Appendix H

Box Plots
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface soil is defined as the depth interval of 0 to 0.5 foot below ground surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)). Potential outliers are data points that are beyond these limits.
5. Total PAH calculation excludes benzo(a)fluoranthene.
6. Abbreviations:
   ESV = ecological screening value
   HMW = high molecular weight
   LMW = low molecular weight
   PAH = polycyclic aromatic hydrocarbon
   µg/kg = micrograms per kilogram

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**Total HMW PAHs (Long List) in Surface Soil**

<table>
<thead>
<tr>
<th>Location</th>
<th>Total HMW PAH (µg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background</td>
<td>2500</td>
</tr>
<tr>
<td>Drainage Way</td>
<td>2000</td>
</tr>
<tr>
<td>Dawson Cove</td>
<td>1500</td>
</tr>
</tbody>
</table>

ESV = 1100

**Total LMW PAHs (Long List) in Surface Soil**

<table>
<thead>
<tr>
<th>Location</th>
<th>Total LMW PAH (µg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background</td>
<td>3500</td>
</tr>
<tr>
<td>Drainage Way</td>
<td>3000</td>
</tr>
<tr>
<td>Dawson Cove</td>
<td>2500</td>
</tr>
</tbody>
</table>

ESV = 29,000
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface soil is defined as the depth interval of 0 to 0.5 foot below ground surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)).
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface soil is defined as the depth interval of 0 to 0.5 foot below ground surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface soil is defined as the depth interval of 0 to 0.5 foot below ground surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram

ESV = 0.36
**Notes:**
1. Duplicate samples were excluded from analysis.
2. Surface soil is defined as the depth interval of 0 to 0.5 foot below ground surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   - ESV = ecological screening value
   - mg/kg = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface soil is defined as the depth interval of 0 to 0.5 foot below ground surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface soil is defined as the depth interval of 0 to 0.5 foot below ground surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)).
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface soil is defined as the depth interval of 0 to 0.5 foot below ground surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)).
   Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface soil is defined as the depth interval of 0 to 0.5 foot below ground surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram

ESV = 0.52

Selenium in Surface Soil

Background  Drainage Way  Dawson Cove

Upper Range  Upper Quartile (Q3)  Average/mean  Median  Lower Quartile (Q1)  Lower Range

Potential Outlier
FIGURE H-10

MAYFLOWER PIPELINE INCIDENT RESPONSE
EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

BOX PLOTS OF SILVER CONCENTRATIONS IN SOILS

Notes:
1. Duplicate samples were excluded from analysis.
2. Surface soil is defined as the depth interval of 0 to 0.5 foot below ground surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface soil is defined as the depth interval of 0 to 0.5 foot below ground surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)).
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram

Vanadium in Surface Soil

ESV = 7.8
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface sediment is defined as the depth interval of 0 to 0.5 foot below sediment surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   ESV = ecological screening value
   HMW = high molecular weight
   LMW = low molecular weight
   PAH = polycyclic aromatic hydrocarbon
   µg/kg = micrograms per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface sediment is defined as the depth interval of 0 to 0.5 foot below sediment surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: 
   \((Q_3 + 1.5 \times (Q_3 - Q_1))\) and 
   \((Q_1 - 1.5 \times (Q_3 - Q_1))\). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   - ESV = ecological screening value
   - HMW = high molecular weight
   - LMW = low molecular weight
   - PAH = polycyclic aromatic hydrocarbon
   - µg/kg = micrograms per kilogram

**Total HMW PAHs (Long List) in Surface Sediment**

<table>
<thead>
<tr>
<th>Location</th>
<th>Upper Range</th>
<th>Upper Quartile (Q3)</th>
<th>Average/mean</th>
<th>Median</th>
<th>Lower Quartile (Q1)</th>
<th>Lower Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Conway</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dawson Cove</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage Way</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Background Lake Conway</td>
<td>25000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Background Drainage Way</td>
<td>20000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total LMW PAHs (Long List) in Surface Sediment**

<table>
<thead>
<tr>
<th>Location</th>
<th>Upper Range</th>
<th>Upper Quartile (Q3)</th>
<th>Average/mean</th>
<th>Median</th>
<th>Lower Quartile (Q1)</th>
<th>Lower Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Conway</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dawson Cove</td>
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<td></td>
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</tr>
<tr>
<td>Drainage Way</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Background Lake Conway</td>
<td>25000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Background Drainage Way</td>
<td>20000</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FIGURE H-14
MAYFLOWER PIPELINE INCIDENT RESPONSE
EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY
DOWNSTREAM AREAS DATA ASSESSMENT REPORT
BOX PLOTS OF TOXICITY UNITS IN SEDIMENTS

Notes:
1. Duplicate samples were excluded from analysis.
2. Surface sediment is defined as the depth interval of 0 to 0.5 foot below sediment surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   ESV = ecological screening value
   PAH = polycyclic aromatic hydrocarbon
   TU = toxicity unit

Total PAH TU in Surface Sediment

<table>
<thead>
<tr>
<th>Location</th>
<th>Total PAH TU (unitless)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background Drainage</td>
<td>1.6</td>
</tr>
<tr>
<td>Lake Conway</td>
<td>1.4</td>
</tr>
<tr>
<td>Dawson Cove</td>
<td>1.2</td>
</tr>
<tr>
<td>Lake Conway</td>
<td>1.0</td>
</tr>
<tr>
<td>Background Lake Conway</td>
<td>0.8</td>
</tr>
<tr>
<td>Drainage Way</td>
<td>0.6</td>
</tr>
<tr>
<td>Lake Conway</td>
<td>0.4</td>
</tr>
<tr>
<td>Lake Conway</td>
<td>0.2</td>
</tr>
<tr>
<td>Lake Conway</td>
<td>0.0</td>
</tr>
</tbody>
</table>

ESV = 1.0
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface sediment is defined as the depth interval of 0 to 0.5 foot below sediment surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: \((Q3 + 1.5*(Q3-Q1))\) and \((Q1 - 1.5*(Q3-Q1))\). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   - ESV = ecological screening value
   - mg/kg = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface sediment are defined as the depth intervals of 0 to 0.5 foot below sediment surface.
3. Non-detect results were represented with a value of zero.
4. ESV for barium is not available.
5. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)). Potential outliers are data points that are beyond these limits.
6. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface sediment is defined as the depth interval of 0 to 0.5 foot below sediment surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: (Q3 + 1.5*(Q3-Q1)) and (Q1 - 1.5*(Q3-Q1)). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface sediment is defined as the depth interval of 0 to 0.5 foot below sediment surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: \((Q3 + 1.5\times(Q3-Q1))\) and \((Q1 - 1.5\times(Q3-Q1))\). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   - ESV = ecological screening value
   - \(mg/kg\) = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface sediment is defined as the depth interval of 0 to 0.5 foot below sediment surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: \((Q3 + 1.5*(Q3-Q1))\) and \((Q1 - 1.5*(Q3-Q1))\). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram
**Notes:**
1. Duplicate samples were excluded from analysis.
2. Surface sediment is defined as the depth interval of 0 to 0.5 foot below sediment surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: $(Q3 + 1.5(Q3-Q1))$ and $(Q1 - 1.5(Q3-Q1))$. Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   - ESV = ecological screening value
   - mg/kg = milligrams per kilogram
Notes:
1. Duplicate samples were excluded from analysis.
2. Surface sediment is defined as the depth interval of 0 to 0.5 foot below sediment surface.
3. Non-detect results were represented with a value of zero.
4. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: \((Q3 + 1.5\times(Q3-Q1))\) and \((Q1 - 1.5\times(Q3-Q1))\). Potential outliers are data points that are beyond these limits.
5. Abbreviations:
   - ESV = ecological screening value
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Notes:
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Notes:
1. Duplicate samples were excluded from analysis.
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5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram
**Notes:**

1. Duplicate samples were excluded from analysis.
2. Surface sediment is defined as the depth interval of 0 to 0.5 foot below sediment surface.
3. Non-detect results were represented with a value of zero.
4. ESV for vanadium is not available.
5. The Upper Range and Lower Range represent the highest and lowest data point falling within the following limits: 
   \((Q3 + 1.5\times(Q3-Q1))\) and \((Q1 - 1.5\times(Q3-Q1))\). Potential outliers are data points that are beyond these limits.
6. Abbreviations:
   - ESV = ecological screening value
   - mg/kg = milligrams per kilogram

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**Box Plots of Vanadium Concentrations in Sediments**