED-DA-032(0.0-0.5)
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 38 U	< 49 U	< 11 U	< 10 U	< 24 U	< 47 U	< 16 U	< 33 U
2-Phenylbutane	µg/kg	Yes	--	--	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
Acetone	µg/kg	No	--	9.9	100		<b>60 J</b>	<b>96 J</b>	<b>13 J</b>	8 J	< 49 U	<b>73 J</b>	<b>23 J</b>	<b>65 J</b>
Benzene	µg/kg	Yes	--	141.57	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
Toluene	µg/kg	Yes	--	1220	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
Trichloroethene	µg/kg	No	--	96.9	9		< 19 U	< 25 U	< 6 U	< 5 UB	3 J	< 23 U	< 8 U	< 17 U
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 19 U	< 25 U	< 6 U	< 5 U	< 12 U	< 23 U	< 8 U	< 17 U
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--		NA	3.47	0.31	0.11	1.67	4.67	1.79	3.79
Acenaphthylene	µg/kg	Yes	--	330	--		NA	8.77	0.17	0.07	4.44	4.18	1.82	4.31
Anthracene	µg/kg	Yes	--	330	--		NA	19.56 J	0.32 J	< 0.1 U	10.2 J	5.71 J	2.61 J	8.58 J
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		NA	24.24	0.61	< 0.2 U	35.6	12.2	5.39	20.0
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		NA	16.31	< 0.1 U	< 0.1 U	24.1	5.84	4.06	11.9
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		NA	< 0.1 U	NA	NA	7.20	NA	NA	10.3
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		NA	64.98	1.25	< 0.2 U	49.8	29.0	19.1	43.9
Benzo(b)fluorene	µg/kg	Yes	--	330	--		NA	12.2	NA	NA	12.1	NA	NA	9.60
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		NA	26.47	< 0.2 U	< 0.2 U	26.8	12.6	6.25	21.2
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		NA	36.67	< 0.1 U	< 0.1 U	27.0	13.8	6.25	14.2
Benzo(j)+k)Fluoranthene	µg/kg	Yes	--	330	--		NA	18.28	0.35	< 0.1 U	14.3	6.55	2.14	10.7
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		NA	34.37	1.22	< 0.1 U	35.2	22.5	15.7	32.3
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		NA	5.48	< 0.1 U	< 0.1 U	5.99	4.04	2.58	4.74
Fluoranthene	µg/kg	Yes	--	330	--		NA	57.06	2.05	0.70	42.4	22.9	12.1	31.8
Fluorene	µg/kg	Yes	--	330	--		NA	18.65	1.97	1.52	11.2	16.9	8.13	16.0
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		NA	20.32	< 0.1 U	< 0.1 U	20.1	10.3	6.40	12.6
Naphthalene	µg/kg	Yes	--	330	--		NA	9.16	1.39	< 0.91 UB	8.38	14.1	7.43	12.7
Perylene	µg/kg	Yes	--	--	--		NA	818.38 EJ	303.95	65.69	197	518 EJ	567 EJ	303
Phenanthrene	µg/kg	Yes	--	330	--		NA	56.02	4.92	3.65	37.9	43.2	20.4	34.2
Pyrene	µg/kg	Yes	--	330	--		NA	56.41	1.66	0.56	48.4	23.0	9.73	35.2
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901		NA	334	7.14	1.26	303	150	83.5	217
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182		NA	130	10.4	6.11	101	117	50.6	103

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-029	SED-DA-030	SED-DA-030	SED-DA-030	SED-DA-031	SED-DA-031	SED-DA-031	SED-DA-032
						Depths (ft)	2-3 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft
Sample Date						7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/28/2013	7/28/2013	7/28/2013	7/28/2013	
Sample ID						SED-DA-029(2.0-3.0)	SED-DA-030(0.0-0.5)	SED-DA-030(0.5-1.0)	SED-DA-030(1.0-1.5)	SED-DA-031(0.0-0.5)	SED-DA-031(0.5-1.0)	SED-DA-031(1.0-1.5)	SED-DA-032(0.0-0.5)	
<b>PAHs - Alkylated</b>														
1-Methylnaphthalene	µg/kg	Yes	--	330	--	NA	4.10	0.445 J	0.261 J	7.61	8.43	2.67	6.70	
2-Methylnaphthalene	µg/kg	Yes	--	330	--	NA	10.3	0.922 J	0.502 J	19.4	20.2	5.72	16.4	
C1-Chrysenes	µg/kg	Yes	--	--	--	NA	145.83	< 0.2 U	< 0.2 U	85.6	66.5	30.7	71.5	
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	41.70	1.11	0.30 J	36.8	23.0	8.94	33.4	
C1-Fluorenes	µg/kg	Yes	--	--	--	NA	8.63	1.02	0.80	12.0	14.3	4.53	10.9	
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	41.97	4.61	< 0.1 U	43.9	47.6	14.1	37.6	
C2-Chrysenes	µg/kg	Yes	--	--	--	NA	56.69	< 0.2 U	< 0.2 U	71.6	34.7	11.7	59.7	
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	97.15	< 0.5 U	< 0.5 U	65.7	36.5	15.5	77.2	
C2-Fluorenes	µg/kg	Yes	--	--	--	NA	36.34	1.75	< 0.4 U	44.6	55.9	10.3	41.8	
C2-Naphthalenes	µg/kg	Yes	--	--	--	NA	20.73	1.73	0.95	61.9	84.2	17.9	34.2	
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	51.22	6.69	< 0.3 U	66.9	80.0	16.9	69.0	
C3-Chrysenes	µg/kg	Yes	--	--	--	NA	44.75	< 0.2 U	< 0.2 U	52.7	36.7	10.4	41.4	
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	55.80	< 0.5 U	< 0.5 U	51.8	31.7	10.6	49.7	
C3-Fluorenes	µg/kg	Yes	--	--	--	NA	31.05	< 0.4 U	< 0.4 U	32.6	39.8	13.3	41.3	
C3-Naphthalenes	µg/kg	Yes	--	--	--	NA	27.21	5.68	1.49	87.2	158	37.1	50.8	
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	75.08	1.33	< 0.3 U	69.7	87.6	13.2	78.9	
C4-Chrysenes	µg/kg	Yes	--	--	--	NA	35.60	< 0.2 U	< 0.2 U	25.9	17.5	4.12	23.4	
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	NA	45.25	< 0.5 U	< 0.5 U	54.3	46.3	14.3	59.4	
C4-Naphthalenes	µg/kg	Yes	--	--	--	NA	16.06	2.09	< 0.7 U	50.8	96.3	11.6	30.6	
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	NA	71.93	1.97	< 0.3 U	71.0	81.7	12.5	70.8	
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130	NA	1700	312	67.3	978	974	763	968	
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430	NA	522	37.3	9.35	653	863	202	578	
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1	NA	0.03	NA	NA	0.06	0.07 *	0.03 *	0.03	
<b>TPH</b>														
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--	NA	1125	NA	NA	467	NA	NA	692	
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--	NA	584	NA	NA	220	NA	NA	343	
Unresolved Complex Mixture	mg/kg	No	--	--	--	NA	541	NA	NA	247	NA	NA	349	
<b>Metals</b>														
Arsenic	mg/kg	No	14	7.24	7.2	NA	6.87	1.92 J	1.92 J	5.21	12.2	5.99	6.30	
Barium	mg/kg	No	558	--	174	NA	125	89.5	71.0	132 J	305 J	179 J	130 J	
Cadmium	mg/kg	No	--	1	0.66	NA	< 1.60 U	< 0.631 U	< 0.620 U	< 0.988 U	0.275 J	0.170 J	0.207 J	
Chromium	mg/kg	No	80	52.3	103	NA	18.4	15.5	11.7	25.0 J	50.2 J	20.9 J	26.7 J	
Lead	mg/kg	No	36	30.2	56	NA	25.1	12.7	10.4	21.5 J	42.6 J	24.1 J	25.8 J	
Mercury	mg/kg	No	0.07	0.13	0.20	NA	0.0353 J	0.0209 J	0.0154 J	0.0278 J	0.0725 J	0.0648 J	0.0418 J	
Nickel	mg/kg	Yes	35	15.9	66	NA	15.1	8.71	6.42	18.9 J	43.5 J	16.8 J	20.9 J	
Selenium	mg/kg	Yes	0.7	2	--	NA	< 6.39 U	< 2.53 U	< 2.48 U	< 3.95 U	< 6.62 U	< 3.13 U	< 4.98 U	
Silver	mg/kg	Yes	--	2	1.3	NA	< 1.60 U	< 0.631 U	< 0.620 U	< 0.988 U	< 1.66 U	< 0.782 U	< 1.24 U	
Vanadium	mg/kg	Yes	88	--	46	NA	32.6	25.7	19.8	37.2 J	79.3 J	40.7 J	43.5 J	
<b>Other</b>														
Percent Moisture	%	--	--	--	--	66.0	69.6	21.6	19.4	50.4	70.1	37.9	61.0	
Total Organic Carbon	%	--	--	--	--	NA	8.99	NA	NA	3.23	NA	NA	4.91	
Black Carbon	%	--	--	--	--	NA	0.29 J	NA	NA	0.250 J	NA	NA	0.190 J	

**Table 7-3  
Sediment Sampling Results in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-032	SED-DA-032	SED-DA-039	SED-DA-039	SED-DA-039	SED-DA-040	SED-DA-040
						Depths (ft)	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0-0.5 ft
						Sample Date	7/28/2013	7/28/2013	8/6/2013	8/6/2013	8/6/2013	8/6/2013	8/6/2013
						Sample ID	SED-DA-032(0.5-1.0)	SED-DA-032(1.0-1.5)	SED-DA-039(0.0-0.5)	SED-DA-039(0.5-1.0)	SED-DA-039(1.0-1.5)	SED-DA-040(0.0-0.5)	SED-DA-DUP-05-080613FD
<b>VOCs</b>													
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 7 U	< 6 U	5 J	2 J	16	< 5 U	< 5 U
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 7 U	< 6 U	3 J	2 J	10	< 5 U	< 5 U
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 14 U	< 12 U	< 13 U	< 13 U	< 16 U	< 10 U	< 10 U
2-Phenylbutane	µg/kg	Yes	--	--	--		< 7 U	< 6 U	1 J	< 6 U	2 J	< 5 U	< 5 U
Acetone	µg/kg	No	--	9.9	100		12 J	< 23 U	18 J	26	31	8 J	12 J
Benzene	µg/kg	Yes	--	141.57	--		< 7 U	< 6 U	< 6 U	< 6 U	4 J	< 5 U	< 5 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 7 U	< 6 U	< 6 U	< 6 U	4 J	< 5 U	< 5 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 7 U	< 6 U	< 6 U	< 6 U	2 J	< 5 U	< 5 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 7 U	< 6 U	< 6 U	< 6 U	< 8 U	< 5 U	< 5 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 7 U	< 6 U	2 J	< 6 U	2 J	< 5 U	< 5 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 7 U	< 6 U	< 6 U	< 6 U	4 J	< 5 U	< 5 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 7 U	< 6 U	2 J	< 6 U	3 J	< 5 U	< 5 U
Toluene	µg/kg	Yes	--	1220	--		< 7 U	< 6 U	< 6 U	< 6 U	3 J	< 5 U	< 5 U
Trichloroethene	µg/kg	No	--	96.9	9		< 7 U	< 6 U	< 6 U	< 6 U	< 8 U	< 5 U	< 5 U
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 7 U	< 6 U	2 J	3 J	26	< 5 U	< 5 U
<b>PAHs - Non-alkylated</b>													
Acenaphthene	µg/kg	Yes	--	330	--		1.01	< 0.1 U	5.34	18.0	6.0	0.580 J	< 0.1 UJ
Acenaphthylene	µg/kg	Yes	--	330	--		0.569	< 0.04 U	6.37	15.3	5.5	0.541	0.383
Anthracene	µg/kg	Yes	--	330	--		0.661 J	< 0.1 U	3.14	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		1.31	0.181 J	18.2 J	28.4	11.4	1.3	1.17
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		< 0.1 U	< 0.1 U	60.4	29.8	21.5	1.81	1.55
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		NA	NA	< 0.1 U	NA	NA	< 0.1 U	< 0.1 U
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		5.51	0.419	110	48.4	54.6	4.10	3.48
Benzo(b)fluorene	µg/kg	Yes	--	330	--		NA	NA	22.3 J	NA	NA	1.45	1.38
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	149	56.3	37.0	4.69	4.63
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		1.44	< 0.1 U	89.2	38.2	24.3	3.37	3.29
Benzo(j)+(k)Fluoranthene	µg/kg	Yes	--	330	--		1.01	0.099	66.2	28.3	14.4	1.77	1.41
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		3.90	0.324	107	101	62.8	7.4	6.62
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		1.84	< 0.1 U	22.5 J	10.3	6.21	0.797	0.819
Fluoranthene	µg/kg	Yes	--	330	--		4.05	1.35	65.2	64.1	50.2	4.15	4.10
Fluorene	µg/kg	Yes	--	330	--		5.63	2.56	37.4	74.0	30.0	2.75	3.92
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		1.48	< 0.1 U	36.8	16.6	16.7	1.15	1.20
Naphthalene	µg/kg	Yes	--	330	--		4.51	1.17	6.72	28.9	11.0	2.69	3.75
Perylene	µg/kg	Yes	--	--	--		892 EJ	264	38.4	37.5	35.2	1.09 J	1.38 J
Phenanthrene	µg/kg	Yes	--	330	--		13.7	6.23	119	250	91.2	11.5	13.4
Pyrene	µg/kg	Yes	--	330	--		2.83	0.621	127	82.5	43.4	6.94	5.97
Total HMW PAHs (Priority+2 List) <sup>6</sup>	µg/kg	Yes	--	655	901		23.4	2.99	702	448	306	32.8	29.6
Total LMW PAHs (Priority+2 List) <sup>6</sup>	µg/kg	Yes	--	330	182		31.4	11.2	260	955	259	29.4	33.0

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-032	SED-DA-032	SED-DA-039	SED-DA-039	SED-DA-039	SED-DA-040	SED-DA-040
						Depths (ft)	0.5-1 ft	1-1.5 ft	0.5 ft	0.5-1 ft	1-1.5 ft	0.5 ft	0.5 ft
Sample Date						7/28/2013	7/28/2013	8/6/2013	8/6/2013	8/6/2013	8/6/2013	8/6/2013	8/6/2013
Sample ID						SED-DA-032(0.5-1.0)	SED-DA-032(1.0-1.5)	SED-DA-039(0.0-0.5)	SED-DA-039(0.5-1.0)	SED-DA-039(1.0-1.5)	SED-DA-040(0.0-0.5)	SED-DA-DUP-05-080613FD	
<b>PAHs - Alkylated</b>													
1-Methylnaphthalene	µg/kg	Yes	--	330	--		1.63	0.376 J	30.0	255	45.3	4.36	4.09
2-Methylnaphthalene	µg/kg	Yes	--	330	--		3.73	0.860 J	52.5	314	69.6	6.98	7.41
C1-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	320	338	112	23.5	19.4
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		2.52	0.403 J	390	347	141	24.4	21.0
C1-Fluorenes	µg/kg	Yes	--	--	--		2.25	0.854	167	242	102	10.5	10.5
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		7.11	3.98	643	745	248	33.2	30.2
C2-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	417	372	123	33.4	29.5
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	< 0.5 U	465	521	179	35.8	28.8
C2-Fluorenes	µg/kg	Yes	--	--	--		3.36	< 0.4 U	906	594	244	41.8	35.2
C2-Naphthalenes	µg/kg	Yes	--	--	--		9.55	3.17	330	1164	275	29.7	24.3
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		6.42	< 0.3 U	1529	1288	378	83.8	72.7
C3-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	351	278	102	27.1	22.1
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	< 0.5 U	441	334	158	34.5	27.2
C3-Fluorenes	µg/kg	Yes	--	--	--		< 0.4 U	< 0.4 U	1456	675	295	54.8	48.5
C3-Naphthalenes	µg/kg	Yes	--	--	--		6.48	4.69	784	1181	376	45.8	44.3
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		1.33	< 0.3 U	1814	1457	472	109	98.7
C4-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	182	143	56.2	11.3	12.0
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	< 0.5 U	494	409	161	36.1	28.8
C4-Naphthalenes	µg/kg	Yes	--	--	--		28.2	5.65	1196	1053	362	59.7	54.5
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		1.65	< 0.3 U	1253	879	309	79.7	69.5
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130		<b>918</b>	267	<b>3950</b>	<b>3280</b>	<b>1410</b>	265	224
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430		97.8	29.5	<b>10400</b>	<b>10200</b>	<b>3320</b>	<b>579</b>	<b>523</b>
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1		0.02 *	NA	0.9	0.9 *	0.3 *	0.1	0.2
<b>TPH</b>													
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--		NA	67	2832	NA	NA	322	243
Total Resolveable Hydrocarbons	mg/kg	No	--	--	--		NA	17	259	NA	NA	23	17
Unresolved Complex Mixture	mg/kg	No	--	--	--		NA	50	2573	NA	NA	299	226
<b>Metals</b>													
Arsenic	mg/kg	No	14	7.24	7.2		2.37 J	1.83 J	3.23	4.20	4.40	2.42 J	3.56
Barium	mg/kg	No	558	--	174		112 J	76.6 J	86.6	123	125	66.9	64.8
Cadmium	mg/kg	No	--	1	0.66		< 0.662 U	< 0.638 U	0.196 J	0.282 J	0.370 J	0.115 J	0.154 J
Chromium	mg/kg	No	80	52.3	103		17.3 J	14.6 J	13.2 J	17.1 J	18.9 J	11.3 J	11.4 J
Lead	mg/kg	No	36	30.2	56		15.3 J	11.0 J	18.2	19.7	22.0	10.7	11.8
Mercury	mg/kg	No	0.07	0.13	0.20		0.0425 J	0.0417 J	0.0253 J	0.0322 J	0.0330 J	0.0177 J	0.0155 J
Nickel	mg/kg	Yes	35	15.9	66		9.81 J	7.41 J	10.2	13.9	15.9	7.75	7.19
Selenium	mg/kg	Yes	0.7	2	--		< 2.65 U	< 2.55 U	< 2.75 U	1.08 J	< 3.04 U	< 2.46 U	< 2.45 U
Silver	mg/kg	Yes	--	2	1.3		< 0.662 U	< 0.638 U	< 0.687 U	< 0.659 U	< 0.761 U	< 0.614 U	< 0.613 U
Vanadium	mg/kg	Yes	88	--	46		31.0 J	25.8 J	22.1	27.9	29.4	19.0	18.9
<b>Other</b>													
Percent Moisture	%	--	--	--	--		25.2	23.9	27.9	24.9	35.6	20.2	19.2
Total Organic Carbon	%	--	--	--	--		NA	NA	1.93	NA	NA	0.9 J	0.4 J
Black Carbon	%	--	--	--	--		NA	NA	< 0.17 U	NA	NA	< 0.18 U	< 0.19 U

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-040	SED-DA-040	SED-DA-041	SED-DA-041	SED-DA-041	SED-DA-042	SED-DA-042	SED-DA-042
						Depths (ft)	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	0.5-1 ft
						Sample Date	8/6/2013	8/6/2013	8/14/2013	8/14/2013	8/14/2013	8/9/2013	8/9/2013	8/9/2013
						Sample ID	SED-DA-040(0.5-1.0)	SED-DA-040(1.0-1.5)	SED-DA-041(0.0-0.5)	SED-DA-041(0.5-1.0)	SED-DA-041(1.0-1.5)	SED-DA-042(0.0-0.5)	SED-DA-042(0.5-1.0)	SED-DA-042(1.0-1.5)
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	< 21 UJ	< 7 U	< 6 U
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	10 J	< 7 U	< 6 U
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 11 U	< 10 U	< 98 U	< 52 U	< 55 U	22 J	< 13 U	< 12 U
2-Phenylbutane	µg/kg	Yes	--	--	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	< 21 UJ	< 7 U	< 6 U
Acetone	µg/kg	No	--	9.9	100		< 21 U	< 20 U	230	120	110	130	22 J	12 J
Benzene	µg/kg	Yes	--	141.57	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	< 21 U	< 7 U	< 6 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	< 21 UJ	< 7 U	< 6 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	< 21 UJ	< 7 U	< 6 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	< 21 U	< 7 U	< 6 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	< 21 UJ	< 7 U	< 6 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	< 21 UJ	< 7 U	< 6 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	< 21 UJ	< 7 U	< 6 U
Toluene	µg/kg	Yes	--	1220	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	< 21 UJ	< 7 U	< 6 U
Trichloroethene	µg/kg	No	--	96.9	9		< 5 U	< 5 U	19 J	11 J	15 J	< 21 UJ	< 7 U	< 6 U
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 5 U	< 5 U	< 49 U	< 26 U	< 28 U	12 J	< 7 U	< 6 U
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--		0.106	0.150	3.44	2.46	1.08	1.55	0.578	0.319
Acenaphthylene	µg/kg	Yes	--	330	--		0.105	0.043	11.6	6.30	2.66	1.43	0.554	0.155
Anthracene	µg/kg	Yes	--	330	--		< 0.1 U	< 0.1 U	15.6	13.6	5.00	2.09	0.760	0.154
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		< 0.2 U	< 0.2 U	16.1	10.5	5.47	2.62	1.19	0.227
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		< 0.1 U	< 0.1 U	25.5	9.81	4.58	3.27	1.16	< 0.1 U
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		NA	NA	16.9	NA	NA	2.44	NA	NA
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		< 0.2 U	< 0.2 U	72.9	41.5	25.2	10.9 J	5.82	2.08
Benzo(b)fluorene	µg/kg	Yes	--	330	--		NA	NA	11.8	NA	NA	2.19 J	NA	NA
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	48.0	16.0	10.1	5.64 J	2.90	< 0.2 U
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		< 0.1 U	< 0.1 U	66.2	< 0.1 U	7.77	5.96	2.13	0.402
Benzo(j)+k)Fluoranthene	µg/kg	Yes	--	330	--		< 0.1 U	< 0.1 U	35.1	11.8	6.01	2.29	1.03	0.196
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		< 0.1 U	< 0.1 U	36.1	22.8	14.1	9.00	4.55	1.74
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		< 0.1 U	< 0.1 U	11.7	6.89	3.58	2.54	1.37	0.166
Fluoranthene	µg/kg	Yes	--	330	--		0.956	0.719	45.9	24.0	12.0	9.81 J	4.98	1.62
Fluorene	µg/kg	Yes	--	330	--		1.69	1.65	18.4	12.2	7.45	9.75 J	4.41	3.85
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		< 0.1 U	< 0.1 U	48.9	< 0.1 U	8.25	5.30	2.16	0.488
Naphthalene	µg/kg	Yes	--	330	--		< 1.22 UB	1.26	17.0	9.78	5.65	11.9 J	6.95	4.92
Perylene	µg/kg	Yes	--	--	--		1.58 J	2.58 J	197	397	324	145	94.4 J	226
Phenanthrene	µg/kg	Yes	--	330	--		4.52	4.47	42.6	24.4	14.1	23.1 J	10.9	8.89
Pyrene	µg/kg	Yes	--	330	--		0.282	0.570	44.5	19.8	9.74	8.05 J	3.55	1.20
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901		1.24	1.29	403	147	96.7	59.7	27.9	8.12
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182		7.85	9.14	163	81.6	43.7	69.8	32.4	23.0



**Table 7-3  
Sediment Sampling Results in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-040	SED-DA-040	SED-DA-041	SED-DA-041	SED-DA-041	SED-DA-042	SED-DA-042	SED-DA-042
						Depths (ft)	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	0.5-1 ft
						Sample Date	8/6/2013	8/6/2013	8/14/2013	8/14/2013	8/14/2013	8/9/2013	8/9/2013	8/9/2013
						Sample ID	SED-DA-040(0.5-1.0)	SED-DA-040(1.0-1.5)	SED-DA-041(0.0-0.5)	SED-DA-041(0.5-1.0)	SED-DA-041(1.0-1.5)	SED-DA-042(0.0-0.5)	SED-DA-042(0.5-1.0)	SED-DA-042(1.0-1.5)
<b>PAHs - Alkylated</b>														
1-Methylnaphthalene	µg/kg	Yes	--	330	--		0.461 J	0.521 J	20.9	3.85	2.44	6.74 J	2.69	1.51
2-Methylnaphthalene	µg/kg	Yes	--	330	--		0.967 J	1.05 J	33.9	9.03	5.35	13.2 J	5.57	3.16
C1-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	119	42.0	49.7	48.1	28.2	< 0.2 U
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.378 J	0.737	71.5	18.8	12.6	9.47	4.17	0.928
C1-Fluorenes	µg/kg	Yes	--	--	--		0.695	0.634	38.1	3.50	2.47	7.35	2.55	1.69
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.1 U	< 0.1 U	92.3	26.4	16.8	14.4	6.15	3.99
C2-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	95.9	36.7	28.1	20.7	7.14	< 0.2 U
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	< 0.5 U	108	30.6	21.2	18.4	5.59	< 0.5 U
C2-Fluorenes	µg/kg	Yes	--	--	--		< 0.4 U	< 0.4 U	111	13.6	8.74	20.4	7.32	4.79
C2-Naphthalenes	µg/kg	Yes	--	--	--		1.97	1.72	127	18.9	13.2	23.7	8.24	4.10
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	< 0.3 U	198	26.0	23.9	22.5	8.84	< 0.3 U
C3-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	62.1	19.5	18.9	18.1	9.10	< 0.2 U
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	< 0.5 U	80.9	19.9	15.4	14.0	4.42	< 0.5 U
C3-Fluorenes	µg/kg	Yes	--	--	--		< 0.4 U	< 0.4 U	172	9.80	6.80	16.5	6.16	< 0.4 U
C3-Naphthalenes	µg/kg	Yes	--	--	--		3.09	4.28	196	18.8	11.9	26.1	13.3	8.87
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	< 0.3 U	258	26.8	18.4	21.1	6.09	< 0.3 U
C4-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	< 0.2 U	49.4	13.8	13.8	7.08	< 0.2 U	< 0.2 U
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	< 0.5 U	89.3	16.3	14.0	19.5	11.5	< 0.5 U
C4-Naphthalenes	µg/kg	Yes	--	--	--		1.77	< 0.7 U	190	13.4	6.88	17.3	5.76	2.94
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	< 0.3 U	195	17.3	16.2	17.1	6.39	< 0.3 U
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130		3.20	4.61	<b>1340</b>	<b>758</b>	605	368	195	235
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430		15.4	15.8	<b>1750</b>	256	169	258	103	49.3
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1		NA	NA	0.04	0.01 *	NA	0.02	NA	NA
<b>TPH</b>														
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--		NA	NA	1469	NA	NA	415	NA	NA
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--		NA	NA	636	NA	NA	178	NA	NA
Unresolved Complex Mixture	mg/kg	No	--	--	--		NA	NA	833	NA	NA	237	NA	NA
<b>Metals</b>														
Arsenic	mg/kg	No	14	7.24	7.2		2.31 J	2.44	<b>9.84 J</b>	6.68 J	5.14	6.99	4.72	3.47
Barium	mg/kg	No	558	--	174		66.1	60.4	171	143	119	135	112	105
Cadmium	mg/kg	No	--	1	0.66		0.131 J	0.0907 J	0.742 J	0.523 J	0.408 J	< 1.52 U	< 0.694 U	< 0.626 U
Chromium	mg/kg	No	80	52.3	103		12.0 J	10.0 J	25.6 J	19.4 J	16.4 J	21.9 J	17.7 J	19.2 J
Lead	mg/kg	No	36	30.2	56		10.3	9.16	28.2	24.6	19.4	24.6	19.7	15.3
Mercury	mg/kg	No	0.07	0.13	0.20		0.0186 J	< 0.117 U	0.0703 J	0.0457 J	0.0462 J	0.0552 J	0.0413 J	0.0240 J
Nickel	mg/kg	Yes	35	15.9	66		7.60	5.73	<b>22.8</b>	<b>16.7</b>	13.7	<b>17.4</b>	11.1	9.39
Selenium	mg/kg	Yes	0.7	2	--		< 2.46 U	< 2.39 U	< 13.2 U	< 7.36 U	< 5.13 U	< 6.07 U	1.19 J	1.29 J
Silver	mg/kg	Yes	--	2	1.3		< 0.614 U	< 0.596 U	< 3.31 U	< 1.84 U	< 1.28 U	< 1.52 U	< 0.694 U	< 0.626 U
Vanadium	mg/kg	Yes	88	--	46		20.2	14.6	39.4	32.2	26.5	38.1	37.1	39.1
<b>Other</b>														
Percent Moisture	%	--	--	--	--		20.2	17.0	85.2	73.1	61.8	67.7	29.4	23.2
Total Organic Carbon	%	--	--	--	--		NA	NA	8.55	NA	NA	4.27	NA	NA
Black Carbon	%	--	--	--	--		NA	NA	0.35 J	NA	NA	< 0.19 U	NA	NA

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-043	SED-DA-043	SED-DA-043	SED-DA-044	SED-DA-044	SED-DA-044	SED-DA-045	SED-DA-045
						Depths (ft)	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft
Sample Date						8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/10/2013	8/10/2013	
Sample ID						SED-DA-043(0.0-0.5)	SED-DA-043(0.5-1.0)	SED-DA-043(1.0-1.5)	SED-DA-044(0.0-0.5)	SED-DA-044(0.5-1.0)	SED-DA-044(1.0-1.5)	SED-DA-045(0.0-0.5)	SED-DA-045(0.5-1.0)	
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--	4 J	< 6 U	< 7 U	< 10 UJ	< 6 U	< 5 U	170	100	
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--	3 J	< 6 U	< 7 U	< 10 UJ	< 6 U	< 5 U	100	64	
2-Butanone (MEK)	µg/kg	No	--	42.4	17	< 20 U	< 12 U	< 13 U	8 J	< 12 U	< 11 U	29	25	
2-Phenylbutane	µg/kg	Yes	--	--	--	< 10 UJ	< 6 U	< 7 U	< 10 UJ	< 6 U	< 5 U	32	19	
Acetone	µg/kg	No	--	9.9	100	41	15 J	< 27 U	46	< 23 U	< 22 U	110	120	
Benzene	µg/kg	Yes	--	141.57	--	< 10 U	< 6 U	< 7 U	< 10 U	< 6 U	< 5 U	2 J	1 J	
Ethylbenzene	µg/kg	Yes	--	1100	--	< 10 U	< 6 U	< 7 U	< 10 U	< 6 U	< 5 U	17	12	
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--	< 10 U	< 6 U	< 7 U	< 10 U	< 6 U	< 5 U	14	9 J	
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--	< 10 U	< 6 U	< 7 U	< 10 U	< 6 U	< 5 U	< 11 U	< 10 U	
n-Butylbenzene	µg/kg	Yes	--	--	--	< 10 UJ	< 6 U	< 7 U	< 10 UJ	< 6 U	< 5 U	44	25	
n-Propylbenzene	µg/kg	Yes	--	--	--	< 10 UJ	< 6 U	< 7 U	< 10 UJ	< 6 U	< 5 U	33	20	
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--	3 J	< 6 U	< 7 U	< 10 UJ	< 6 U	< 5 U	41	24	
Toluene	µg/kg	Yes	--	1220	--	< 10 U	< 6 U	< 7 U	4 J	< 6 U	< 5 U	5 J	3 J	
Trichloroethene	µg/kg	No	--	96.9	9	< 10 U	< 6 U	< 7 U	< 10 U	< 6 U	< 5 U	< 11 U	< 10 U	
Xylene (Total)	µg/kg	Yes	--	25.2	--	3 J	< 6 U	< 7 U	< 10 U	< 6 U	< 5 U	110	61	
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--	7.61	1.26	0.089 J	3.47	0.297	0.238	26.8	7.83	
Acenaphthylene	µg/kg	Yes	--	330	--	9.75	1.13	0.131	6.45	0.385	0.092	30.7	5.49	
Anthracene	µg/kg	Yes	--	330	--	6.31	< 0.1 U	< 0.1 U	< 0.6 U	0.264	< 0.1 U	38.0	6.97	
Benzo(a)Anthracene	µg/kg	Yes	--	330	--	22.0	1.31	0.307	15.5	< 0.2 U	< 0.2 U	60.0	12.4	
Benzo(a)Pyrene	µg/kg	Yes	--	330	--	21.3	2.69	0.136	17.7	0.802	< 0.1 U	90.9	16.0	
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--	12.2	NA	NA	< 0.5 U	NA	NA	20.1	NA	
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--	53.9	9.77	0.799	46.7	3.23	0.377	142	33.5	
Benzo(b)fluorene	µg/kg	Yes	--	330	--	27.8	NA	NA	17.3	NA	NA	90.9	NA	
Benzo(e)Pyrene	µg/kg	Yes	--	--	--	53.4	6.82	0.614	43.8	1.52	< 0.2 U	171	34.0	
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--	44.9	4.76	0.390	32.8	0.954	0.188	189	35.4	
Benzo(j)+k)Fluoranthene	µg/kg	Yes	--	330	--	15.9	2.44	0.179	14.8	0.685	0.064 J	41.4	10.8	
Chrysene/Triphenylene	µg/kg	Yes	--	330	--	153	15.6	0.968	113	< 0.1 U	< 0.1 U	275	57.6	
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--	9.83	1.20	0.113	7.25	0.351	0.277	32.6	6.77	
Fluoranthene	µg/kg	Yes	--	330	--	51.4	11.3	1.70	47.1	3.37	1.54	126 J	35.2 J	
Fluorene	µg/kg	Yes	--	330	--	46.1	8.59	3.37	16.5	4.13	5.02	179	33.4	
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--	17.4	2.65	0.249	14.0	0.914	< 0.1 U	50.8	13.4	
Naphthalene	µg/kg	Yes	--	330	--	15.3	12.2	3.72	14.6	7.42	6.23	44.6	10.4	
Perylene	µg/kg	Yes	--	--	--	15.6	29.8	R	24.9	111 J	212.1 J	133	371	
Phenanthrene	µg/kg	Yes	--	330	--	225	39.6	10.2	161	11.7	12.1	669	147	
Pyrene	µg/kg	Yes	--	330	--	101	12.5	1.36	65.4	2.66	1.16	193	46.0	
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901	491	64.2	6.20	374	13.0	3.61	1200	267	
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182	458	98.9	23.1	274	33.1	32.6	1850	363	

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-043	SED-DA-043	SED-DA-043	SED-DA-044	SED-DA-044	SED-DA-044	SED-DA-045	SED-DA-045
						Depths (ft)	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft
Sample Date						8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/10/2013	8/10/2013	
Sample ID						SED-DA-043(0.0-0.5)	SED-DA-043(0.5-1.0)	SED-DA-043(1.0-1.5)	SED-DA-044(0.0-0.5)	SED-DA-044(0.5-1.0)	SED-DA-044(1.0-1.5)	SED-DA-045(0.0-0.5)	SED-DA-045(0.5-1.0)	
<b>PAHs - Alkylated</b>														
1-Methylnaphthalene	µg/kg	Yes	--	330	--	58.8	13.6	1.86	29.6	3.04	3.12	371	64.2	
2-Methylnaphthalene	µg/kg	Yes	--	330	--	89.3	22.5	3.76	42.8	5.88	5.84	492	87.5	
C1-Chrysenes	µg/kg	Yes	--	--	--	335	34.9	2.60	236	8.20	4.89	922	205	
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	355	31.4	1.72	201	3.44	0.819	1032	211	
C1-Fluorenes	µg/kg	Yes	--	--	--	215	20.7	2.16	89.7	2.56	2.29	714	127	
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	831	77.4	6.83	516	9.28	4.34	2302	533	
C2-Chrysenes	µg/kg	Yes	--	--	--	484	38.9	3.07	324	4.96	< 0.2 U	1336	245	
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	476	50.4	3.06	339	5.23	< 0.5 U	1704	419	
C2-Fluorenes	µg/kg	Yes	--	--	--	628	64.2	6.62	314	7.91	2.88	2021	326	
C2-Naphthalenes	µg/kg	Yes	--	--	--	614	63.7	6.30	252	9.50	8.84	2538	426	
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	1570	138	10.6	1008	14.7	4.31	4461	971	
C3-Chrysenes	µg/kg	Yes	--	--	--	407	28.5	2.58	254	4.08	< 0.2 U	1095	209	
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	475	40.0	2.25	347	3.30	< 0.5 U	1924	313	
C3-Fluorenes	µg/kg	Yes	--	--	--	920	71.7	6.63	501	12.5	< 0.4 U	2244	304	
C3-Naphthalenes	µg/kg	Yes	--	--	--	1196	101	8.54	590	13.0	7.79	4265	704	
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	1736	145	10.3	1088	16.7	0.940	4853	1079	
C4-Chrysenes	µg/kg	Yes	--	--	--	164	16.9	< 0.2 U	125	< 0.2 U	< 0.2 U	753	146	
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	368	37.2	3.45	364	6.28	< 0.5 U	2082	368	
C4-Naphthalenes	µg/kg	Yes	--	--	--	1474	97.3	8.10	697	10.6	4.88	4045	631	
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	1194	107	6.67	758	11.0	< 0.3 U	3212	841	
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130	3640	379	25.5	2630	161	221	12400	2790	
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430	10900	985	95.9	6110	141	68.9	32600	6300	
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1	0.5	0.05 *	NA	0.2	NA	NA	1	0.2 *	
<b>TPH</b>														
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--	2604	NA	NA	2542	NA	NA	6717	NA	
Total Resolveable Hydrocarbons	mg/kg	No	--	--	--	354	NA	NA	448	NA	NA	712	NA	
Unresolved Complex Mixture	mg/kg	No	--	--	--	2249	NA	NA	2093	NA	NA	6005	NA	
<b>Metals</b>														
Arsenic	mg/kg	No	14	7.24	7.2	8.33	4.38	5.65	8.11	6.40	4.62	3.79 J	6.55	
Barium	mg/kg	No	558	--	174	167	93.8	209	168	139	112	69.4	132	
Cadmium	mg/kg	No	--	1	0.66	< 0.872 U	< 0.640 U	< 0.620 U	< 0.924 U	< 0.616 U	< 0.606 U	< 1.07 U	< 0.827 U	
Chromium	mg/kg	No	80	52.3	103	21.1 J	16.0 J	14.5 J	18.7 J	12.9 J	16.7 J	8.92	16.1	
Lead	mg/kg	No	36	30.2	56	36.0	18.9	14.6	35.2	18.7	13.1	14.0	22.5	
Mercury	mg/kg	No	0.07	0.13	0.20	0.0618 J	0.0507 J	0.0262 J	0.0766 J	0.0357 J	0.0158 J	< 0.209 U	0.0470 J	
Nickel	mg/kg	Yes	35	15.9	66	18.5	14.9	10.3	17.2	10.8	7.04	7.82	14.0	
Selenium	mg/kg	Yes	0.7	2	--	< 3.49 U	< 2.56 U	< 2.48 U	< 3.70 U	< 2.46 U	< 2.43 U	< 4.27 U	< 3.31 U	
Silver	mg/kg	Yes	--	2	1.3	< 0.872 U	< 0.640 U	< 0.620 U	< 0.924 U	< 0.616 U	< 0.606 U	< 1.07 U	< 0.827 U	
Vanadium	mg/kg	Yes	88	--	46	36.4	26.4	25.6	33.3	27.1	32.6	15.5	27.9	
<b>Other</b>														
Percent Moisture	%	--	--	--	--	43.8	22.6	20.1	45.9	21.2	20.7	53.2	40.7	
Total Organic Carbon	%	--	--	--	--	3.66	NA	NA	6.03	NA	NA	4.64	NA	
Black Carbon	%	--	--	--	--	0.2 J	NA	NA	0.24 J	NA	NA	0.24 J	NA	

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-045	SED-DA-046	SED-DA-046	SED-DA-046	SED-DA-046	SED-DA-047	SED-DA-047
						Depths (ft)	1-1.5 ft	0-0.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft
						Sample Date	8/14/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013
						Sample ID	SED-DA-045(1.0-1.5)	SED-DA-046(0.0-0.5)	SED-DA-DUP-07-081213FD	SED-DA-046(0.5-1.0)	SED-DA-046(1.0-1.5)	SED-DA-047(0.0-0.5)	SED-DA-047(0.5-1.0)
<b>VOCs</b>													
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 7 U	27	16	< 8 U	< 5 U	< 6 U	< 6 U
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 7 U	16	10	< 8 U	< 5 U	< 6 U	< 6 U
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 13 U	< 18 U	< 16 U	< 16 U	< 11 U	< 11 U	< 12 U
2-Phenylbutane	µg/kg	Yes	--	--	--		< 7 U	5 J	3 J	< 8 U	< 5 U	< 6 U	< 6 U
Acetone	µg/kg	No	--	9.9	100		15 J	26 J	26 J	11 J	< 22 U	15 J	9 J
Benzene	µg/kg	Yes	--	141.57	--		< 7 U	1 J	< 8 U	< 8 U	< 5 U	< 6 U	< 6 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 7 U	25	15	< 8 U	< 5 U	< 6 U	< 6 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 7 U	3 J	< 8 U	< 8 U	< 5 U	< 6 U	< 6 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 7 U	< 9 U	< 8 U	< 8 U	< 5 U	< 6 U	< 6 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 7 U	6 J	4 J	< 8 U	< 5 U	< 6 U	< 6 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 7 U	6 J	4 J	< 8 U	< 5 U	< 6 U	< 6 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 7 U	6 J	4 J	< 8 U	< 5 U	< 6 U	< 6 U
Toluene	µg/kg	Yes	--	1220	--		< 7 U	4 J	4 J	3 J	< 5 U	< 6 U	< 6 U
Trichloroethene	µg/kg	No	--	96.9	9		< 7 U	< 9 U	< 8 U	< 8 U	< 5 U	< 6 U	< 6 U
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 7 U	23	13	< 8 U	< 5 U	< 6 U	< 6 U
<b>PAHs - Non-alkylated</b>													
Acenaphthene	µg/kg	Yes	--	330	--		< 0.130 UB	10.5	14.4	8.29	0.160	< 0.1 U	0.545
Acenaphthylene	µg/kg	Yes	--	330	--		< 0.080 UB	9.09	12.0	4.18	0.111	4.18	0.244
Anthracene	µg/kg	Yes	--	330	--		4.25	11.6	16.7	< 0.1 U	0.158	3.72	0.178
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		0.133 J	14.0 J	29.8 J	9.73	< 0.2 U	23.6	< 0.2 U
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		< 0.101 UB	24.5	26.0	11.2	< 0.1 U	17.4	< 0.1 U
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		NA	< 0.5 U	< 0.5 U	NA	NA	< 0.1 U	NA
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		< 0.241 UB	42.2	48.2	22.6	0.342	42.0	1.31
Benzo(b)fluorene	µg/kg	Yes	--	330	--		NA	33.1	37.4	NA	NA	12.1	NA
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		0.139 J	45.7	55.5	24.5	< 0.2 U	50.9	< 0.2 U
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		< 0.088 UB	47.0	44.9	19.5	0.149	36.4	0.278
Benzo(j)+(k)Fluoranthene	µg/kg	Yes	--	330	--		< 0.098 UB	13.7	17.3	6.95	0.106	13.2	0.273
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		0.253	113	103	45.7	< 0.1 U	116	< 0.1 U
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		< 0.064 UB	9.13	10.1	5.04	< 0.1 U	8.17	0.437
Fluoranthene	µg/kg	Yes	--	330	--		0.642	47.4	53.3	24.6	2.06	50.3	1.78
Fluorene	µg/kg	Yes	--	330	--		1.91	57.1	82.5	46.6	2.57	13.4	6.67
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		< 0.134 UB	14.0	18.3	8.13	< 0.1 U	14.5	0.488
Naphthalene	µg/kg	Yes	--	330	--		< 1.33 UB	12.9	20.4	17.0	3.80	5.56	8.88
Perylene	µg/kg	Yes	--	--	--		1.23 J	37.1	34.8	64.8	7.39 J	59.7	192
Phenanthrene	µg/kg	Yes	--	330	--		3.49	278	236	124	5.70	152	16.6
Pyrene	µg/kg	Yes	--	330	--		< 0.612 UB	76.8	73.9 J	42.7	0.810	77.5 J	1.02
Total HMW PAHs (Priority+2 List) <sup>6</sup>	µg/kg	Yes	--	655	901		1.03	402	425	196	3.47	399	5.59
Total LMW PAHs (Priority+2 List) <sup>6</sup>	µg/kg	Yes	--	330	182		11.8	625	697	370	17.9	225	45.2

**Table 7-3  
Sediment Sampling Results in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-045	SED-DA-046	SED-DA-046	SED-DA-046	SED-DA-046	SED-DA-047	SED-DA-047
						Depths (ft)	1-1.5 ft	0-0.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft
Sample Date						8/14/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013
Sample ID						SED-DA-045(1.0-1.5)	SED-DA-046(0.0-0.5)	SED-DA-DUP-07-081213FD	SED-DA-046(0.5-1.0)	SED-DA-046(1.0-1.5)	SED-DA-047(0.0-0.5)	SED-DA-047(0.5-1.0)	
<b>PAHs - Alkylated</b>													
1-Methylnaphthalene	µg/kg	Yes	--	330	--		0.73	105	131	69.1	1.83	19.8	4.13
2-Methylnaphthalene	µg/kg	Yes	--	330	--		1.41	141	184	101	3.56	26.1	7.97
C1-Chrysenes	µg/kg	Yes	--	--	--		0.559	302	296	154	< 0.2 U	251	< 0.2 U
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.593	298	394	142	1.09	315	1.04
C1-Fluorenes	µg/kg	Yes	--	--	--		0.722	223	319	156	1.43	69.0	2.68
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.1 U	841	799	373	3.82	628	5.68
C2-Chrysenes	µg/kg	Yes	--	--	--		0.568	451	375	185	< 0.2 U	346	< 0.2 U
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.612	463	462	< 0.5 U	< 0.5 U	421	< 0.5 U
C2-Fluorenes	µg/kg	Yes	--	--	--		1.92	587	632	398	< 0.4 U	299	4.68
C2-Naphthalenes	µg/kg	Yes	--	--	--		2.99	745	960	465	5.80	226	12.7
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	1304	1282	640	6.96	1105	6.77
C3-Chrysenes	µg/kg	Yes	--	--	--		0.429	306	307	138	< 0.2 U	224	< 0.2 U
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.557	451	502	< 0.5 U	< 0.5 U	417	< 0.5 U
C3-Fluorenes	µg/kg	Yes	--	--	--		1.05	667	690	413	< 0.4 U	439	< 0.4 U
C3-Naphthalenes	µg/kg	Yes	--	--	--		4.87	1124	1463	776	7.73	504	15.0
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	1411	1432	640	3.36	1454	2.62
C4-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	168	138	68.3	< 0.2 U	139	< 0.2 U
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.369 J	409	367	< 0.5 U	< 0.5 U	368	< 0.5 U
C4-Naphthalenes	µg/kg	Yes	--	--	--		2.77	1140	1530	672	4.15	671	13.6
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	1072	997	462	< 0.3 U	853	2.17
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130		6.08	<b>3330</b>	<b>3360</b>	<b>973</b>	11.9	<b>2990</b>	199
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430		26.1	<b>9770</b>	<b>10800</b>	<b>5370</b>	51.1	<b>6480</b>	111
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1		NA	0.5	0.6	0.3 *	NA	0.3	NA
<b>TPH</b>													
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--		NA	2385	2723	NA	NA	1807	NA
Total Resolveable Hydrocarbons	mg/kg	No	--	--	--		NA	292	375	NA	NA	325	NA
Unresolved Complex Mixture	mg/kg	No	--	--	--		NA	2093	2348	NA	NA	1482	NA
<b>Metals</b>													
Arsenic	mg/kg	No	14	7.24	7.2		2.07 J	5.26	5.64	<b>8.12</b>	5.27	5.37	6.31
Barium	mg/kg	No	558	--	174		86.3	98.4	99.6	175	102	110	140
Cadmium	mg/kg	No	--	1	0.66		0.168 J	< 0.771 U	< 0.800 U	< 0.829 U	< 0.635 U	< 0.640 U	< 0.632 U
Chromium	mg/kg	No	80	52.3	103		12.2 J	14.5 J	14.7 J	20.6 J	16.3 J	16.3 J	14.4 J
Lead	mg/kg	No	36	30.2	56		10.4	19.4	21.2	<b>260</b>	13.2	22.0	16.2
Mercury	mg/kg	No	0.07	0.13	0.20		0.0533 J	0.0386 J	0.0383 J	0.0619 J	0.0233 J	0.0417 J	0.0264 J
Nickel	mg/kg	Yes	35	15.9	66		9.37	11.5	11.8	<b>17.3</b>	11.1	12.9	15.3
Selenium	mg/kg	Yes	0.7	2	--		< 2.50 U	< 3.08 U	< 3.20 U	< 3.32 U	< 2.54 U	< 2.56 U	< 2.53 U
Silver	mg/kg	Yes	--	2	1.3		< 0.625 U	< 0.771 U	< 0.800 U	< 0.829 U	< 0.635 U	< 0.640 U	< 0.632 U
Vanadium	mg/kg	Yes	88	--	46		21.4	24.4	25.2	35.8	27.2	27.1	26.0
<b>Other</b>													
Percent Moisture	%	--	--	--	--		23.1	35.8	38.7	40.3	21.2	24.9	23.9
Total Organic Carbon	%	--	--	--	--		NA	3.36	3.3	NA	NA	3.17	NA
Black Carbon	%	--	--	--	--		NA	< 0.17 U	0.17 J	NA	NA	0.16 J	NA

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-047	SED-DA-048	SED-DA-048	SED-DA-048	SED-DA-049	SED-DA-049	SED-DA-049	SED-DA-050
						Depths (ft)	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft
						Sample Date	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/14/2013
						Sample ID	SED-DA-047(1.0-1.5)	SED-DA-048(0.0-0.5)	SED-DA-048(0.5-1.0)	SED-DA-048(1.0-1.5)	SED-DA-049(0.0-0.5)	SED-DA-049(0.5-1.0)	SED-DA-049(1.0-1.5)	SED-DA-050(0.0-0.5)
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 6 U	93 J	< 12 U	< 6 U	5 J	7 J	< 7 U	4 J
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 6 U	66 J	< 12 U	< 6 U	4 J	5 J	< 7 U	3 J
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 13 U	25 J	15 J	< 13 U	20 J	< 23 U	< 14 U	8 J
2-Phenylbutane	µg/kg	Yes	--	--	--		< 6 U	15 J	< 12 U	< 6 U	< 15 U	< 12 U	< 7 U	< 8 U
Acetone	µg/kg	No	--	9.9	100		< 25 U	<b>100 J</b>	<b>75</b>	< 25 U	<b>110</b>	<b>39 J</b>	< 27 U	<b>41</b>
Benzene	µg/kg	Yes	--	141.57	--		< 6 U	3 J	1 J	< 6 U	< 15 U	< 12 U	< 7 U	< 8 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 6 U	16 J	< 12 U	< 6 U	< 15 U	< 12 U	< 7 U	< 8 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 6 U	8 J	< 12 U	< 6 U	< 15 U	< 12 U	< 7 U	< 8 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 6 U	< 13 UJ	< 12 U	< 6 U	< 15 U	< 12 U	< 7 U	< 8 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 6 U	17 J	< 12 U	< 6 U	< 15 U	< 12 U	< 7 U	< 8 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 6 U	18 J	< 12 U	< 6 U	< 15 U	< 12 U	< 7 U	< 8 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 6 U	26 J	< 12 U	< 6 U	< 15 U	< 12 U	< 7 U	< 8 U
Toluene	µg/kg	Yes	--	1220	--		< 6 U	120 J	< 12 U	< 6 U	16	< 12 U	< 7 U	< 8 U
Trichloroethene	µg/kg	No	--	96.9	9		< 6 U	< 13 UJ	< 12 U	< 6 U	< 15 U	< 12 U	< 7 U	< 8 U
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 6 U	<b>81 J</b>	5 J	< 6 U	16	8 J	< 7 U	5 J
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--		< 0.111 UB	14.9 J	1.36	0.35	8.96	2.04	0.636	2.06
Acenaphthylene	µg/kg	Yes	--	330	--		0.093	14.6 J	0.96	0.12	12.7	2.83	0.252	3.16
Anthracene	µg/kg	Yes	--	330	--		0.140	11.4	1.48	< 0.1 U	12.2	4.56	17.6	3.89
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		0.119 J	34.1	2.71	< 0.2 U	18.0	6.52	0.397	3.93
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		< 0.101 UB	28.9	1.59	< 0.1 U	29.0	4.69	< 0.1 U	5.05
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		NA	< 0.5 U	NA	NA	9.81	NA	NA	4.80
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		< 0.324 UB	59.0	7.55	0.37	83.2	32.0	1.46	23.7
Benzo(b)fluorene	µg/kg	Yes	--	330	--		NA	39.5	NA	NA	15.6	NA	NA	1.87
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		0.178	58.5	3.34	< 0.2 U	46.4	18.2	< 0.2 U	12.9
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		< 0.147 UB	54.9	3.14	0.22	34.2	17.0	0.388	13.1
Benzo(j)+(k)Fluoranthene	µg/kg	Yes	--	330	--		< 0.098 UB	14.6 J	1.64	0.06 J	26.7	9.09	0.293	7.04 J
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		0.319	108	9.21	< 0.1 U	68.0	26.7	1.14	11.7
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		0.985	10.8	1.26	< 0.1 U	8.27	3.43	0.169	3.22
Fluoranthene	µg/kg	Yes	--	330	--		0.663	64.1	7.17	0.93	59.2	19.0	2.56	12.6
Fluorene	µg/kg	Yes	--	330	--		2.22	83.2	7.65	4.07	41.6	12.0	6.27	6.87
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		< 0.367 UB	23.2	3.09	< 0.1 U	25.3	13.5	0.645	12.2
Naphthalene	µg/kg	Yes	--	330	--		3.46	23.6 J	13.1	4.75	28.0	19.9	7.04	5.52
Perylene	µg/kg	Yes	--	--	--		7.01	114	< 1.3 U	238	36.5	83.0 J	141	140
Phenanthrene	µg/kg	Yes	--	330	--		4.50	238	21.9	< 0.2 U	114	31.7	16.7	15.6
Pyrene	µg/kg	Yes	--	330	--		< 0.399 UB	81.3 J	5.24	0.47 J	72.2	15.7	1.82	8.87
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901		2.09	479	42.6	2.05	424	148	8.87	101
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182		14.8	<b>684</b>	67.0	15.3	<b>438</b>	119	58.0	59.2

**Table 7-3  
Sediment Sampling Results in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-047	SED-DA-048	SED-DA-048	SED-DA-048	SED-DA-049	SED-DA-049	SED-DA-049	SED-DA-050
						Depths (ft)	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft
Sample Date						8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/12/2013	8/14/2013
Sample ID						SED-DA-047(1.0-1.5)	SED-DA-048(0.0-0.5)	SED-DA-048(0.5-1.0)	SED-DA-048(1.0-1.5)	SED-DA-049(0.0-0.5)	SED-DA-049(0.5-1.0)	SED-DA-049(1.0-1.5)	SED-DA-050(0.0-0.5)	
<b>PAHs - Alkylated</b>														
1-Methylnaphthalene	µg/kg	Yes	--	330	--		1.48	127	7.87	2.05	91.2	16.8	3.21	8.51
2-Methylnaphthalene	µg/kg	Yes	--	330	--		2.91	171	12.7	4.00	129	29.4	6.26	13.6
C1-Chrysenes	µg/kg	Yes	--	--	--		15.9	294	33.1	< 0.2 U	176	105	< 0.2 U	32.9
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.580	343	8.62	0.37 J	161	25.6	1.18	11.6
C1-Fluorenes	µg/kg	Yes	--	--	--		0.913	312	4.17	1.64	133	13.2	2.49	13.1
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.1 U	800	20.5	< 0.1 U	323	38.2	5.59	22.9
C2-Chrysenes	µg/kg	Yes	--	--	--		2.59	445	15.8	< 0.2 U	215	63.6	< 0.2 U	22.8
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.436 J	530	11.5	< 0.5 U	222	41.6	< 0.5 U	18.1
C2-Fluorenes	µg/kg	Yes	--	--	--		1.61	795	14.5	< 0.4 U	381	48.1	4.68	22.4
C2-Naphthalenes	µg/kg	Yes	--	--	--		3.94	< 3.4 U	20.5	6.25	468	55.0	9.04	46.3
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	1245	26.7	< 0.3 U	556	65.7	< 0.3 U	32.9
C3-Chrysenes	µg/kg	Yes	--	--	--		0.811	303	12.2	< 0.2 U	161	56.3	< 0.2 U	17.8
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.388 J	526	10.7	< 0.5 U	165	42.0	< 0.5 U	17.1 J
C3-Fluorenes	µg/kg	Yes	--	--	--		0.962	800	21.4	< 0.4 U	444	32.5	< 0.4 U	31.2
C3-Naphthalenes	µg/kg	Yes	--	--	--		5.77	1541	26.0	9.10	728	57.0	9.46	56.5
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	1271	18.0	< 0.3 U	737	74.1	< 0.3 U	27.4
C4-Chrysenes	µg/kg	Yes	--	--	--		0.722	176	8.00	< 0.2 U	121	31.2	< 0.2 U	8.56
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		0.356 J	499	7.37	< 0.5 U	215	58.1	< 0.5 U	19.7
C4-Naphthalenes	µg/kg	Yes	--	--	--		1.68	1393	10.5	3.22	684	37.5	9.01	40.0
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		< 0.3 U	961	8.80	< 0.3 U	497	61.8	< 0.3 U	17.2
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130		31.1	<b>3770</b>	153	240	<b>1950</b>	<b>672</b>	151	408
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430		29.7	<b>9840</b>	238	35.6	<b>5400</b>	<b>602</b>	98.2	<b>371</b>
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1		NA	0.3	NA	NA	0.1	0.02 *	NA	0.02
<b>TPH</b>														
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--		NA	2714	NA	NA	1480	NA	NA	300
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--		NA	590	NA	NA	461	NA	NA	166
Unresolved Complex Mixture	mg/kg	No	--	--	--		NA	2124	NA	NA	1019	NA	NA	134
<b>Metals</b>														
Arsenic	mg/kg	No	14	7.24	7.2		4.75	<b>11.5</b>	<b>8.38</b>	4.23	<b>9.40</b>	<b>13.0</b>	4.31	4.60
Barium	mg/kg	No	558	--	174		78.6	202	241	96.9	214	186	134	132
Cadmium	mg/kg	No	--	1	0.66		< 0.634 U	< 1.22 U	< 1.03 U	< 0.639 U	< 1.19 U	< 0.959 U	< 0.662 U	0.345 J
Chromium	mg/kg	No	80	52.3	103		14.2 J	25.7 J	25.8 J	14.6 J	28.2 J	27.5 J	18.9 J	20.7 J
Lead	mg/kg	No	36	30.2	56		12.3	<b>38.8</b>	<b>30.6</b>	13.4	<b>36.0</b>	<b>45.7</b>	17.2	20.8
Mercury	mg/kg	No	0.07	0.13	0.20		0.0190 J	0.0979 J	0.0911 J	0.0311 J	0.0598 J	0.0693 J	0.0442 J	0.0304 J
Nickel	mg/kg	Yes	35	15.9	66		11.6	<b>24.9</b>	<b>19.4</b>	8.13	<b>24.8</b>	<b>24.9</b>	13.0	15.7
Selenium	mg/kg	Yes	0.7	2	--		< 2.53 U	< 4.87 U	< 4.13 U	< 2.55 U	< 4.75 U	< 3.84 U	< 2.65 U	< 3.14 U
Silver	mg/kg	Yes	--	2	1.3		< 0.634 U	< 1.22 U	< 1.03 U	< 0.639 U	< 1.19 U	< 0.959 U	< 0.662 U	< 0.785 U
Vanadium	mg/kg	Yes	88	--	46		24.4	41.2	45.4	27.1	42.8	42.6	32.6	33.5
<b>Other</b>														
Percent Moisture	%	--	--	--	--		23.4	59.3	53.0	24.0	58.3	48.9	27.4	36.9
Total Organic Carbon	%	--	--	--	--		NA	6.41	NA	NA	8.23	NA	NA	4.8
Black Carbon	%	--	--	--	--		NA	0.28 J	NA	NA	0.29 J	NA	NA	0.22 J

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-050	SED-DA-050	SED-DA-050	SED-DA-051	SED-DA-051	SED-DA-051	SED-DA-052	SED-DA-052
						Depths (ft)	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft
						Sample Date	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/10/2013	8/10/2013
						Sample ID	SED-DA-DUP-08-081413	SED-DA-050(0.5-1.0)	SED-DA-050(1.0-1.5)	SED-DA-051(0.0-0.5)	SED-DA-051(0.5-1.0)	SED-DA-051(1.0-1.5)	SED-DA-052(0.0-0.5)	SED-DA-052(0.5-1.0)
<b>VOCs</b>														
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 11 U	< 5 U	< 6 U	< 19 UJ	< 20 U	< 8 U	< 15 UJ	< 6 U
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 11 U	< 5 U	< 6 U	6 J	< 20 U	< 8 U	13 J	< 6 U
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 21 U	< 11 U	< 13 U	40 J	32 J	< 15 U	33	< 12 U
2-Phenylbutane	µg/kg	Yes	--	--	--		< 11 U	< 5 U	< 6 U	< 19 UJ	< 20 U	< 8 U	< 15 UJ	< 6 U
Acetone	µg/kg	No	--	9.9	100		<b>27 J</b>	< 22 U	< 25 U	<b>200 J</b>	<b>200</b>	<b>12 J</b>	<b>200</b>	<b>13 J</b>
Benzene	µg/kg	Yes	--	141.57	--		< 11 U	< 5 U	< 6 U	< 19 UJ	< 20 U	< 8 U	< 15 U	< 6 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 11 U	< 5 U	< 6 U	< 19 UJ	< 20 U	< 8 U	< 15 U	< 6 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 11 U	< 5 U	< 6 U	< 19 UJ	< 20 U	< 8 U	< 15 U	< 6 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 11 U	< 5 U	< 6 U	< 19 U	< 20 U	< 8 U	< 15 U	< 6 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 11 U	< 5 U	< 6 U	< 19 UJ	< 20 U	< 8 U	< 15 UJ	< 6 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 11 U	< 5 U	< 6 U	< 19 UJ	< 20 U	< 8 U	< 15 UJ	< 6 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 11 U	< 5 U	< 6 U	< 19 UJ	< 20 U	< 8 U	< 15 UJ	< 6 U
Toluene	µg/kg	Yes	--	1220	--		< 11 U	< 5 U	< 6 U	6 J	< 20 U	< 8 U	6 J	< 6 U
Trichloroethene	µg/kg	No	--	96.9	9		< 11 U	< 5 U	< 6 U	< 19 UJ	< 20 U	< 8 U	< 15 U	< 6 U
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 11 U	< 5 U	< 6 U	22 J	< 20 U	< 8 U	20	< 6 U
<b>PAHs - Non-alkylated</b>														
Acenaphthene	µg/kg	Yes	--	330	--		1.88	0.165	< 0.103 UB	11.5 J	1.21	0.451	7.31	1.07
Acenaphthylene	µg/kg	Yes	--	330	--		3.15	0.106	< 0.041 UB	13.8 J	1.44	0.235	14.4	0.798
Anthracene	µg/kg	Yes	--	330	--		3.89	0.214	< 0.115 UB	19.0	2.37	0.351	19.2	0.959
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		3.14	0.228	0.079 J	13.8 J	3.63	0.652	19.2	1.48
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		3.91	0.120	< 0.101 UB	20.1	2.62	0.453	24.8	1.94
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		4.33	NA	NA	21.0	NA	NA	15.9	NA
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		22.5	0.747	< 0.203 UB	64.5	14.0	2.52	90.3	7.65
Benzo(b)fluorene	µg/kg	Yes	--	330	--		1.77	NA	NA	9.89	NA	NA	12.4	NA
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		12.0	0.282	< 0.177 UB	39.8	5.45	0.847	57.3	3.39
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		13.4	< 0.172 UB	< 0.088 UB	54.6	3.74	< 0.402 UB	81.1	5.33
Benzo(j)+k)Fluoranthene	µg/kg	Yes	--	330	--		4.18 J	< 0.190 UB	< 0.098 UB	28.0	3.78	0.448	23.0	1.44
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		11.2	0.494	0.121	35.9	10.4	2.03	61.8	3.71
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		2.84	< 0.064 UB	< 0.064 UB	8.44	2.60	< 0.229 UB	12.5	2.33
Fluoranthene	µg/kg	Yes	--	330	--		12.5	1.14	0.631	47.6	8.81	1.99	57.8 J	6.38 J
Fluorene	µg/kg	Yes	--	330	--		8.71	1.55	1.81	40.8 J	6.46	2.72	31.6	8.93
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		11.6	< 0.260 UB	< 0.062 UB	36.9	4.91	0.621	45.3	3.35
Naphthalene	µg/kg	Yes	--	330	--		8.59	< 1.02 UB	< 0.600 UB	26.7	6.00	2.06	20.6	7.53
Perylene	µg/kg	Yes	--	--	--		157	61.7	5.27	103	378	348	112	157
Phenanthrene	µg/kg	Yes	--	330	--		17.5	3.19	4.70	88.1	12.9	5.16	79.7	18.0
Pyrene	µg/kg	Yes	--	330	--		9.74	< 0.688 UB	< 0.314 UB	41.5	6.17	1.52	58.2	3.75
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901		95.0	2.73	0.831	351	60.7	10.2	474	37.4
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182		77.0	6.42	6.51	<b>378</b>	42.2	13.2	329	48.9



**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-050	SED-DA-050	SED-DA-050	SED-DA-051	SED-DA-051	SED-DA-051	SED-DA-052	SED-DA-052
						Depths (ft)	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft	0-0.5 ft	0.5-1 ft
Sample Date						8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/10/2013	8/10/2013
Sample ID						SED-DA-DUP-08-081413	SED-DA-050(0.5-1.0)	SED-DA-050(1.0-1.5)	SED-DA-051(0.0-0.5)	SED-DA-051(0.5-1.0)	SED-DA-051(1.0-1.5)	SED-DA-052(0.0-0.5)	SED-DA-052(0.5-1.0)	
<b>PAHs - Alkylated</b>														
1-Methylnaphthalene	µg/kg	Yes	--	330	--	13.3	0.391 J	< 0.546 UB	75.8	4.34	0.758	65.7	3.84	
2-Methylnaphthalene	µg/kg	Yes	--	330	--	20.0	0.799 J	< 1.30 UB	102	7.50	1.45	90.8	7.78	
C1-Chrysenes	µg/kg	Yes	--	--	--	28.9	0.181 J	0.094 J	111	35.6	11.5	141	< 0.2 U	
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	13.0	0.533	0.161 J	70.7	7.09	2.92	113	5.79	
C1-Fluorenes	µg/kg	Yes	--	--	--	13.0	0.644	0.704	84.0	3.60	1.22	76.2	4.89	
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	22.7	< 0.1 U	< 0.1 U	141	13.9	< 0.1 U	199	10.8	
C2-Chrysenes	µg/kg	Yes	--	--	--	19.2	0.663	0.283	86.2	17.2	2.23	153	< 0.2 U	
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	16.9	0.343 J	0.216 J	125	10.7	1.25	210	< 0.5 U	
C2-Fluorenes	µg/kg	Yes	--	--	--	28.7	1.03	2.044	156	11.4	1.73	222	11.6	
C2-Naphthalenes	µg/kg	Yes	--	--	--	53.8	1.48	< 0.723 UB	367	13.7	2.49	290	15.1	
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	33.9	< 0.3 U	< 0.3 U	208	14.6	< 0.3 U	376	15.0	
C3-Chrysenes	µg/kg	Yes	--	--	--	13.9	0.499	0.850	55.0	7.63	1.56	136	< 0.2 U	
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	7.83 J	0.319 J	0.087 J	84.9	8.49	1.05	161	< 0.5 U	
C3-Fluorenes	µg/kg	Yes	--	--	--	31.8	0.675	0.913	199	9.34	0.921	283	< 0.4 U	
C3-Naphthalenes	µg/kg	Yes	--	--	--	59.3	3.94	< 0.740 UB	357	13.4	6.07	398	20.5	
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	29.9	< 0.3 U	< 0.3 U	250	14.2	< 0.3 U	425	13.4	
C4-Chrysenes	µg/kg	Yes	--	--	--	9.39	< 0.2 U	< 0.2 U	55.5	5.87	1.12	99.9	< 0.2 U	
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--	21.4	0.203 J	< 0.5 U	92.0	9.83	< 0.5 U	224	< 0.5 U	
C4-Naphthalenes	µg/kg	Yes	--	--	--	36.2	2.07	1.30	284	4.63	1.03	345	25.9	
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--	21.2	< 0.3 U	< 0.3 U	170	9.63	< 0.3 U	352	13.8	
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130	399	67.5	7.79	1200	547	381	1900	204	
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430	409	16.3	11.5	2600	151	26.6	3310	180	
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1	0.02	NA	NA	0.04	NA	NA	0.07	NA	
<b>TPH</b>														
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--	360	NA	NA	1983	NA	NA	1612	NA	
Total Resolveable Hydrocarbons	mg/kg	No	--	--	--	161	NA	NA	974	NA	NA	576	NA	
Unresolved Complex Mixture	mg/kg	No	--	--	--	200	NA	NA	1008	NA	NA	1037	NA	
<b>Metals</b>														
Arsenic	mg/kg	No	14	7.24	7.2	5.90	2.67	4.41	13.9	7.47	3.95	13.9	5.27	
Barium	mg/kg	No	558	--	174	164	69.8	61.8	236	259	178	197	135	
Cadmium	mg/kg	No	--	1	0.66	0.370 J	0.207 J	0.263 J	0.804 J	0.485 J	0.331 J	< 1.41 U	< 0.672 U	
Chromium	mg/kg	No	80	52.3	103	23.1 J	11.4 J	13.4 J	33.7 J	30.4 J	23.9 J	27.1	17.8	
Lead	mg/kg	No	36	30.2	56	25.3	10.2	14.0	46.1	36.2	23.0	38.1	17.7	
Mercury	mg/kg	No	0.07	0.13	0.20	0.0525 J	0.0276 J	0.0210 J	0.112 J	0.0861 J	0.0418 J	0.0679 J	0.0401 J	
Nickel	mg/kg	Yes	35	15.9	66	18.8	8.19	8.67	32.5	20.9	13.0	25.5	12.3	
Selenium	mg/kg	Yes	0.7	2	--	< 4.38 U	< 2.48 U	< 2.47 U	< 6.21 U	< 5.55 U	1.33 J	< 5.65 U	< 2.69 U	
Silver	mg/kg	Yes	--	2	1.3	< 1.10 U	< 0.619 U	< 0.618 U	< 1.55 U	< 1.39 U	< 0.741 U	< 1.41 U	< 0.672 U	
Vanadium	mg/kg	Yes	88	--	46	40.0	20.1	25.0	52.7	61.2	49.2	42.3	29.7	
<b>Other</b>														
Percent Moisture	%	--	--	--	--	56.1	20.8	20.7	68.4	64.3	33.2	65.3	27.0	
Total Organic Carbon	%	--	--	--	--	5.3	NA	NA	13.03	NA	NA	8.54	NA	
Black Carbon	%	--	--	--	--	0.25 J	NA	NA	0.42 J	NA	NA	0.35 J	NA	

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-052	SED-DA-052	SED-DA-052	SED-DA-053	SED-DA-053	SED-DA-053
						Depths (ft)	1-1.5 ft	1.5-2 ft	2-2.6 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft
						Sample Date	8/10/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013
						Sample ID	SED-DA-052(1.0-1.5)	SED-DA-052(1.5-2.0)	SED-DA-052(2.0-2.6)	SED-DA-053(0.0-0.5)	SED-DA-053(0.5-1.0)	SED-DA-053(1.0-1.5)
<b>VOCS</b>												
1,2,4-Trimethylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 7 U	< 7 U	< 13 UJ	< 9 U	< 6 U
1,3,5-Trimethylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 7 U	< 7 U	< 13 UJ	< 9 U	< 6 U
2-Butanone (MEK)	µg/kg	No	--	42.4	17		< 12 U	< 14 U	< 14 U	12 J	< 18 U	< 12 U
2-Phenylbutane	µg/kg	Yes	--	--	--		< 6 U	< 7 U	< 7 U	< 13 UJ	< 9 U	< 6 U
Acetone	µg/kg	No	--	9.9	100		<b>11 J</b>	< 27 U	< 29 U	<b>67</b>	<b>18 J</b>	< 25 U
Benzene	µg/kg	Yes	--	141.57	--		< 6 U	< 7 U	< 7 U	< 13 U	< 9 U	< 6 U
Ethylbenzene	µg/kg	Yes	--	1100	--		< 6 U	< 7 U	< 7 U	< 13 U	< 9 U	< 6 U
Isopropylbenzene (Cumene)	µg/kg	Yes	--	86	--		< 6 U	< 7 U	< 7 U	< 13 UJ	< 9 U	< 6 U
Methylene Chloride (Dichloromethane)	µg/kg	No	--	159	--		< 6 U	< 7 U	< 7 U	< 13 U	< 9 U	< 6 U
n-Butylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 7 U	< 7 U	< 13 UJ	< 9 U	< 6 U
n-Propylbenzene	µg/kg	Yes	--	--	--		< 6 U	< 7 U	< 7 U	< 13 U	< 9 U	< 6 U
p-Isopropyltoluene (Cymene)	µg/kg	Yes	--	--	--		< 6 U	< 7 U	< 7 U	< 13 UJ	< 9 U	< 6 U
Toluene	µg/kg	Yes	--	1220	--		< 6 U	< 7 U	< 7 U	< 13 U	< 9 U	< 6 U
Trichloroethene	µg/kg	No	--	96.9	9		< 6 U	< 7 U	< 7 U	3 J	4 J	2 J
Xylene (Total)	µg/kg	Yes	--	25.2	--		< 6 U	< 7 U	< 7 U	< 13 U	< 9 U	< 6 U
<b>PAHs - Non-alkylated</b>												
Acenaphthene	µg/kg	Yes	--	330	--		0.12	NA	NA	1.48	1.01	0.275
Acenaphthylene	µg/kg	Yes	--	330	--		0.61	NA	NA	2.35	0.939	< 0.079 UB
Anthracene	µg/kg	Yes	--	330	--		0.583	NA	NA	3.05	1.40	< 0.115 UB
Benzo(a)Anthracene	µg/kg	Yes	--	330	--		0.569	NA	NA	3.44	2.49	0.136 J
Benzo(a)Pyrene	µg/kg	Yes	--	330	--		< 0.1 U	NA	NA	3.97	1.49	< 0.101 UB
Benzo(a)Fluoranthene	µg/kg	Yes	--	330	--		NA	NA	NA	< 0.1 U	NA	NA
Benzo(b)Fluoranthene	µg/kg	Yes	--	330	--		< 0.2 U	NA	NA	20.0	11.3	< 0.203 UB
Benzo(b)fluorene	µg/kg	Yes	--	330	--		NA	NA	NA	2.16	NA	NA
Benzo(e)Pyrene	µg/kg	Yes	--	--	--		< 0.2 U	NA	NA	12.3	3.33	0.160 J
Benzo(g,h,i)Perylene	µg/kg	Yes	--	330	--		< 0.1 U	NA	NA	13.4	2.30	< 0.088 UB
Benzo(j)+(k)Fluoranthene	µg/kg	Yes	--	330	--		< 0.1 U	NA	NA	4.04	1.53	< 0.098 UB
Chrysene/Triphenylene	µg/kg	Yes	--	330	--		1.07	NA	NA	14.3	8.94	0.119
Dibenz(a,h)Anthracene	µg/kg	Yes	--	330	--		< 0.1 U	NA	NA	3.32	1.46	< 0.064 UB
Fluoranthene	µg/kg	Yes	--	330	--		3.32 J	NA	NA	12.3	8.46	0.787
Fluorene	µg/kg	Yes	--	330	--		7.41	NA	NA	8.54	8.06	3.36
Indeno[1,2,3-cd]pyrene	µg/kg	Yes	--	330	--		< 0.1 U	NA	NA	11.0	3.14	< 0.102 UB
Naphthalene	µg/kg	Yes	--	330	--		4.13	NA	NA	9.76	6.41	1.79
Perylene	µg/kg	Yes	--	--	--		52.8	NA	NA	378	310	15.8
Phenanthrene	µg/kg	Yes	--	330	--		14.0	NA	NA	19.2	17.4	6.56
Pyrene	µg/kg	Yes	--	330	--		1.41	NA	NA	9.10	4.63	< 0.392 UB
Total HMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	655	901		6.37	NA	NA	94.9	45.7	1.04
Total LMW PAHs (Priority+2 List) <sup>b</sup>	µg/kg	Yes	--	330	182		33.1	NA	NA	60.2	43.5	14.1

**Table 7-3**  
**Sediment Sampling Results in Dawson Cove**  
**Downstream Areas Data Assessment Report**  
**ExxonMobil Environmental Services Company**  
**Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Chemical	Units	Is Analyte Screened Further? <sup>2</sup>	AR Sed Bkg <sup>3</sup>	Sediment ESV <sup>4</sup>	Site Sed Bkg (Max) <sup>5</sup>	Location	SED-DA-052	SED-DA-052	SED-DA-052	SED-DA-053	SED-DA-053	SED-DA-053
						Depths (ft)	1-1.5 ft	1.5-2 ft	2-2.6 ft	0-0.5 ft	0.5-1 ft	1-1.5 ft
						Sample Date	8/10/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013
						Sample ID	SED-DA-052(1.0-1.5)	SED-DA-052(1.5-2.0)	SED-DA-052(2.0-2.6)	SED-DA-053(0.0-0.5)	SED-DA-053(0.5-1.0)	SED-DA-053(1.0-1.5)
<b>PAHs - Alkylated</b>												
1-Methylnaphthalene	µg/kg	Yes	--	330	--		2.23	NA	NA	5.41	2.78	0.692
2-Methylnaphthalene	µg/kg	Yes	--	330	--		4.00	NA	NA	10.4	5.49	1.45
C1-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	NA	NA	72.1	2.73	< 0.2 U
C1-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		2.67	NA	NA	17.1	5.26	< 0.5 U
C1-Fluorenes	µg/kg	Yes	--	--	--		3.43	NA	NA	7.58	4.56	< 0.4 U
C1-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		7.18	NA	NA	19.1	11.8	< 0.1 U
C2-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	NA	NA	46.2	6.79	< 0.2 U
C2-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	NA	NA	30.8	4.39	< 0.5 U
C2-Fluorenes	µg/kg	Yes	--	--	--		< 0.4 U	NA	NA	27.1	7.44	< 0.4 U
C2-Naphthalenes	µg/kg	Yes	--	--	--		11.7	NA	NA	20.5	9.66	2.97
C2-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		8.25	NA	NA	32.4	8.19	< 0.3 U
C3-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	NA	NA	37.1	2.81	< 0.2 U
C3-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	NA	NA	28.9	2.70	< 0.5 U
C3-Fluorenes	µg/kg	Yes	--	--	--		< 0.4 U	NA	NA	17.9	4.09	< 0.4 U
C3-Naphthalenes	µg/kg	Yes	--	--	--		21.1	NA	NA	24.3	12.3	8.53
C3-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		5.31	NA	NA	37.8	4.14	< 0.3 U
C4-Chrysenes	µg/kg	Yes	--	--	--		< 0.2 U	NA	NA	15.4	2.22	< 0.2 U
C4-Fluoranthenes/Pyrenes	µg/kg	Yes	--	--	--		< 0.5 U	NA	NA	42.1	1.20	< 0.5 U
C4-Naphthalenes	µg/kg	Yes	--	--	--		54.1	NA	NA	16.6	10.3	4.29
C4-Phenanthrenes/Anthracenes	µg/kg	Yes	--	--	--		5.15	NA	NA	34.7	< 0.3 U	< 0.3 U
Total HMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	655	2130		61.8	NA	NA	<b>775</b>	387	17.0
Total LMW PAHs (Long List) <sup>6</sup>	µg/kg	Yes	--	330	1430		149	NA	NA	300	116	29.9
Total PAH Toxic Units <sup>7</sup>	unitless	Yes	--	1	0.1		NA	NA	NA	0.02	NA	NA
<b>TPH</b>												
Total Petroleum Hydrocarbons	mg/kg	No	--	--	--		NA	NA	NA	479	NA	NA
Total Resolvable Hydrocarbons	mg/kg	No	--	--	--		NA	NA	NA	197	NA	NA
Unresolved Complex Mixture	mg/kg	No	--	--	--		NA	NA	NA	282	NA	NA
<b>Metals</b>												
Arsenic	mg/kg	No	14	7.24	7.2		4.68	3.85	3.10	6.42	4.34 J	2.90
Barium	mg/kg	No	558	--	174		114	83.7	75.9	193		83.1
Cadmium	mg/kg	No	--	1	0.66		< 0.668 U	0.218 J	0.205 J	0.527 J	0.397 J	0.214 J
Chromium	mg/kg	No	80	52.3	103		14.1	14.5 J	17.5 J	26.0 J	22.4 J	12.0 J
Lead	mg/kg	No	36	30.2	56		14.0	13.0	11.8	<b>36.9</b>	26.1	11.3
Mercury	mg/kg	No	0.07	0.13	0.20		0.0503 J	0.0533 J	0.0311 J	0.0709 J	0.0680 J	0.0386 J
Nickel	mg/kg	Yes	35	15.9	66		10.0	9.86	12.3	<b>21.1</b>	<b>19.5</b>	9.65
Selenium	mg/kg	Yes	0.7	2	--		< 2.67 U	< 2.51 U	< 2.64 U	< 4.58 U	< 4.38 U	< 2.52 U
Silver	mg/kg	Yes	--	2	1.3		< 0.668 U	< 0.627 U	< 0.660 U	< 1.14 U	< 1.10 U	< 0.629 U
Vanadium	mg/kg	Yes	88	--	46		25.4	25.6	28.7	41.9	38.2	20.5
<b>Other</b>												
Percent Moisture	%	--	--	--	--		25.1	23.3	26.5	58.0	55.7	22.1
Total Organic Carbon	%	--	--	--	--		NA	NA	NA	5.18	NA	NA
Black Carbon	%	--	--	--	--		NA	NA	NA	0.23 J	NA	NA

**Table 7-3  
Sediment Sampling Results in Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

**Notes:**

1. For analytes that were detected in sediment samples collected under the DARSP (ARCADIS 2013), but were not detected in crude oil samples, the data and associated ESVs are presented, if available, for completeness; however, the analytes were not evaluated further. In addition, only the PAHs associated with the risk screening (as discussed in Section 5) are presented in this table. Complete analytical data are included in Appendix F.
2. As discussed in Section 5, analytes are screened against ESVs and screened further if the analyte is associated with the crude oil at concentrations that could have resulted in the observed concentrations in soil and sediment.  
The following screening is utilized:

**Bold** = Analyte above the sediment ESV but not highlighted due to one of the following reasons (1) the analyte was not detected in the crude oil, (2) the analyte was detected in crude oil at concentrations below the Arkansas sediment background values (metals only), or (3) the analyte was not detected above the Arkansas sediment background.

**Highlight** = Analyte above the Arkansas background value (metals only) and the sediment ESV

3. Table 5-4 lists the Arkansas background sediment values based on 95% upper tolerance level concentrations; an Arkansas background sediment value was not available for cadmium or silver.
4. Table 5-2 lists the available sediment ESVs.
5. Table 5-6 lists the maximum concentration detected in the site background sediment samples from Lake Conway. The maximum concentrations are shown for comparison only.
6. Table 5-3 describes the summations of total HMW and LMW PAHs (Priority+2 and Long List).
7. The TU calculation was completed for the surface samples (0 to 0.5 ft below ground surface) at all locations. The TU was also calculated for the subsurface samples if at least one of the PAH summations was above the sediment ESV.

**Acronyms and Abbreviations:**

-- = not available or not applicable  
AR Sed Bkg = Arkansas background sediment value (95% UTL)  
ESV = ecological screening value  
ft = feet/foot  
HMW = high molecular weight  
LMW = low molecular weight  
µg/kg = micrograms per kilogram  
mg/kg = milligrams per kilogram  
NA = not analyzed  
PAH = polycyclic aromatic hydrocarbon  
Site Sed Bkg (Max) = maximum detects from the site background Lake Conway sediment data  
TU = toxic unit  
VOC = volatile organic compound

**Data Qualifiers:**

\* = TU calculation performed on subsurface sample using the total organic carbon from associated surface sample.  
< = less than the reporting limit  
E = Concentration exceeds the calibration range of the instrument (organic); estimate due to interference (inorganic)  
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.  
R = The sample results are rejected  
U = Compound was not detected.  
UB = Compound considered non-detect at the listed value due to associated blank contamination.  
UJ = The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

**Reference:**

ARCADIS. 2013. Downstream Areas Remedial Sampling Plan. Mayflower Pipeline Incident, Mayflower, Arkansas. July.





**Table 7-4  
Sediment Sampling Results in Lake Conway**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

**Notes:**

1. For analytes that were detected in sediment samples collected under the DARSP (ARCADIS 2013), but were not detected in crude oil samples, the data and associated ESVs are presented, if available, for completeness; however, the analytes were not evaluated further. In addition, only the PAHs associated with the risk screening (as discussed in Section 5) are presented in this table. Complete analytical data are included in Appendix F.
2. As discussed in Section 5, analytes are screened against ESVs and screened further if the analyte is associated with the crude oil at concentrations that could have resulted in the observed concentrations in soil and sediment. The following screening is utilized:

**Bold** = Analyte above the sediment ESV but not highlighted due to one of the following reasons (1) the analyte was not detected in the crude oil, (2) the analyte was detected in crude oil at concentrations below the Arkansas sediment background values (metals only), or (3) the analyte was not detected above the Arkansas sediment background.

**Highlight** = Analyte above the Arkansas background value (metals only) and the sediment ESV

3. Table 5-4 lists the Arkansas background sediment values based on 95% upper tolerance level concentrations; an Arkansas background sediment value was not available for cadmium or silver.
4. Table 5-2 lists the available sediment ESVs.
5. Table 5-6 lists the maximum concentration detected in the site background sediment samples from Lake Conway. The maximum concentrations are shown for comparison only.
6. Table 5-3 describes the summations of total HMW and LMW PAHs (Priority+2 and Long List).
7. The TU calculation was completed for the surface samples (0 to 0.5 ft below ground surface) at all locations. The TU was also calculated for the subsurface samples if at least one of the PAH summations was above the sediment ESV.

**Acronyms and Abbreviations:**

-- = not available or not applicable

AR Sed Bkg = Arkansas background sediment value (95% UTL)

ESV = ecological screening value

ft = feet/foot

HMW = high molecular weight

LMW = low molecular weight

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

NA = not analyzed

PAH = polycyclic aromatic hydrocarbon

Site Sed Bkg (Max) = maximum detects from the site background Lake Conway sediment data

TU = toxic unit

VOC = volatile organic compound

**Data Qualifiers:**

\* = TU calculation performed on subsurface sample using the total organic carbon from associated surface sample.

< = less than the reporting limit

E = Concentration exceeds the calibration range of the instrument (organic); estimate due to interference (inorganic)

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

R = The sample results are rejected

U = Compound was not detected.

UB = Compound considered non-detect at the listed value due to associated blank contamination.

UJ = The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

**Reference:**

ARCADIS. 2013. Downstream Areas Remedial Sampling Plan. Mayflower Pipeline Incident, Mayflower, Arkansas. July.

**Table 7-5  
Sediment Sampling Statistics for Drainage Ways**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	Units	Frequency of Detection	Detection Range	Maximum Detect Location	Sediment ESV	Numbers Above ESV	Site Background Maximum	Number Above Site Background Maximum
<b>VOCs</b>								
1,3,5-Trimethylbenzene	µg/kg	2/35 (6%)	1.00 - 2.00	SED-DA-004(0.0-0.5)	--	--	--	--
Benzene	µg/kg	4/35 (11%)	1.00 - 4.00	SED-DA-007(0.5-1.0)	141.57	0	--	--
Ethylbenzene	µg/kg	1/35 (3%)	2.00 - 2.00	SED-DA-004(0.0-0.5)	1100	0	--	--
p-Isopropyltoluene (Cymene)	µg/kg	2/35 (6%)	2.00 - 5.00	SED-DA-010(0.0-0.5)	--	--	--	--
Toluene	µg/kg	1/35 (3%)	15.0 - 15.0	SED-DA-004(0.0-0.5)	1220	0	--	--
Xylene (Total)	µg/kg	3/35 (9%)	1.00 - 15.0	SED-DA-004(0.0-0.5)	25.2	0	--	--
<b>PAHs - Non-alkylated</b>								
Acenaphthene	µg/kg	23/35 (66%)	0.0390 - 1.77	SED-DA-001(0.0-0.5)	330	0	--	--
Acenaphthylene	µg/kg	25/35 (71%)	0.0260 - 10.3	SED-DA-004(0.0-0.5)	330	0	--	--
Anthracene	µg/kg	18/35 (51%)	0.0450 - 16.1	SED-DA-004(0.0-0.5)	330	0	--	--
Benzo(a)Anthracene	µg/kg	27/35 (77%)	0.0630 - 29.8	SED-DA-004(0.0-0.5)	330	0	--	--
Benzo(a)Pyrene	µg/kg	22/35 (63%)	0.0230 - 47.9	SED-DA-004(0.0-0.5)	330	0	--	--
Benzo(a)Fluoranthene	µg/kg	4/13 (31%)	0.450 - 3.50	SED-DA-001(0.0-0.5)	330	0	--	--
Benzo(b)Fluoranthene	µg/kg	23/35 (66%)	0.258 - 130	SED-DA-004(0.0-0.5)	330	0	--	--
Benzo(b)Fluorene	µg/kg	11/13 (85%)	0.0290 -26.4	SED-DA-004(0.0-0.5)	330	0	--	--
Benzo(e)Pyrene	µg/kg	22/35 (63%)	0.123 - 91.4	SED-DA-004(0.0-0.5)	--	--	--	--
Benzo(g,h,i)Perylene	µg/kg	24/35 (69%)	0.0590 - 82.0	SED-DA-004(0.0-0.5)	330	0	--	--
Benzo(j)+k)Fluoranthene	µg/kg	23/35 (66%)	0.0520 - 29.5	SED-DA-004(0.0-0.5)	330	0	--	--
Chrysene/Triphenylene	µg/kg	27/35 (77%)	0.0320 - 150	SED-DA-004(0.0-0.5)	330	0	--	--
Dibenz(a,h)Anthracene	µg/kg	23/35 (66%)	0.0340 - 19.4	SED-DA-004(0.0-0.5)	330	0	--	--
Fluoranthene	µg/kg	34/35 (97%)	0.195 - 59.0	SED-DA-004(0.0-0.5)	330	0	--	--
Fluorene	µg/kg	35/35 (100%)	0.461 - 18.8	SED-DA-004(0.0-0.5)	330	0	--	--
Indeno[1,2,3-cd]pyrene	µg/kg	23/35 (66%)	0.0410 - 33.0	SED-DA-004(0.0-0.5)	330	0	--	--
Naphthalene	µg/kg	28/35 (80%)	0.769 - 25.8	SED-DA-004(0.0-0.5)	330	0	--	--
Perylene	µg/kg	31/35 (89%)	0.0630 - 38.8	SED-DA-004(0.0-0.5)	--	--	--	--
Phenanthrene	µg/kg	35/35 (100%)	1.47 - 44.6	SED-DA-004(0.0-0.5)	330	0	--	--
Pyrene	µg/kg	31/35 (89%)	0.0130 - 131	SED-DA-004(0.0-0.5)	330	0	--	--
Total HMW PAHs (Priority+2 List)	µg/kg	35/35 (100%)	0.208 - 712	SED-DA-004(0.0-0.5)	655	1	19500	0
Total LMW PAHs (Priority+2 List)	µg/kg	35/35 (100%)	2.96 - 225	SED-DA-004(0.0-0.5)	330	0	1190	0
<b>PAHs - Alkylated</b>								
1-Methylnaphthalene	µg/kg	35/35 (100%)	0.123 - 25.3	SED-DA-004(0.0-0.5)	330	0	--	--
2-Methylnaphthalene	µg/kg	35/35 (100%)	0.264 - 83.9	SED-DA-004(0.0-0.5)	330	0	--	--
C1-Chrysenes	µg/kg	11/35 (31%)	0.380 - 380	SED-DA-004(0.0-0.5)	--	--	--	--
C1-Fluoranthenes/Pyrenes	µg/kg	23/35 (66%)	0.0860 - 417	SED-DA-004(0.0-0.5)	--	--	--	--
C1-Fluorenes	µg/kg	33/35 (94%)	0.143 - 147	SED-DA-004(0.0-0.5)	--	--	--	--
C1-Phenanthrenes/Anthracenes	µg/kg	18/35 (51%)	3.70 - 311	SED-DA-004(0.0-0.5)	--	--	--	--
C2-Chrysenes	µg/kg	10/35 (29%)	4.11 - 486	SED-DA-004(0.0-0.5)	--	--	--	--
C2-Fluoranthenes/Pyrenes	µg/kg	16/35 (46%)	0.398 - 584	SED-DA-004(0.0-0.5)	--	--	--	--



**Table 7-5  
Sediment Sampling Statistics for Drainage Ways**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	Units	Frequency of Detection	Detection Range	Maximum Detect Location	Sediment ESV	Numbers Above ESV	Site Background Maximum	Number Above Site Background Maximum
C2-Fluorenes	µg/kg	7/35 (20%)	7.24 - 478	SED-DA-004(0.0-0.5)	--	--	--	--
C2-Naphthalenes	µg/kg	34/35 (97%)	0.498 - 170	SED-DA-004(0.0-0.5)	--	--	--	--
C2-Phenanthrenes/Anthracenes	µg/kg	12/35 (34%)	5.91 - 1070	SED-DA-004(0.0-0.5)	--	--	--	--
C3-Chrysenes	µg/kg	10/35 (29%)	2.63 - 395	SED-DA-004(0.0-0.5)	--	--	--	--
C3-Fluoranthenes/Pyrenes	µg/kg	16/35 (46%)	0.140 - 445	SED-DA-004(0.0-0.5)	--	--	--	--
C3-Fluorenes	µg/kg	7/35 (20%)	12.7 - 813	SED-DA-004(0.0-0.5)	--	--	--	--
C3-Naphthalenes	µg/kg	32/35 (91%)	0.601 - 371	SED-DA-004(0.0-0.5)	--	--	--	--
C3-Phenanthrenes/Anthracenes	µg/kg	11/35 (31%)	2.51 - 1710	SED-DA-004(0.0-0.5)	--	--	--	--
C4-Chrysenes	µg/kg	9/35 (26%)	1.43 - 175	SED-DA-004(0.0-0.5)	--	--	--	--
C4-Fluoranthenes/Pyrenes	µg/kg	10/35 (29%)	4.30 - 484	SED-DA-004(0.0-0.5)	--	--	--	--
C4-Naphthalenes	µg/kg	15/35 (43%)	1.48 - 908	SED-DA-004(0.0-0.5)	--	--	--	--
C4-Phenanthrenes/Anthracenes	µg/kg	10/35 (29%)	4.92 - 1340	SED-DA-004(0.0-0.5)	--	--	--	--
Total HMW PAHs (Long List)	µg/kg	35/35 (100%)	0.208 - 4210	SED-DA-004(0.0-0.5)	655	1	24800	0
Total LMW PAHs (Long List)	µg/kg	35/35 (100%)	2.96 - 7560	SED-DA-004(0.0-0.5)	330	2	1820	2
Total PAH Toxic Units	unitless	--	0.004 - 1	SED-DA-006(0.5-1.0)	1	0	1	0

Analyte	Units	Frequency of Detection	Detection Range	Maximum Detect Location	AR Bkg	Sediment ESV	Number Above AR Bkg and ESV	Site Background Maximum	Number Above Site Background Maximum
<b>Metals</b>									
Nickel	mg/kg	35/35 (100%)	4.61 - 42.8	SED-DA-004(0.5-1.0)	35	15.9	1	52.8	0
Selenium	mg/kg	12/35 (34%)	1.01 - 6.11	SED-DA-010(0.5-1.0)	0.7	2	5	1.81	5
Silver	mg/kg	5/35 (14%)	0.338 - 34.3	SED-DA-010(1.0-1.5)	--	2	--	0.269	5
Vanadium	mg/kg	35/35 (100%)	12.5 - 45.2	SED-DA-010(0.5-1.0)	88	--	--	47.6	0

**Notes:**

1. Summary is shown for analytes that are screened further in Table 7-2.

-- = not available or not applicable

% = percent

AR Bkg = Arkansas sediment background value (Table 5-4)

ESV = ecological screening value

HMW = high molecular weight

LMW = low molecular weight

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

PAH = polycyclic aromatic hydrocarbon

VOC = volatile organic compound

**Table 7-6  
Sediment Sampling Statistics for Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	Units	Frequency of Detection	Detection Range	Maximum Detect Location	Sediment ESV	Numbers Above ESV	Site Background Maximum	Number above Site Background Maximum
<b>VOCs</b>								
1,2,4-Trimethylbenzene	µg/kg	20/125 (16%)	2.00 - 2500	SED-DA-017(0.5-1.0)	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	23/125 (18%)	2.00 - 1100	SED-DA-017(0.5-1.0)	--	--	--	--
2-Phenylbutane	µg/kg	9/125 (7%)	1.00 - 280	SED-DA-017(0.5-1.0)	--	--	--	--
Benzene	µg/kg	10/125 (8%)	0.700 - 19.0	SED-DA-015(0.5-1.0)	141.57	0	--	--
Ethylbenzene	µg/kg	9/125 (7%)	1.00 - 350	SED-DA-017(0.5-1.0)	1100	0	--	--
Isopropylbenzene (Cumene)	µg/kg	8/125 (6%)	1.00 - 280	SED-DA-017(0.5-1.0)	86	1	--	--
n-Butylbenzene	µg/kg	10/125 (8%)	2.00 - 430	SED-DA-017(0.5-1.0)	--	--	--	--
n-Propylbenzene	µg/kg	9/125 (7%)	2.00 - 480	SED-DA-017(0.5-1.0)	--	--	--	--
p-Isopropyltoluene (Cymene)	µg/kg	11/125 (9%)	2.00 - 840	SED-DA-017(0.5-1.0)	--	--	--	--
Toluene	µg/kg	13/125 (10%)	3.00 - 120	SED-DA-048(0.0-0.5)	1220	0	--	--
Xylene (Total)	µg/kg	21/125 (17%)	2.00 - 2600	SED-DA-017(0.5-1.0)	25.2	7	--	--
<b>PAHs - Non-alkylated</b>								
Acenaphthene	µg/kg	95/105 (90%)	0.0510 - 72.7	SED-DA-016(0.0-0.5)	330	0	--	--
Acenaphthylene	µg/kg	95/105 (90%)	0.0400 - 65.2	SED-DA-028(0.0-0.5)	330	0	--	--
Anthracene	µg/kg	83/105 (79%)	0.0300 - 116	SED-DA-028(0.0-0.5)	330	0	--	--
Benzo(a)Anthracene	µg/kg	91/105 (87%)	0.0580 - 172	SED-DA-028(0.0-0.5)	330	0	--	--
Benzo(a)Pyrene	µg/kg	77/105 (73%)	0.0430 - 124	SED-DA-028(0.0-0.5)	330	0	--	--
Benzo(a)Fluoranthene	µg/kg	19/34 (56%)	2.44 - 4.72	SED-DA-028(0.0-0.5)	330	0	--	--
Benzo(b)Fluoranthene	µg/kg	91/105 (87%)	0.117 - 386	SED-DA-028(0.0-0.5)	330	1	--	--
Benzo(b)Fluorene	µg/kg	34/34 (100%)	0.0350 - 90.9	SED-DA-045(0.0-0.5)	330	0	--	--
Benzo(e)Pyrene	µg/kg	80/105 (76%)	0.0900 - 171	SED-DA-045(0.0-0.5)	--	--	--	--
Benzo(g,h,i)Perylene	µg/kg	82/105 (78%)	0.0760 - 189	SED-DA-045(0.0-0.5)	330	0	--	--
Benzo(j)+(k)Fluoranthene	µg/kg	90/105 (86%)	0.0350 - 142	SED-DA-028(0.0-0.5)	330	0	--	--
Chrysene/Triphenylene	µg/kg	91/105 (87%)	0.0880 - 275	SED-DA-045(0.0-0.5)	330	0	--	--
Dibenz(a,h)Anthracene	µg/kg	83/105 (79%)	0.0160 - 48.8	SED-DA-027(0.5-1.0)	330	0	--	--
Fluoranthene	µg/kg	105/105 (100%)	0.409 - 253	SED-DA-028(0.0-0.5)	330	0	--	--
Fluorene	µg/kg	105/105 (100%)	1.16 - 179	SED-DA-045(0.0-0.5)	330	0	--	--
Indeno[1,2,3-cd]pyrene	µg/kg	82/105 (78%)	0.0540 - 106	SED-DA-023(0.0-0.5)	330	0	--	--
Naphthalene	µg/kg	96/105 (91%)	0.900 - 44.6	SED-DA-045(0.0-0.5)	330	0	--	--
Perylene	µg/kg	104/105 (99%)	0.170 - 1910	SED-DA-029(0.0-0.5)	--	--	--	--
Phenanthrene	µg/kg	104/105 (99%)	3.19 - 669	SED-DA-045(0.0-0.5)	330	3	--	--
Pyrene	µg/kg	99/105 (94%)	0.282 - 199	SED-DA-028(0.0-0.5)	330	0	--	--
Total HMW PAHs (Priority+2 List)	µg/kg	105/105 (100%)	0.831 - 1680	SED-DA-028(0.0-0.5)	655	4	901	2
Total LMW PAHs (Priority+2 List)	µg/kg	105/105 (100%)	5.70 - 1850	SED-DA-045(0.0-0.5)	330	14	182	25
<b>PAHs - Alkylated</b>								
1-Methylnaphthalene	µg/kg	103/105 (98%)	0.139 - 371	SED-DA-045(0.0-0.5)	330	1	--	--
2-Methylnaphthalene	µg/kg	104/105 (99%)	0.296 - 492	SED-DA-045(0.0-0.5)	330	2	--	--
C1-Chrysenes	µg/kg	68/105 (65%)	0.0940 - 922	SED-DA-045(0.0-0.5)	--	--	--	--
C1-Fluoranthenes/Pyrenes	µg/kg	99/105 (94%)	0.161 - 1030	SED-DA-045(0.0-0.5)	--	--	--	--
C1-Fluorenes	µg/kg	103/105 (98%)	0.493 - 714	SED-DA-045(0.0-0.5)	--	--	--	--

**Table 7-6  
Sediment Sampling Statistics for Dawson Cove**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	Units	Frequency of Detection	Detection Range	Maximum Detect Location	Sediment ESV	Numbers Above ESV	Site Background Maximum	Number above Site Background Maximum	
C1-Phenanthrenes/Anthracenes	µg/kg	92/105 (88%)	3.05 - 2300	SED-DA-045(0.0-0.5)	--	--	--	--	
C2-Chrysenes	µg/kg	67/105 (64%)	0.283 - 1340	SED-DA-045(0.0-0.5)	--	--	--	--	
C2-Fluoranthenes/Pyrenes	µg/kg	67/105 (64%)	0.216 - 1700	SED-DA-045(0.0-0.5)	--	--	--	--	
C2-Fluorenes	µg/kg	81/105 (77%)	1.03 - 2020	SED-DA-045(0.0-0.5)	--	--	--	--	
C2-Naphthalenes	µg/kg	103/105 (98%)	0.950 - 2540	SED-DA-045(0.0-0.5)	--	--	--	--	
C2-Phenanthrenes/Anthracenes	µg/kg	80/105 (76%)	4.31 - 4460	SED-DA-045(0.0-0.5)	--	--	--	--	
C3-Chrysenes	µg/kg	66/105 (63%)	0.429 - 1100	SED-DA-045(0.0-0.5)	--	--	--	--	
C3-Fluoranthenes/Pyrenes	µg/kg	66/105 (63%)	0.0870 - 1920	SED-DA-045(0.0-0.5)	--	--	--	--	
C3-Fluorenes	µg/kg	73/105 (70%)	0.675 - 2240	SED-DA-045(0.0-0.5)	--	--	--	--	
C3-Naphthalenes	µg/kg	97/105 (92%)	1.49 - 4270	SED-DA-045(0.0-0.5)	--	--	--	--	
C3-Phenanthrenes/Anthracenes	µg/kg	79/105 (75%)	0.940 - 4850	SED-DA-045(0.0-0.5)	--	--	--	--	
C4-Chrysenes	µg/kg	58/105 (55%)	0.722 - 753	SED-DA-045(0.0-0.5)	--	--	--	--	
C4-Fluoranthenes/Pyrenes	µg/kg	63/105 (60%)	0.203 - 2080	SED-DA-045(0.0-0.5)	--	--	--	--	
C4-Naphthalenes	µg/kg	89/105 (85%)	1.03 - 4050	SED-DA-045(0.0-0.5)	--	--	--	--	
C4-Phenanthrenes/Anthracenes	µg/kg	73/105 (70%)	1.65 - 3210	SED-DA-045(0.0-0.5)	--	--	--	--	
Total HMW PAHs (Long List)	µg/kg	105/105 (100%)	1.54 - 12400	SED-DA-045(0.0-0.5)	655	47	2130	16	
Total LMW PAHs (Long List)	µg/kg	105/105 (100%)	9.35 - 32500	SED-DA-045(0.0-0.5)	330	47	1430	21	
Total PAH Toxic Units	unitless	--	0.01 - 1	SED-DA-045(0.0-0.5); SED-DA-017(0.5-1.0)	1	0	0.1	9	
Analyte	Units	Frequency of Detection	Detection Range	Maximum Detect Location	AR Bkg	Sediment ESV	Number Above AR Bkg and ESV	Site Background Maximum	Number Above Site Background Maximum
<b>Metals</b>									
Nickel	mg/kg	101/101 (100%)	5.73 - 74	SED-DA-026(0.5-1.0)	35	15.9	5	66.2	1
Selenium	mg/kg	6/101 (6%)	1.08 - 2.93	SED-DA-016(0.5-1.0)	0.7	2	1	--	--
Silver	mg/kg	1/101 (1%)	0.416	SED-DA-016(0.5-1.0)	--	2	--	1.33	0
Vanadium	mg/kg	101/101 (100%)	14.6 - 137	SED-DA-029(0.0-0.5)	88	--	--	46.2	15

**Notes:**

1. Summary is shown for analytes that are screened further in Table 7-3.

-- = not available or not applicable

% = percent

AR Bkg = Arkansas sediment background value (Table 5-4)

ESV = ecological screening value

HMW = high molecular weight

LMW = low molecular weight

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

PAH = polycyclic aromatic hydrocarbon

VOC = volatile organic compound

**Table 7-7  
Sediment Sampling Statistics for Lake Conway**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	Units	Frequency of Detection	Detection Range	Maximum Detect Location	Sediment ESV	Numbers Above ESV	Site Background Maximum	Number Above Site Background Maximum
<b>VOCs (No VOCs Related to Crude Oil Detected in Lake Conway)</b>								
<b>PAHs - Non-alkylated</b>								
Acenaphthene	µg/kg	17/18 (94%)	0.0820 - 3.63	SED-DA-037(0.5-1.0)	330	0	--	--
Acenaphthylene	µg/kg	17/18 (94%)	0.0590 - 16.0	SED-DA-037(0.0-0.5)	330	0	--	--
Anthracene	µg/kg	16/18 (89%)	0.111 - 26.8	SED-DA-037(0.0-0.5)	330	0	--	--
Benzo(a)Anthracene	µg/kg	16/18 (89%)	0.182 - 38.0	SED-DA-037(0.0-0.5)	330	0	--	--
Benzo(a)Pyrene	µg/kg	11/18 (61%)	0.734 - 31.1	SED-DA-038(0.0-0.5)	330	0	--	--
Benzo(a)Fluoranthene	µg/kg	4/6 (67%)	3.63 - 12.9	SED-DA-034(0.0-0.5)	330	0	--	--
Benzo(b)Fluoranthene	µg/kg	16/18 (89%)	0.391 - 104	SED-DA-038(0.0-0.5)	330	0	--	--
Benzo(b)Fluorene	µg/kg	6/6 (100%)	4.57 - 13.9	SED-DA-038(0.0-0.5)	330	0	--	--
Benzo(e)Pyrene	µg/kg	11/18 (61%)	1.14 - 55.6	SED-DA-038(0.0-0.5)	--	--	--	--
Benzo(g,h,i)Perylene	µg/kg	16/18 (89%)	0.0990 - 37.2	SED-DA-037(0.0-0.5)	330	0	--	--
Benzo(j)+(k)Fluoranthene	µg/kg	16/18 (89%)	0.0750 - 36.8	SED-DA-038(0.0-0.5)	330	0	--	--
Chrysene/Triphenylene	µg/kg	16/18 (89%)	0.289 - 49.4	SED-DA-037(0.0-0.5)	330	0	--	--
Dibenz(a,h)Anthracene	µg/kg	11/18 (61%)	0.347 - 13.0	SED-DA-037(0.0-0.5)	330	0	--	--
Fluoranthene	µg/kg	18/18 (100%)	1.09 - 74.9	SED-DA-037(0.0-0.5)	330	0	--	--
Fluorene	µg/kg	17/18 (94%)	1.12 - 16.2	SED-DA-037(0.5-1.0), SED-DA-038(0.0-0.5)	330	0	--	--
Indeno[1,2,3-cd]pyrene	µg/kg	12/18 (67%)	0.621 - 39.4	SED-DA-037(0.0-0.5)	330	0	--	--
Naphthalene	µg/kg	14/18 (78%)	2.07 - 10.5	SED-DA-037(0.5-1.0)	330	0	--	--
Perylene	µg/kg	18/18 (100%)	75.7 - 1020	SED-DA-036(0.0-0.5)	--	--	--	--
Phenanthrene	µg/kg	18/18 (100%)	3.53 - 42.0	SED-DA-038(0.0-0.5)	330	0	--	--
Pyrene	µg/kg	18/18 (100%)	0.465 - 70.0	SED-DA-037(0.0-0.5)	330	0	--	--
Total HMW PAHs (Priority+2 List)	µg/kg	18/18 (100%)	1.61 - 492	SED-DA-037(0.0-0.5)	655	0	901	0
Total LMW PAHs (Priority+2 List)	µg/kg	18/18 (100%)	4.65 - 122	SED-DA-038(0.0-0.5)	330	0	182	0
<b>PAHs - Alkylated</b>								
1-Methylnaphthalene	µg/kg	14/18 (78%)	0.262 - 6.02	SED-DA-033(0.0-0.5)	330	0	--	--
2-Methylnaphthalene	µg/kg	17/18 (94%)	0.475 - 10.6	SED-DA-037(0.5-1.0)	330	0	--	--
C1-Chrysenes	µg/kg	8/18 (44%)	3.92 - 73.5	SED-DA-035(0.0-0.5)	--	--	--	--
C1-Fluoranthenes/Pyrenes	µg/kg	17/18 (94%)	0.258 - 49.9	SED-DA-037(0.0-0.5)	--	--	--	--
C1-Fluorenes	µg/kg	16/18 (89%)	0.565 - 8.54	SED-DA-038(0.0-0.5)	--	--	--	--
C1-Phenanthrenes/Anthracenes	µg/kg	16/18 (89%)	3.14 - 25.8	SED-DA-038(0.0-0.5)	--	--	--	--
C2-Chrysenes	µg/kg	8/18 (44%)	4.43 - 110	SED-DA-035(0.0-0.5)	--	--	--	--
C2-Fluoranthenes/Pyrenes	µg/kg	10/18 (56%)	3.18 - 56.4	SED-DA-037(0.5-1.0)	--	--	--	--
C2-Fluorenes	µg/kg	12/18 (67%)	1.19 - 31.8	SED-DA-038(0.0-0.5)	--	--	--	--
C2-Naphthalenes	µg/kg	16/18 (89%)	1.01 - 22.4	SED-DA-033(0.0-0.5)	--	--	--	--
C2-Phenanthrenes/Anthracenes	µg/kg	12/18 (67%)	5.82 - 40.8	SED-DA-035(0.0-0.5)	--	--	--	--
C3-Chrysenes	µg/kg	8/18 (44%)	8.29 - 86.6	SED-DA-035(0.0-0.5)	--	--	--	--
C3-Fluoranthenes/Pyrenes	µg/kg	10/18 (56%)	1.76 - 48.2	SED-DA-035(0.0-0.5)	--	--	--	--

**Table 7-7  
Sediment Sampling Statistics for Lake Conway**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	Units	Frequency of Detection	Detection Range	Maximum Detect Location	Sediment ESV	Numbers Above ESV	Site Background Maximum	Number Above Site Background Maximum	
C3-Fluorenes	µg/kg	11/18 (61%)	5.64 - 31.2	SED-DA-038(0.0-0.5)	--	--	--	--	
C3-Naphthalenes	µg/kg	15/18 (83%)	1.32 - 32.0	SED-DA-033(0.0-0.5)	--	--	--	--	
C3-Phenanthrenes/Anthracenes	µg/kg	12/18 (67%)	1.61 - 63.9	SED-DA-035(0.0-0.5)	--	--	--	--	
C4-Chrysenes	µg/kg	6/18 (33%)	4.25 - 49.2	SED-DA-035(0.0-0.5)	--	--	--	--	
C4-Fluoranthenes/Pyrenes	µg/kg	9/18 (50%)	3.83 - 74.5	SED-DA-035(0.0-0.5)	--	--	--	--	
C4-Naphthalenes	µg/kg	15/18 (83%)	2.10 - 21.0	SED-DA-034(0.0-0.5)	--	--	--	--	
C4-Phenanthrenes/Anthracenes	µg/kg	12/18 (67%)	1.53 - 52.8	SED-DA-035(0.0-0.5)	--	--	--	--	
Total HMW PAHs (Long List)	µg/kg	18/18 (100%)	77.6 - 1650	SED-DA-035(0.0-0.5)	655	12	2130	0	
Total LMW PAHs (Long List)	µg/kg	18/18 (100%)	5.21 - 368	SED-DA-035(0.0-0.5)	330	3	1430	0	
Total PAH Toxic Units	unitless	--	0.01 - 0.07	SED-DA-035(0.0-0.5)	1	0	0.1	0	
Analyte	Units	Frequency of Detection	Detection Range	Maximum Detect Location	AR Bkg	Sediment ESV	Number Above AR Bkg and ESV	Site Background Maximum	Number Above Site Background Maximum
<b>Metals</b>									
Nickel	mg/kg	18/18 (100%)	6.74 - 31	SED-DA-035(0.0-0.5)	35	15.9	0	66.2	0
Selenium	mg/kg	3/18 (17%)	1.22 - 3.24	SED-DA-038(0.0-0.5)	0.7	2	2	--	--
Silver	mg/kg	0/18 (0%)	--	--	--	2	--	1.33	0
Vanadium	mg/kg	18/18 (100%)	23.8 - 67.2	SED-DA-035(0.0-0.5)	88	--	--	46.2	5

**Notes:**

1. Summary is shown for analytes that are screened further in Table 7-4.

-- = not available or not applicable

% = percent

AR Bkg = Arkansas sediment background value (Table 5-4)

ESV = ecological screening value

HMW = high molecular weight

LMW = low molecular weight

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

PAH = polycyclic aromatic hydrocarbon

VOC = volatile organic compound

Table 8-1  
Surface Water Sampling Results

Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas

Analyte	Units	ESV	Location	WS-022DA	WS-023DA	WS-024DA	WS-025DA	WS-026DA	WS-027DA	WS-027DA
			Depths (ft)	0 ft	0 ft	0.5-1 ft	3 ft	3 ft	3 ft	3 ft
Sample Date	Sample ID		8/13/2013	8/13/2013	8/13/2013	8/15/2013	8/15/2013	8/15/2013	8/15/2013	8/15/2013
			WS-022DA(SURFACE)081313	WS-023DA(SURFACE)081313	WS-024DA(MIDDEPTH)081313	WS-025DA(MIDDEPTH)081513	WS-026DA(MIDDEPTH)081513	WS-027DA(MIDDEPTH)081513	WS-DUP-01-DA-081513FD	
<b>VOCs</b>										
2-Butanone (MEK) *	µg/L	14000	< 5.0 U	< 5.0 U	< 5.0 U	1.3 J	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
Acetone *	µg/L	1500	3.1 J	3.7 J	< 5.0 U	13	5.2	4.4 J	4.0 J	
Chloroform *	µg/L	289	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	0.1 J	< 0.5 U	< 0.5 U	
Toluene	µg/L	175	< 0.5 U	< 0.5 U	< 0.5 U	0.1 J	< 0.5 U	< 0.5 U	< 0.5 U	
Trichloroethene *	µg/L	21	0.2 J	0.4 J	< 0.5 U	< 0.5 U	< 0.5 U	0.2 J	0.3 J	
<b>PAHs - Unsubstituted</b>										
Acenaphthene	µg/L	17	< 0.0015 UJ	< 0.0015 UJ	< 0.0014 UJ	< 0.0014 U	0.00131 J	0.007 J	0.001088 J	
Acenaphthylene	µg/L	4840	0.00686 J	0.00992 J	0.00364 J	< 0.0012 U	0.00209	0.01403	0.01534	
Anthracene	µg/L	<b>0.012</b>	<b>0.01849 J</b>	<b>0.02762 J</b>	0.00676 J	< 0.0008 U	0.00676	<b>0.02447</b>	<b>0.02884</b>	
Benzo(a)Anthracene	µg/L	<b>0.018</b>	0.00357 J	0.00510 J	0.00233 J	< 0.0007 U	0.00108	0.02539	0.02458	
Benzo(a)Pyrene	µg/L	0.015	0.00647 J	0.01048 J	0.00369 J	< 0.0019 U	< 0.002 U	<b>0.03475</b>	<b>0.03948</b>	
Benzo(a)Fluoranthene *	µg/L	--	0.00229 J	0.00347 J	0.00110 J	< 0.0025 U	< 0.0026 U	0.00936 J	< 0.0029 UJ	
Benzo(b)Fluoranthene	µg/L	9.07	0.02776 J	0.03922 J	0.01240 J	< 0.0024 U	0.00247	0.0998	0.10066	
Benzo(b)Fluorene	µg/L	--	0.00057 J	< 0.0014 UJ	< 0.0014 UJ	< 0.0014 U	< 0.0014 U	0.00990	0.01142	
Benzo(e)Pyrene	µg/L	--	0.01751 J	0.02356 J	0.00743 J	< 0.0027 U	< 0.0028 U	0.05995	0.06524	
Benzo(g,h,i)Perylene	µg/L	7.64	0.01356 J	0.01867 J	0.00589 J	< 0.0025 U	0.00212 J	0.04914	0.05474	
Benzo(j)+(k)Fluoranthene	µg/L	--	0.00641 J	0.00939 J	0.00289 J	< 0.0025 U	0.00075 J	0.0329	0.03131	
Chrysene/Triphenylene	µg/L	--	0.01177 J	0.01680 J	0.00811 J	< 0.0008 U	0.00252	0.05438	0.06262	
Dibenz(a,h)Anthracene	µg/L	--	0.00333 J	0.00435 J	0.00159 J	< 0.0011 U	0.00111 J	0.01382 J	0.00531 J	
Fluoranthene	µg/L	39.8	0.00936 J	0.01548 J	0.01033 J	< 0.0011 U	0.00479	0.06456 J	0.09001 J	
Fluorene	µg/L	3	< 0.0008 UJ	0.00161 J	0.00164 J	< 0.0008 U	0.00495	0.01793 J	0.02487 J	
Indeno[1,2,3-cd]pyrene	µg/L	4.31	0.01105 J	0.01563 J	0.00563 J	< 0.0014 U	0.00173	0.04343	0.04814	
Naphthalene	µg/L	62	< 0.00629 UBJ	< 0.01008 UBJ	0.04735 J	< 0.00608 UB	< 0.00845 UB	0.02145 J	0.03101 J	
Perylene	µg/L	--	0.00344 J	0.00510 J	< 0.0006 UJ	< 0.0006 U	0.00097	0.105	0.13681	
Phenanthrene	µg/L	0.4	< 0.00291 UBJ	< 0.00425 UBJ	< 0.00573 UBJ	< 0.0023 U	< 0.0067 UB	0.04238 J	0.06162 J	
Pyrene	µg/L	<b>0.025</b>	0.00930 J	0.01284 J	0.00511 J	< 0.0014 U	0.00305	<b>0.04978</b>	<b>0.05938</b>	
Total HMW PAHs (Priority+2 List)	µg/L	--	0.103	0.148	0.058	0	0.0196	0.468	0.516	
Total LMW PAHs (Priority+2 List)	µg/L	--	0.0253	0.0392	0.0594	0	0.0207	0.169	0.225	
<b>PAHs - Alkylated</b>										
1-Methylnaphthalene	µg/L	2.1	< 0.0015 UJ	< 0.00241 UBJ	< 0.00191 UBJ	< 0.0015 UB	0.0105	0.018	0.02341	
2-Methylnaphthalene	µg/L	4.7	< 0.0011 U	< 0.00294 UBJ	< 0.00235 UBJ	< 0.00225 UB	< 0.00525 UB	0.0234	0.02863	
C1-Chrysenes	µg/L	--	< 0.0016 UJ	< 0.0017 UJ	< 0.0016 UJ	< 0.0016 U	< 0.0016 U	< 0.0017 U	< 0.0018 U	
C1-Fluoranthenes/Pyrenes	µg/L	--	0.00932 J	< 0.0026 UJ	< 0.0025 UJ	< 0.0025 U	< 0.0025 U	0.04319	0.04973	
C1-Fluorenes	µg/L	--	< 0.0017 UJ	< 0.0017 UJ	< 0.0016 UJ	< 0.0016 U	0.00881	0.02402	0.03212	
C1-Phenanthrenes/Anthracenes	µg/L	--	< 0.0007 UJ	< 0.0007 UJ	< 0.0007 UJ	< 0.0007 U	< 0.0007 U	0.09511	0.11131	
C2-Chrysenes	µg/L	--	< 0.0016 UJ	< 0.0017 UJ	< 0.0016 UJ	< 0.0016 U	< 0.0016 U	< 0.0017 U	< 0.0018 U	
C2-Fluoranthenes/Pyrenes	µg/L	--	0.01109 J	< 0.0026 UJ	< 0.0025 UJ	< 0.0025 U	< 0.0025 U	0.04950 J	0.07971 J	
C2-Fluorenes	µg/L	--	< 0.0017 UJ	< 0.0017 UJ	< 0.0016 UJ	< 0.0016 U	< 0.0017 U	< 0.0017 U	< 0.0019 U	
C2-Naphthalenes	µg/L	--	< 0.006 UJ	< 0.0061 UJ	< 0.0058 UJ	< 0.0058 U	0.03085	0.0684	0.09246	
C2-Phenanthrenes/Anthracenes	µg/L	--	< 0.0031 UJ	< 0.0032 UJ	< 0.0030 UJ	< 0.0030 U	< 0.0031 U	0.13961	0.16129	
C3-Chrysenes	µg/L	--	< 0.0016 UJ	< 0.0017 UJ	< 0.0016 UJ	< 0.0016 U	< 0.0016 U	< 0.0017 U	< 0.0018 U	
C3-Fluoranthenes/Pyrenes	µg/L	--	0.00471 J	< 0.0026 UJ	< 0.0025 UJ	< 0.0025 U	< 0.0025 U	< 0.0025 UJ	< 0.0025 U	
C3-Fluorenes	µg/L	--	< 0.0017 UJ	< 0.0017 UJ	< 0.0016 UJ	< 0.0016 U	< 0.0017 U	< 0.0017 U	< 0.0019 U	
C3-Naphthalenes	µg/L	--	< 0.006 UJ	< 0.0061 UJ	< 0.0058 UJ	< 0.0058 U	0.04327	0.07578 J	0.12775 J	
C3-Phenanthrenes/Anthracenes	µg/L	--	< 0.0031 UJ	< 0.0032 UJ	< 0.0030 UJ	< 0.0030 U	< 0.0031 U	0.06738 J	< 0.0035 UJ	
C4-Chrysenes	µg/L	--	< 0.0016 UJ	< 0.0017 UJ	< 0.0016 UJ	< 0.0016 U	< 0.0016 U	< 0.0017 U	< 0.0018 U	
C4-Fluoranthenes/Pyrenes	µg/L	--	< 0.0025 UJ	< 0.0026 UJ	< 0.0025 UJ	< 0.0025 U	< 0.0025 U	< 0.0027 U	< 0.0028 U	
C4-Naphthalenes	µg/L	--	< 0.006 UJ	< 0.0061 UJ	< 0.0058 UJ	< 0.0058 U	< 0.0058 U	< 0.0067 J	< 0.0067 UJ	
C4-Phenanthrenes/Anthracenes	µg/L	--	< 0.0031 UJ	< 0.0032 UJ	< 0.0030 UJ	< 0.0030 U	< 0.0031 U	0.04496 J	< 0.0035 UJ	
Total HMW PAHs (Long List)	µg/L	--	0.151	0.18	0.0665	0	0.0206	0.735	0.889	
Total LMW PAHs (Long List)	µg/L	--	0.0259	0.0392	0.0594	0	0.104	0.747	0.761	
Total PAH Toxicity Units	unitless	--	0.2	0.2	0.08	0.00008	0.03	1.0	0.9	
<b>TPH</b>										
Oil & Grease	mg/L	--	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U

**Table 8-1  
Surface Water Sampling Results**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	Units	ESV	Location	WS-022DA	WS-023DA	WS-024DA	WS-025DA	WS-026DA	WS-027DA	WS-027DA
			Depths (ft)	0 ft	0 ft	0.5-1 ft	3 ft	3 ft	3 ft	3 ft
Sample Date	Sample ID		8/13/2013	8/13/2013	8/13/2013	8/15/2013	8/15/2013	8/15/2013	8/15/2013	8/15/2013
			WS-022DA(SURFACE)081313	WS-023DA(SURFACE)081313	WS-024DA(MIDDEPTH)081313	WS-025DA(MIDDEPTH)081513	WS-026DA(MIDDEPTH)081513	WS-027DA(MIDDEPTH)081513	WS-027DA(MIDDEPTH)081513	WS-DUP-01-DA-081513FD
<b>Total Metals</b>										
Arsenic	mg/L	--	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U
Barium	mg/L	--	0.0378	0.0383	0.0364	0.0324	0.0370	0.0321	0.0315	0.0315
Cadmium *	mg/L	--	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
Calcium	mg/L	--	6.17 J	5.12 J	4.51 J	8.76 J	3.70 J	3.68 J	3.58 J	3.58 J
Chromium	mg/L	--	0.0034 J	0.0060 J	0.0038 J	0.0022 J	0.0023 J	< 0.0150 U	0.0018 J	0.0018 J
Lead *	mg/L	--	< 0.0150 U	0.0057 J	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U
Magnesium	mg/L	--	3.55 J	2.98 J	1.69 J	4.34 J	1.67 J	1.61 J	1.55 J	1.55 J
Mercury *	mg/L	--	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U
Nickel	mg/L	--	0.0065 J	0.0065 J	0.0032 J	0.0020 J	0.0032 J	0.0018 J	0.0018 J	< 0.0100 U
Selenium	mg/L	--	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U
Silver	mg/L	--	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
Vanadium	mg/L	--	0.0035 J	0.0074	0.0043 J	0.0027 J	0.0024 J	< 0.0050 U	< 0.0050 U	< 0.0050 U
<b>Dissolved Metals</b>										
Arsenic	mg/L	0.15	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U
Barium	mg/L	<b>0.004</b>	<b>0.0208</b>	<b>0.0167</b>	<b>0.0215</b>	<b>0.0169</b>	<b>0.0223</b>	<b>0.0208</b>	<b>0.0209</b>	<b>0.0209</b>
Cadmium *	mg/L	0.00037	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
Chromium	mg/L	0.0572	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U
Lead *	mg/L	0.00054	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U	< 0.0150 U
Mercury *	mg/L	0.00077	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U
Nickel	mg/L	0.049	0.0042 J	0.0026 J	0.0017 J	0.0018 J	< 0.0100 U	< 0.0100 U	< 0.0100 U	< 0.0100 U
Selenium	mg/L	0.005	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0200 U
Silver	mg/L	0.0003	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
Vanadium	mg/L	0.02	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
<b>Other</b>										
Hardness (as CaCO <sub>3</sub> )	mg/L	--	30.0	25.1	18.2	39.8	16.1	15.8	15.3	15.3
Total Suspended Solids	mg/L	--	30.4 J	50.0 J	28.7 J	110	28.3	15.0	16.4	16.4
<b>Field Parameters</b>										
Conductivity	µS/cm	--	124	154	82	149	51	47	--	--
Dissolved Oxygen	mg/L	--	5.65	8.2	6.95	7.63	1.14	3.79	--	--
pH	SU	--	6.84	6.59	6.85	6.72	5.54	5.9	--	--
Temperature	deg C	--	25.58	26.83	25.01	35.95	24.23	24.55	--	--
Turbidity	NTU	--	57.4	27.1	53.2	44.2	68.7	30.7	--	--

**Notes:**

1. Data for only detected VOCs are presented in this table. Complete analytical data for VOCs are included in Appendix F.
2. The total HMW PAHs (long list) and the total LMW PAHs (long list) summations are further described in Table 5-3.
3. Bold indicates a result exceeds the ESV.
4. Dissolved barium concentrations were compared to background Lake Conway dissolved barium concentrations (see Section 8.3 for details).

\* Analyte not detected in crude oil samples (see Table 5-1).

-- = not available or not applicable

MEK = methyl ethyl ketone

< = less than the limit of quantitation

CaCO<sub>3</sub> = calcium carbonate

deg C = degrees Celsius

ESV = ecological screening value

ft = feet/foot

HMW = high molecular weight

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

LMW = low molecular weight

µg/L = micrograms per liter

µS/cm = microSiemens per centimeter

mg/L = milligrams per liter

NTU = Nephelometric Turbidity Units

PAH = polycyclic aromatic hydrocarbons

SU = standard units

TPH = total petroleum hydrocarbons

VOC = volatile organic compound

U = Compound was not detected

UB = Compound considered non-detect at the listed value due to associated blank contamination.

UJ = The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

**Table 8-2  
Surface Water Sampling Statistics**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	Units	ESV	Is Analyte Related to Crude Oil?	Frequency of Detection	Detection Range	Maximum Detect Location	Numbers Above ESV
<b>VOCs</b>							
2-Butanone (MEK)	µg/L	14000	No	1/6 (17%)	1.3	WS-025DA	0
Acetone	µg/L	1500	No	5/6 (83%)	3.1 - 13	WS-025DA	0
Chloroform	µg/L	289	No	1/6 (17%)	0.1	WS-026DA	0
Toluene	µg/L	175	Yes	1/6 (17%)	0.1	WS-025DA	0
Trichloroethene	µg/L	21	No	3/6 (50%)	0.2 - 0.4	WS-023DA	0
<b>PAHs - Non-alkylated</b>							
Acenaphthene	µg/L	17	Yes	2/6 (33%)	0.00131 - 0.007	WS-027DA	0
Acenaphthylene	µg/L	4840	Yes	5/6 (83%)	0.00209 - 0.014	WS-027DA	0
Anthracene	µg/L	0.012	Yes	5/6 (83%)	0.00185 - 0.0276	WS-023DA	3
Benzo(a)Anthracene	µg/L	0.018	Yes	5/6 (83%)	0.00108 - 0.0254	WS-027DA	1
Benzo(a)Fluoranthene	µg/L	--	Yes	4/6 (67%)	0.0011 - 0.00936	WS-027DA	--
Benzo(a)Pyrene	µg/L	0.015	No	4/6 (67%)	0.00369 - 0.0348	WS-027DA	1
Benzo(b)Fluoranthene	µg/L	9.07	Yes	5/6 (83%)	0.00247 - 0.0998	WS-027DA	0
Benzo(b)fluorene	µg/L	--	Yes	2/6 (33%)	0.00057 - 0.0099	WS-027DA	--
Benzo(e)Pyrene	µg/L	--	Yes	4/6 (67%)	0.00743 - 0.06	WS-027DA	--
Benzo(g,h,i)Perylene	µg/L	7.64	Yes	5/6 (83%)	0.00212 - 0.0491	WS-027DA	0
Benzo(j)+(k)Fluoranthene	µg/L	--	Yes	5/6 (83%)	0.00075 - 0.0329	WS-027DA	--
Chrysenes/Triphenylene	µg/L	--	Yes	5/6 (83%)	0.00252 - 0.0544	WS-027DA	--
Dibenz(a,h)Anthracene	µg/L	--	Yes	5/6 (83%)	0.00111 - 0.0138	WS-027DA	--
Fluoranthene	µg/L	39.8	Yes	5/6 (83%)	0.00479 - 0.0646	WS-027DA	0
Fluorene	µg/L	3	Yes	4/6 (67%)	0.00161 - 0.0179	WS-027DA	0
Indeno[1,2,3-cd]pyrene	µg/L	4.31	Yes	5/6 (83%)	0.00173 - 0.0434	WS-027DA	0
Naphthalene	µg/L	62	Yes	2/6 (33%)	0.0215 - 0.0473	WS-024DA	0
Perylene	µg/L	--	Yes	4/6 (67%)	0.00097 - 0.105	WS-027DA	--
Phenanthrene	µg/L	0.4	Yes	1/6 (17%)	0.0424	WS-027DA	0
Pyrene	µg/L	0.025	Yes	5/6 (83%)	0.00305 - 0.0498	WS-027DA	1
Total HMW PAHs (Priority+2 List)	µg/L	--	--	6/6 (100%)	0 - 0.468	WS-027DA	--
Total LMW PAHs (Priority+2 List)	µg/L	--	--	6/6 (100%)	0 - 0.169	WS-027DA	--
<b>PAHs - Alkylated</b>							
1-Methylnaphthalene	µg/L	2.1	Yes	2/6 (33%)	0.0105 - 0.018	WS-027DA	0
2-Methylnaphthalene	µg/L	4.7	Yes	1/6 (17%)	0.0234	WS-027DA	0
C1-Chrysenes	µg/L	--	Yes	0/6 (0%)	--	--	--
C1-Fluoranthenes/Pyrenes	µg/L	--	Yes	2/6 (33%)	0.00932 - 0.0432	WS-027DA	--
C1-Fluorenes	µg/L	--	Yes	2/6 (33%)	0.00881 - 0.024	WS-027DA	--
C1-Phenanthrenes/Anthracenes	µg/L	--	Yes	1/6 (17%)	0.0951	WS-027DA	--
C2-Chrysenes	µg/L	--	Yes	0/6 (0%)	--	--	--
C2-Fluoranthenes/Pyrenes	µg/L	--	Yes	2/6 (33%)	0.0111 - 0.0495	WS-027DA	--
C2-Fluorenes	µg/L	--	Yes	0/6 (0%)	--	--	--
C2-Naphthalenes	µg/L	--	Yes	2/6 (33%)	0.0309 - 0.0684	WS-027DA	--
C2-Phenanthrenes/Anthracenes	µg/L	--	Yes	1/6 (17%)	0.14	WS-027DA	--
C3-Chrysenes	µg/L	--	Yes	0/6 (0%)	--	--	--
C3-Fluoranthenes/Pyrenes	µg/L	--	Yes	1/6 (17%)	0.00471	WS-022DA	--
C3-Fluorenes	µg/L	--	Yes	0/6 (0%)	--	--	--
C3-Naphthalenes	µg/L	--	Yes	2/6 (33%)	0.0433 - 0.0758	WS-027DA	--
C3-Phenanthrenes/Anthracenes	µg/L	--	Yes	1/6 (17%)	0.0674	WS-027DA	--
C4-Chrysenes	µg/L	--	Yes	0/6 (0%)	--	--	--
C4-Fluoranthenes/Pyrenes	µg/L	--	Yes	0/6 (0%)	--	--	--
C4-Naphthalenes	µg/L	--	Yes	1/6 (17%)	0.0531	WS-027DA	--
C4-Phenanthrenes/Anthracenes	µg/L	--	Yes	1/6 (17%)	0.045	WS-027DA	--
Total HMW PAHs (Long List)	µg/L	--	--	6/6 (100%)	0 - 0.726	WS-027DA	--
Total LMW PAHs (Long List)	µg/L	--	--	6/6 (100%)	0 - 0.737	WS-027DA	--
Total PAH Toxicity Units	unitless	--	--	6/6 (100%)	0.00008 - 1.00	WS-027DA	--



**Table 8-2  
Surface Water Sampling Statistics**

**Downstream Areas Data Assessment Report  
ExxonMobil Environmental Services Company  
Mayflower Pipeline Incident Response, Mayflower, Arkansas**

Analyte	Units	ESV	Is Analyte Related to Crude Oil?	Frequency of Detection	Detection Range	Maximum Detect Location	Numbers Above ESV
<b>TPH</b>							
Oil & Grease	mg/L	--	--	0/6 (0%)	--	--	--
<b>Total Metals</b>							
Arsenic	mg/L	--	Yes	0/6 (0%)	--	--	--
Barium	mg/L	--	Yes	6/6 (100%)	0.0321 - 0.0383	WS-023DA	--
Cadmium	mg/L	--	No	0/6 (0%)	--	--	--
Calcium	mg/L	--	--	6/6 (100%)	3.68 - 8.76	WS-025DA	--
Chromium	mg/L	--	Yes	5/6 (83%)	0.0022 - 0.006	WS-023DA	--
Lead	mg/L	--	No	1/6 (17%)	0.0057	WS-023DA	--
Magnesium	mg/L	--	--	6/6 (100%)	1.61 - 4.34	WS-025DA	--
Mercury	mg/L	--	No	0/6 (0%)	--	--	--
Nickel	mg/L	--	Yes	6/6 (100%)	0.0018 - 0.0065	WS-022DA, WS-023DA	--
Selenium	mg/L	--	Yes	0/6 (0%)	--	--	--
Silver	mg/L	--	Yes	0/6 (0%)	--	--	--
Vanadium	mg/L	--	Yes	5/6 (83%)	0.0024 - 0.0074	WS-023DA	--
<b>Dissolved Metals</b>							
Arsenic	mg/L	0.15	--	0/6 (0%)	--	--	--
Barium	mg/L	0.004	--	6/6 (100%)	0.0167 - 0.0223	WS-026DA	6
Cadmium	mg/L	0.00037	--	0/6 (0%)	--	--	--
Chromium	mg/L	0.0572	--	0/6 (0%)	--	--	--
Lead	mg/L	0.00054	--	0/6 (0%)	--	--	--
Mercury	mg/L	0.00077	--	0/6 (0%)	--	--	--
Nickel	mg/L	0.049	--	4/6 (67%)	0.0017 - 0.0042	WS-022DA	0
Selenium	mg/L	0.005	--	0/6 (0%)	--	--	--
Silver	mg/L	0.0003	--	0/6 (0%)	--	--	--
Vanadium	mg/L	0.02	--	0/6 (0%)	--	--	--
<b>Other</b>							
Hardness (as CaCO <sub>3</sub> )	mg/L	--	--	6/6 (100%)	15.8 - 39.8	WS-025DA	--
Total Suspended Solids	mg/L	--	--	6/6 (100%)	15 - 110	WS-025DA	--
<b>Field Parameters</b>							
Conductivity	µS/cm	--	--	6/6 (100%)	47 - 154	WS-023DA	--
Dissolved Oxygen	mg/L	--	--	6/6 (100%)	1.14 - 8.2	WS-023DA	--
pH	SU	--	--	6/6 (100%)	5.54 - 6.85	WS-024DA	--
Temperature	deg C	--	--	6/6 (100%)	24.2 - 36	WS-025DA	--
Turbidity	NTU	--	--	6/6 (100%)	27.1 - 68.7	WS-026DA	--

**Notes:**

1. Data for only detected VOCs are presented in this table. Complete analytical data for VOCs are included in Appendix F.
2. The total HMW PAHs (long list) and the total LMW PAHs (long list) summations are further described in Table 5-3.

-- = not available or not applicable

CaCO<sub>3</sub> = calcium carbonate

deg C = degrees Celsius

ESV = ecological screening value      MEK = methyl ethyl ketone

HMW = high molecular weight

LMW = low molecular weight

µg/L = micrograms per liter

µS/cm = microSiemens per centimeter

mg/L = milligrams per liter

NTU = Nephelometric Turbidity Units

PAH = polycyclic aromatic hydrocarbons

SU = standard units

TPH = total petroleum hydrocarbons

VOC = volatile organic compound