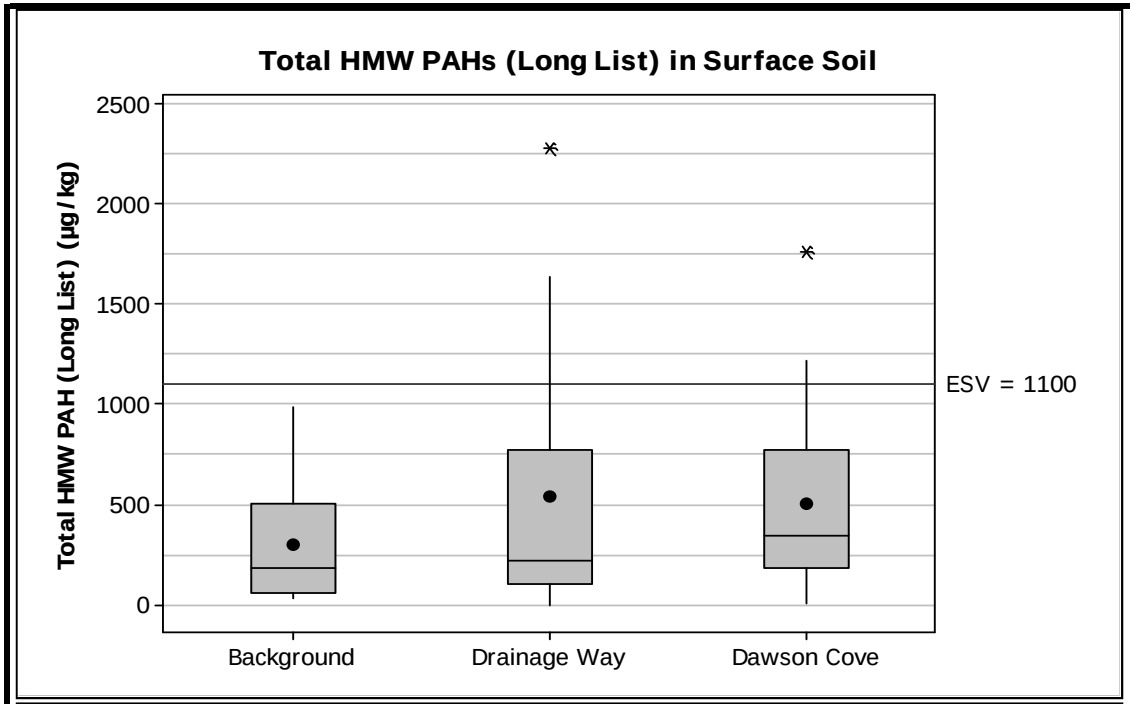
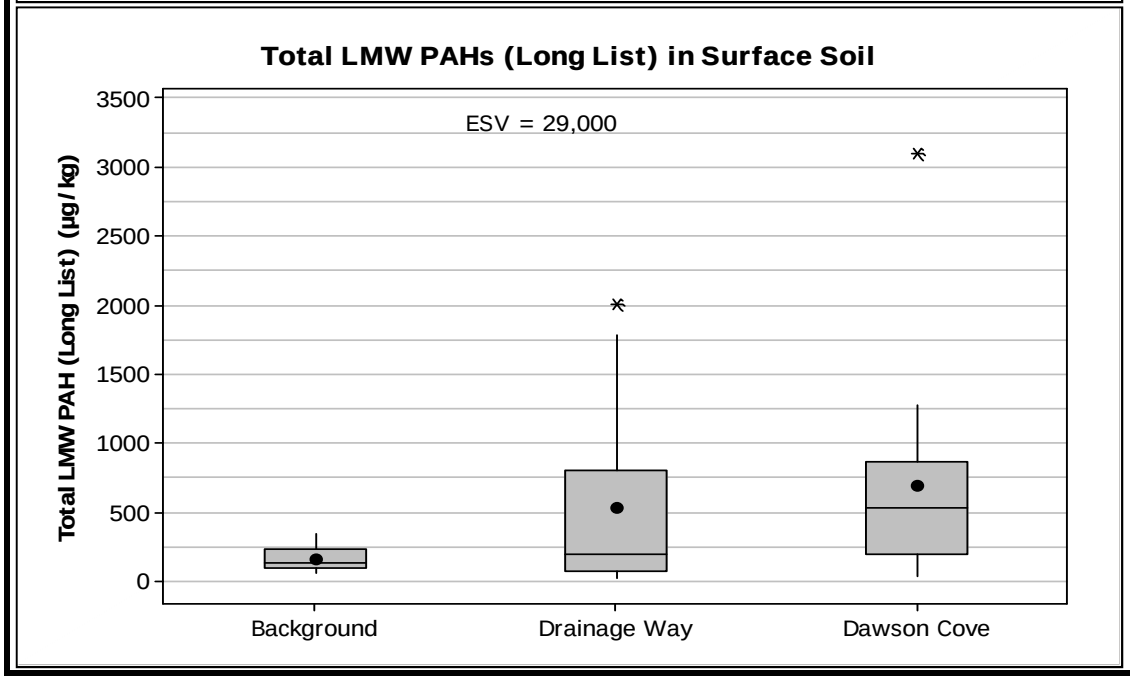
Appendix H

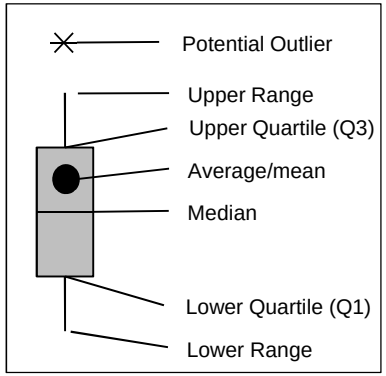
Box Plots





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



MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

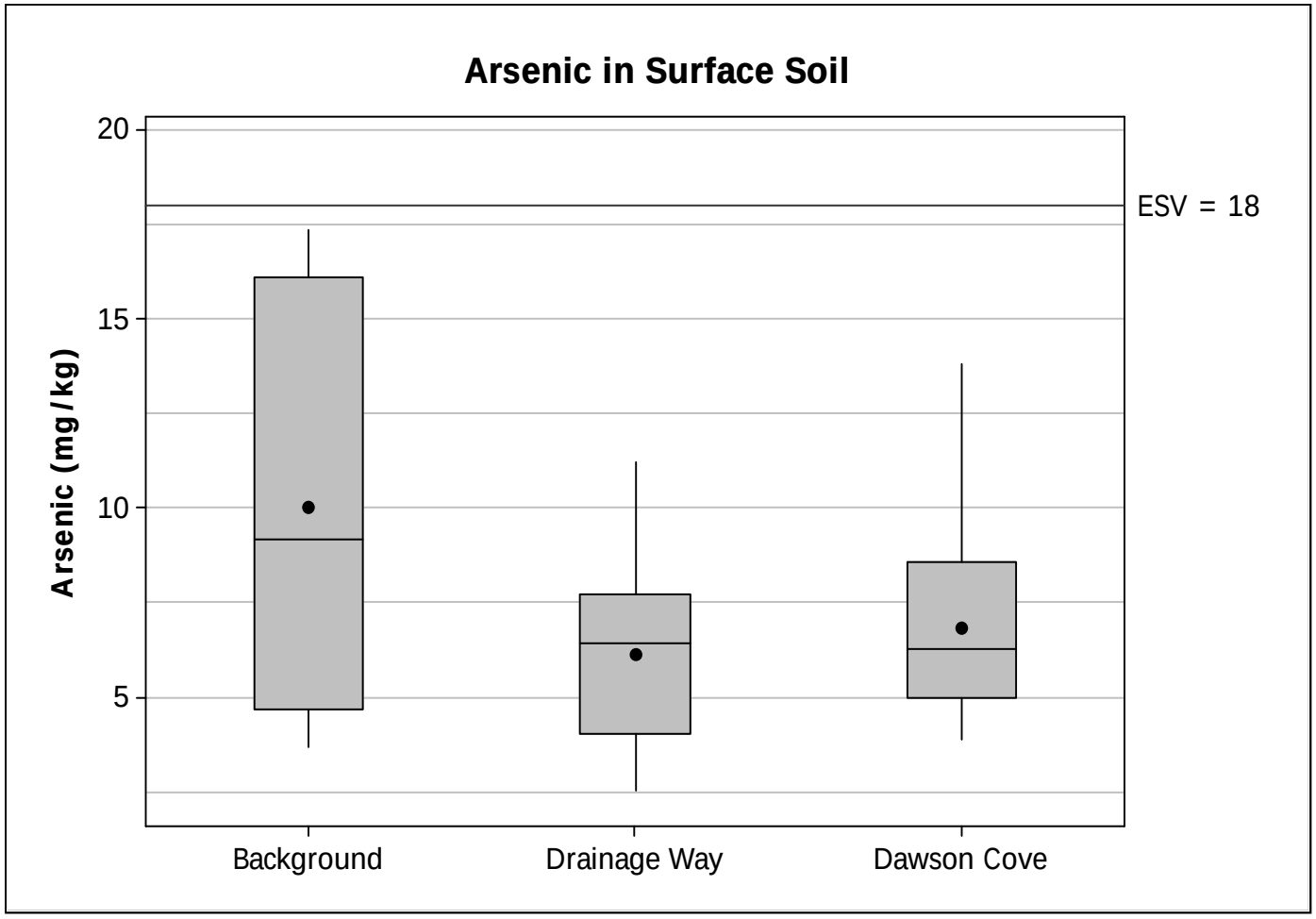
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

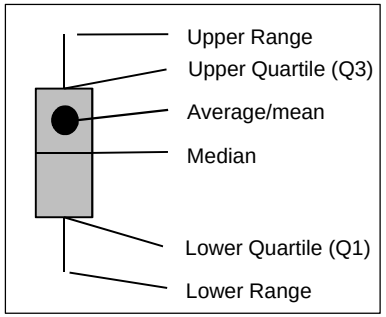
BOX PLOTS OF TOTAL PAH (LONG LIST) CONCENTRATIONS IN SOILS

ARCADIS

FIGURE

H-1





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

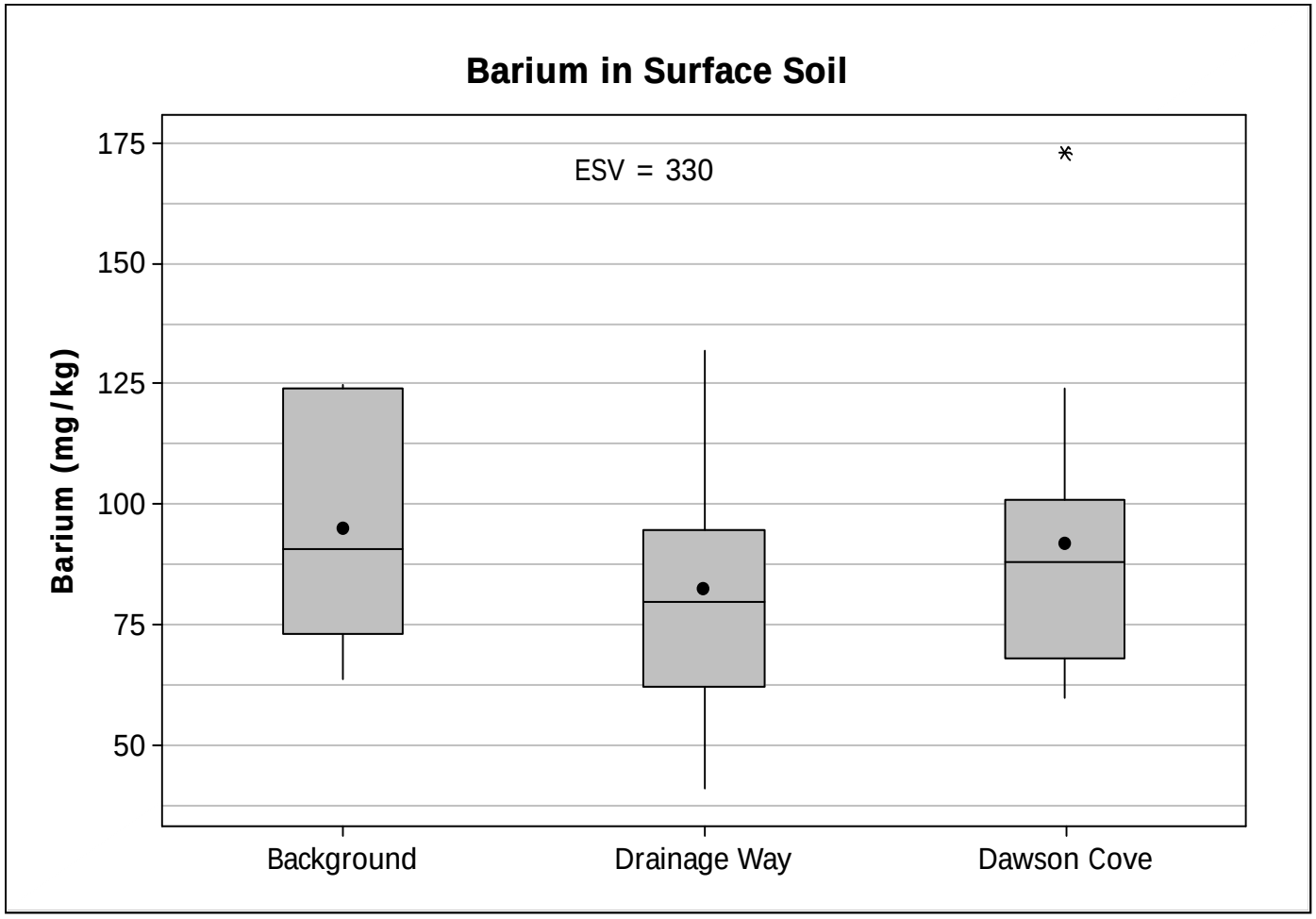
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

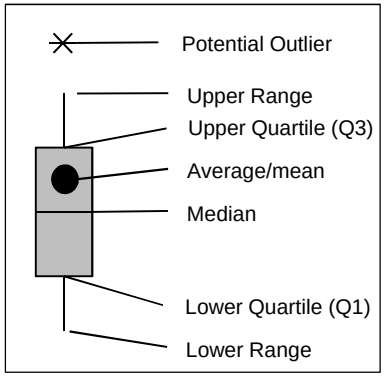
BOX PLOTS OF ARSENIC CONCENTRATIONS IN SOILS

ARCADIS

FIGURE

H-2





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

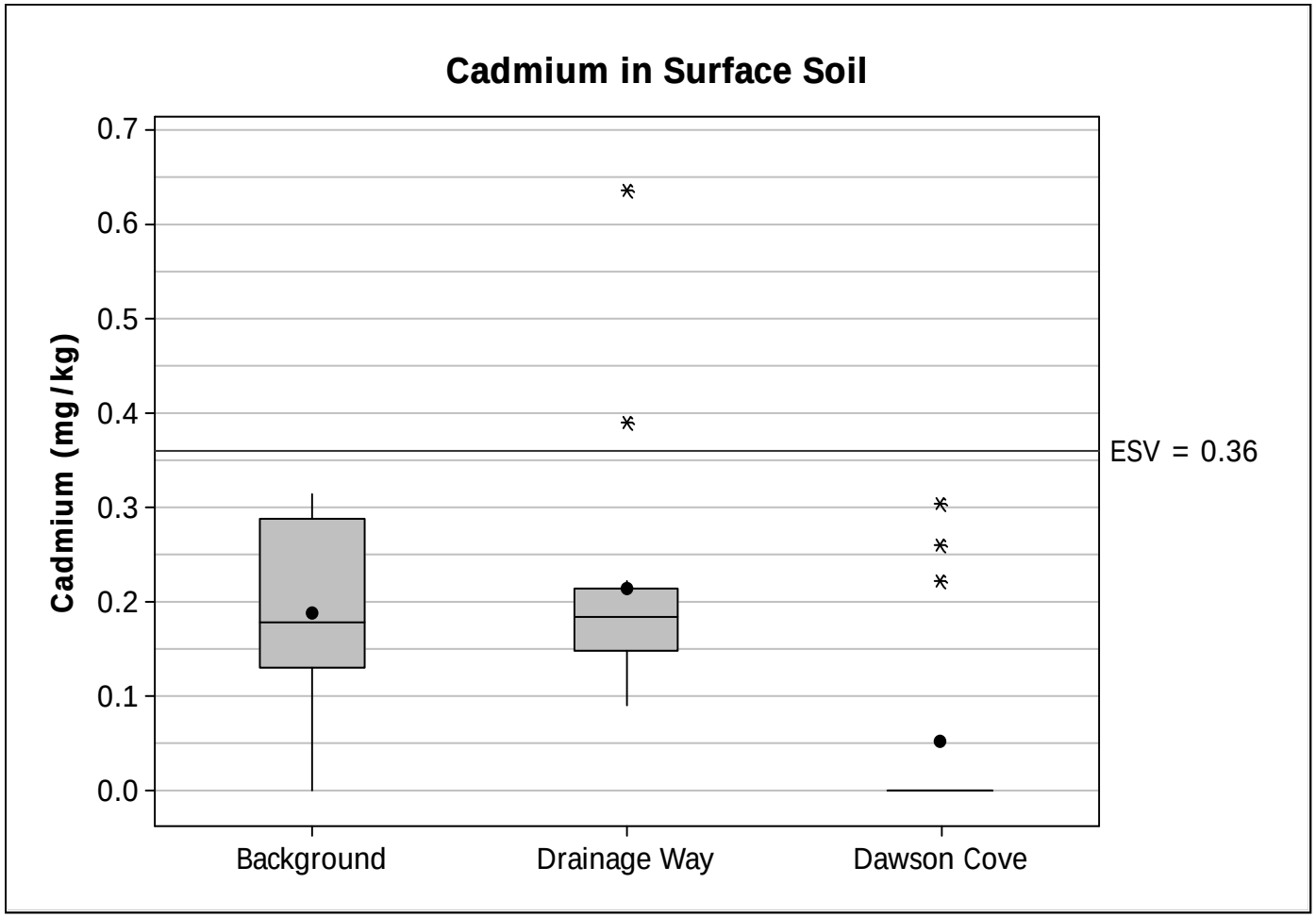
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

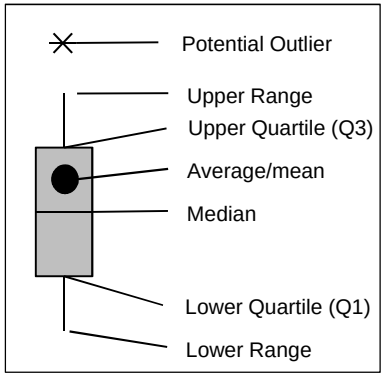
BOX PLOTS OF BARIUM CONCENTRATIONS IN SOILS

ARCADIS

FIGURE

H-3





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

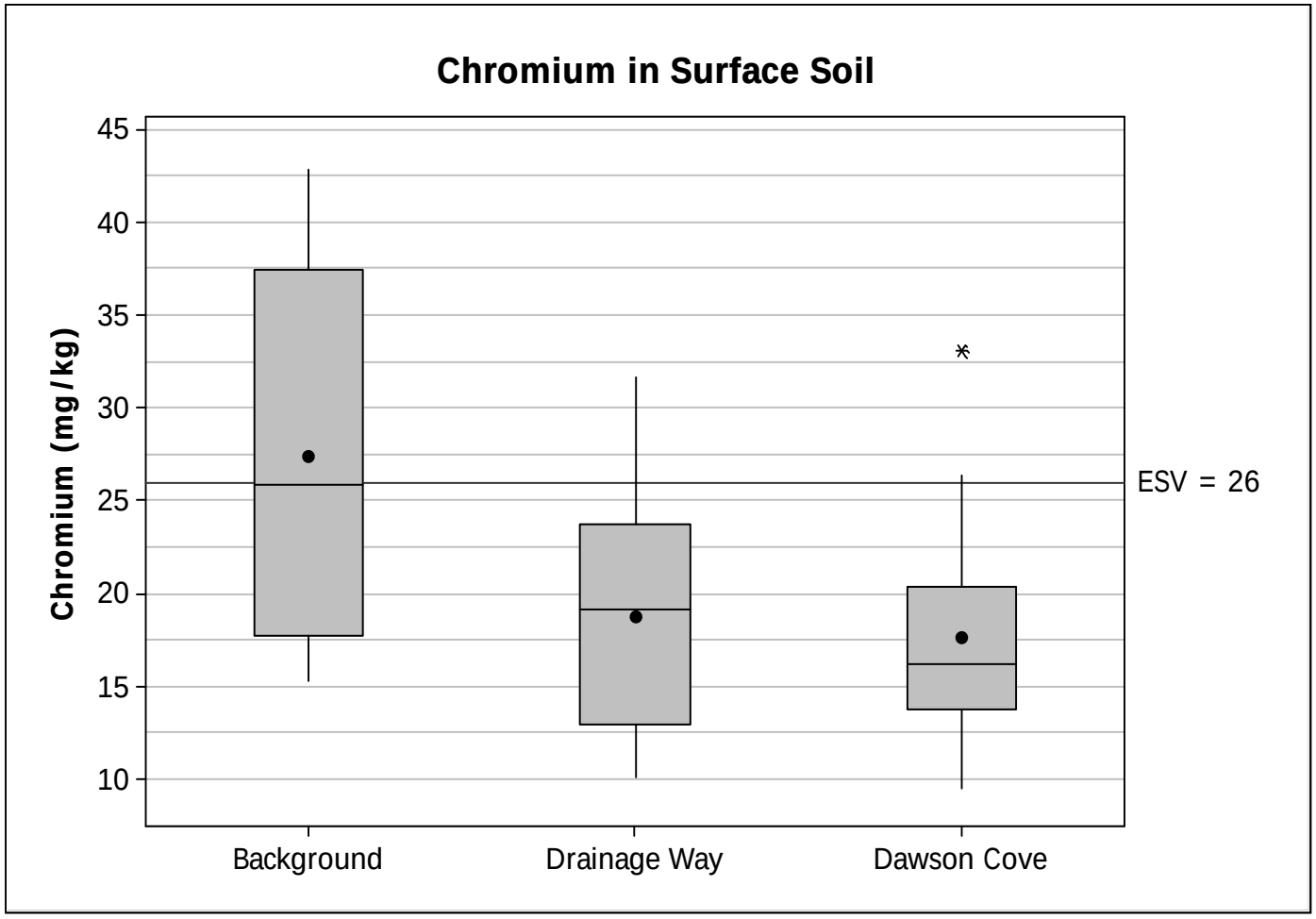
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

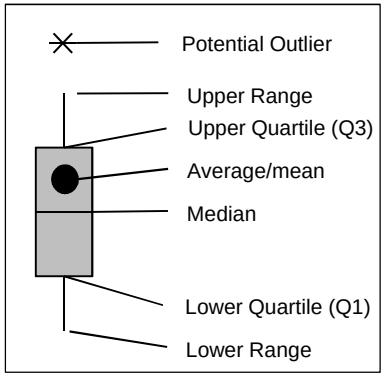
BOX PLOTS OF CADMIUM CONCENTRATIONS IN SOILS

ARCADIS

FIGURE

H-4





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

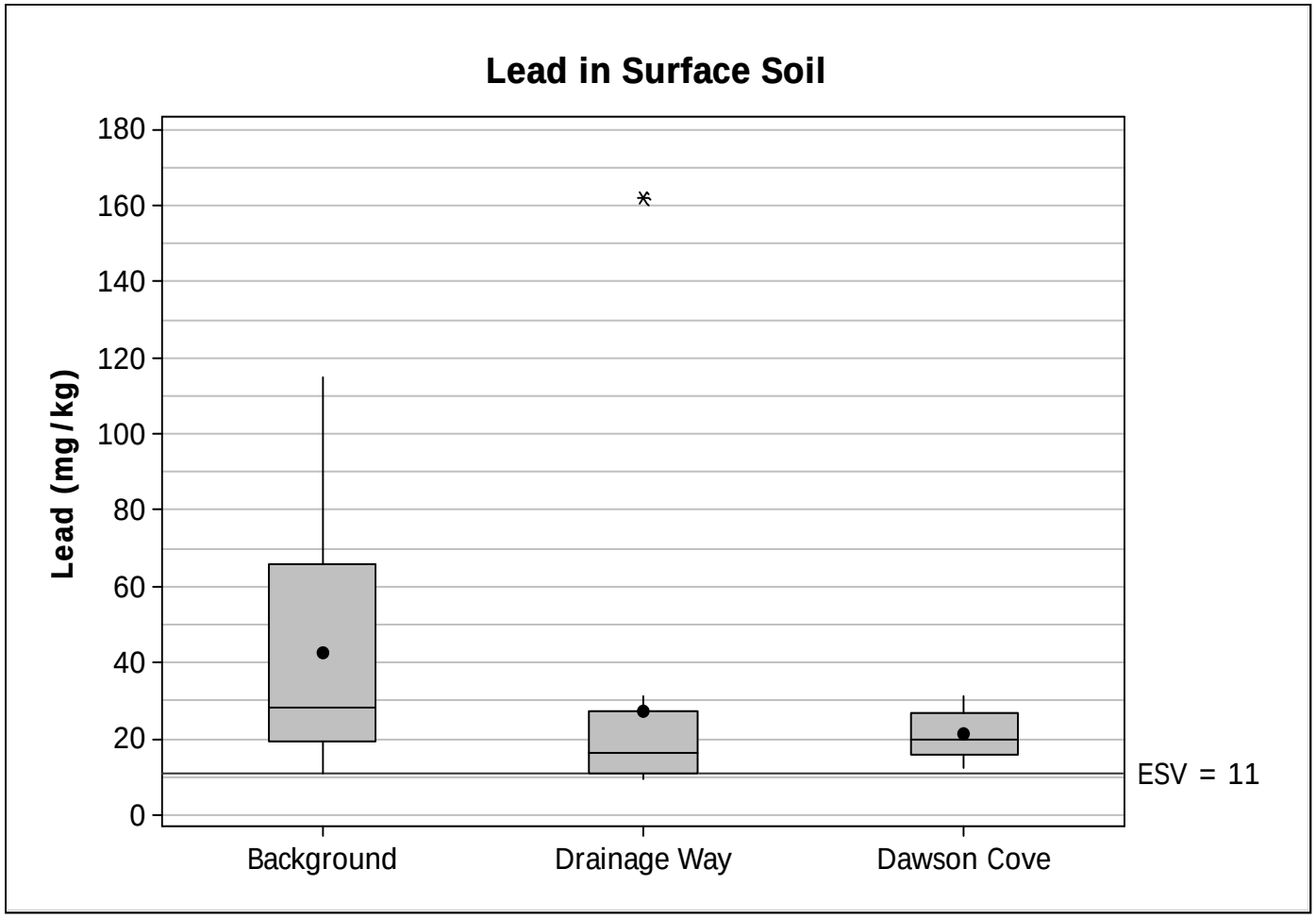
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

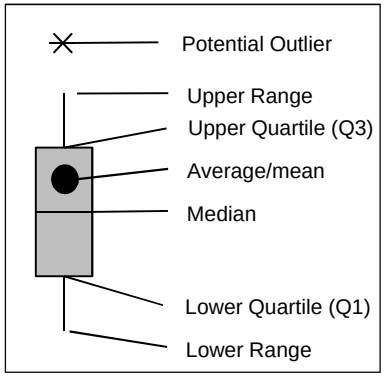
BOX PLOTS OF CHROMIUM CONCENTRATIONS IN SOILS

ARCADIS

FIGURE

H-5





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

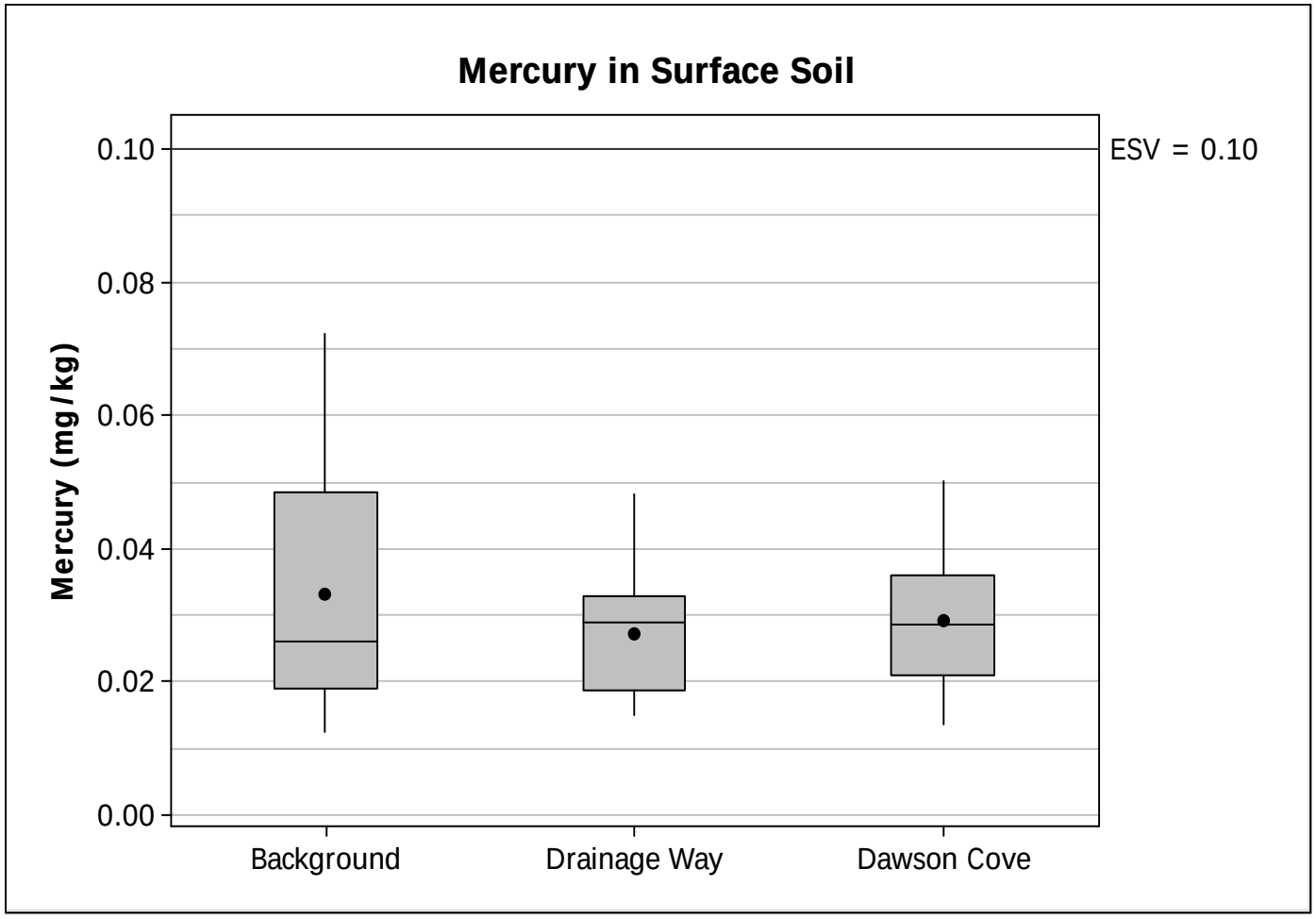
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

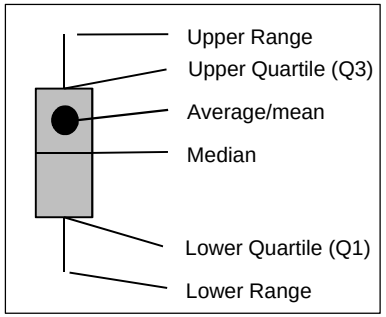
BOX PLOTS OF LEAD CONCENTRATIONS IN SOILS

ARCADIS

FIGURE

H-6





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

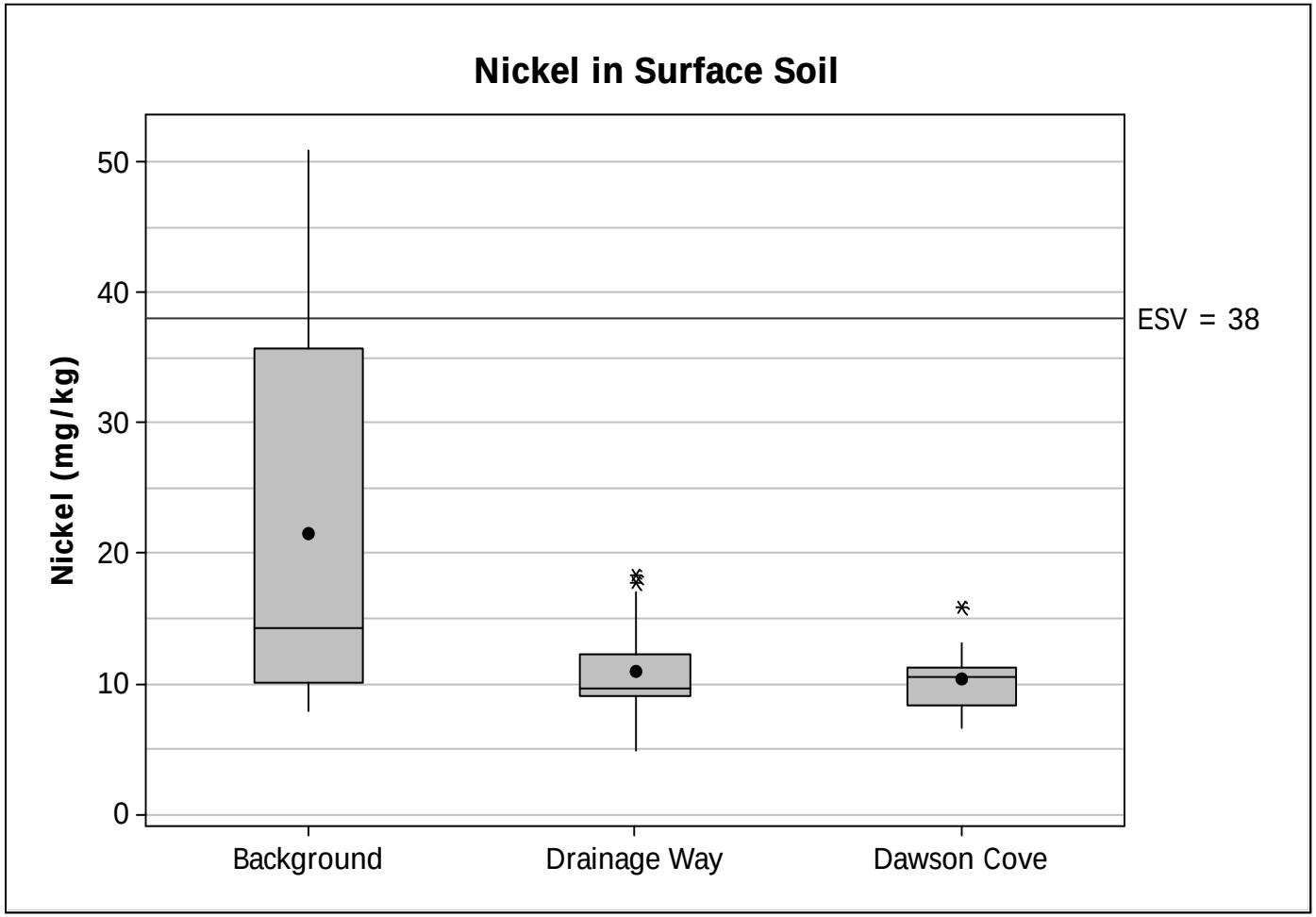
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

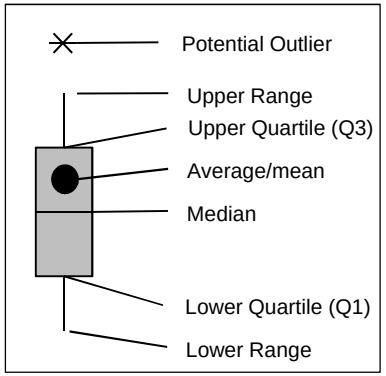
BOX PLOTS OF MERCURY CONCENTRATIONS IN SOILS

ARCADIS

FIGURE

H-7





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

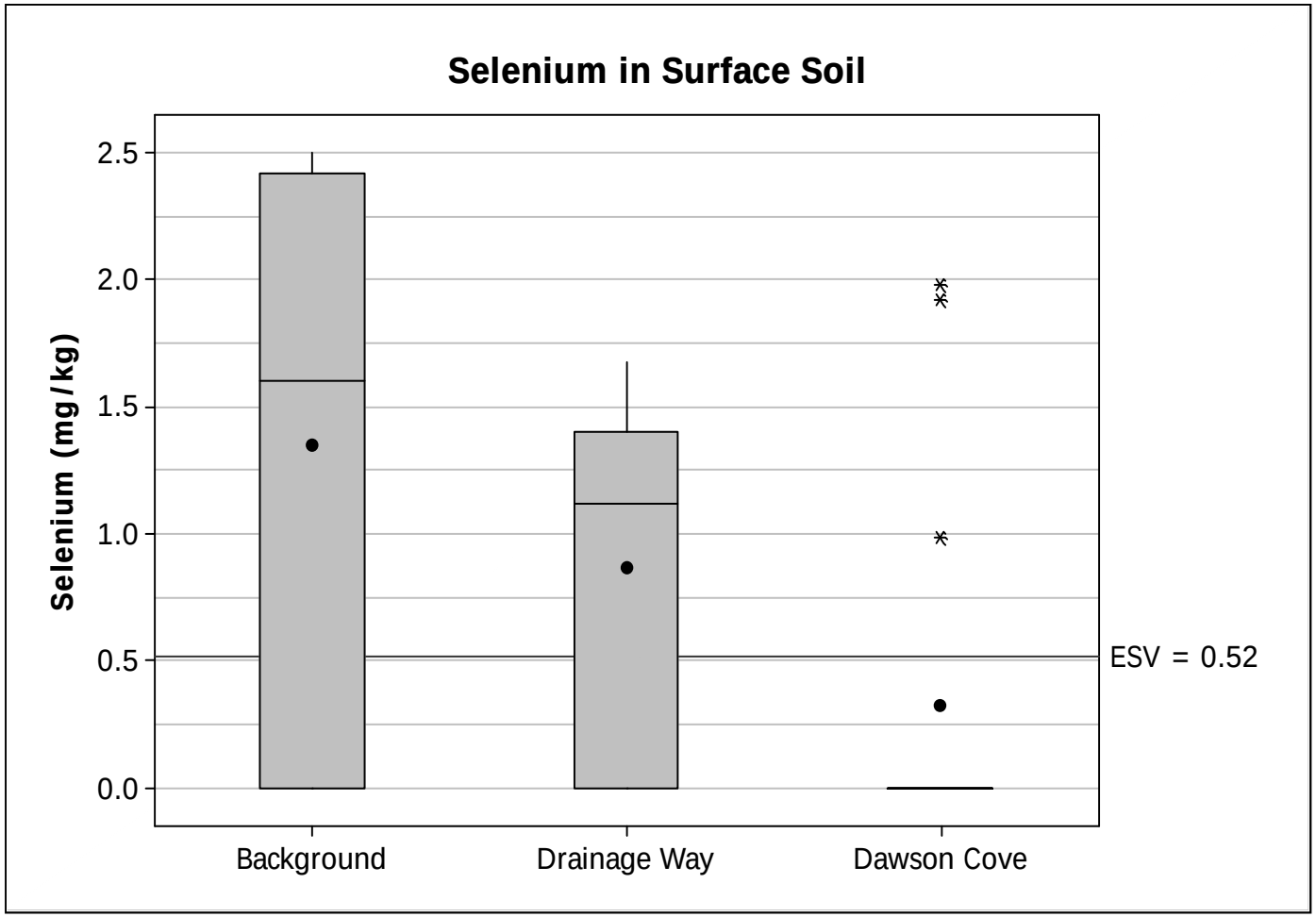
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

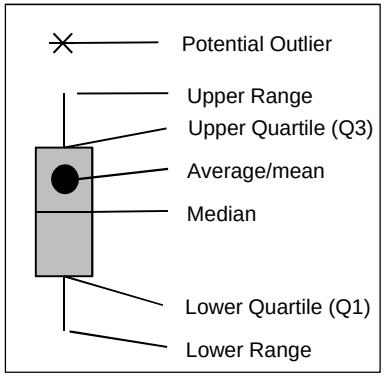
BOX PLOTS OF NICKEL CONCENTRATIONS IN SOILS

ARCADIS

FIGURE

H-8





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

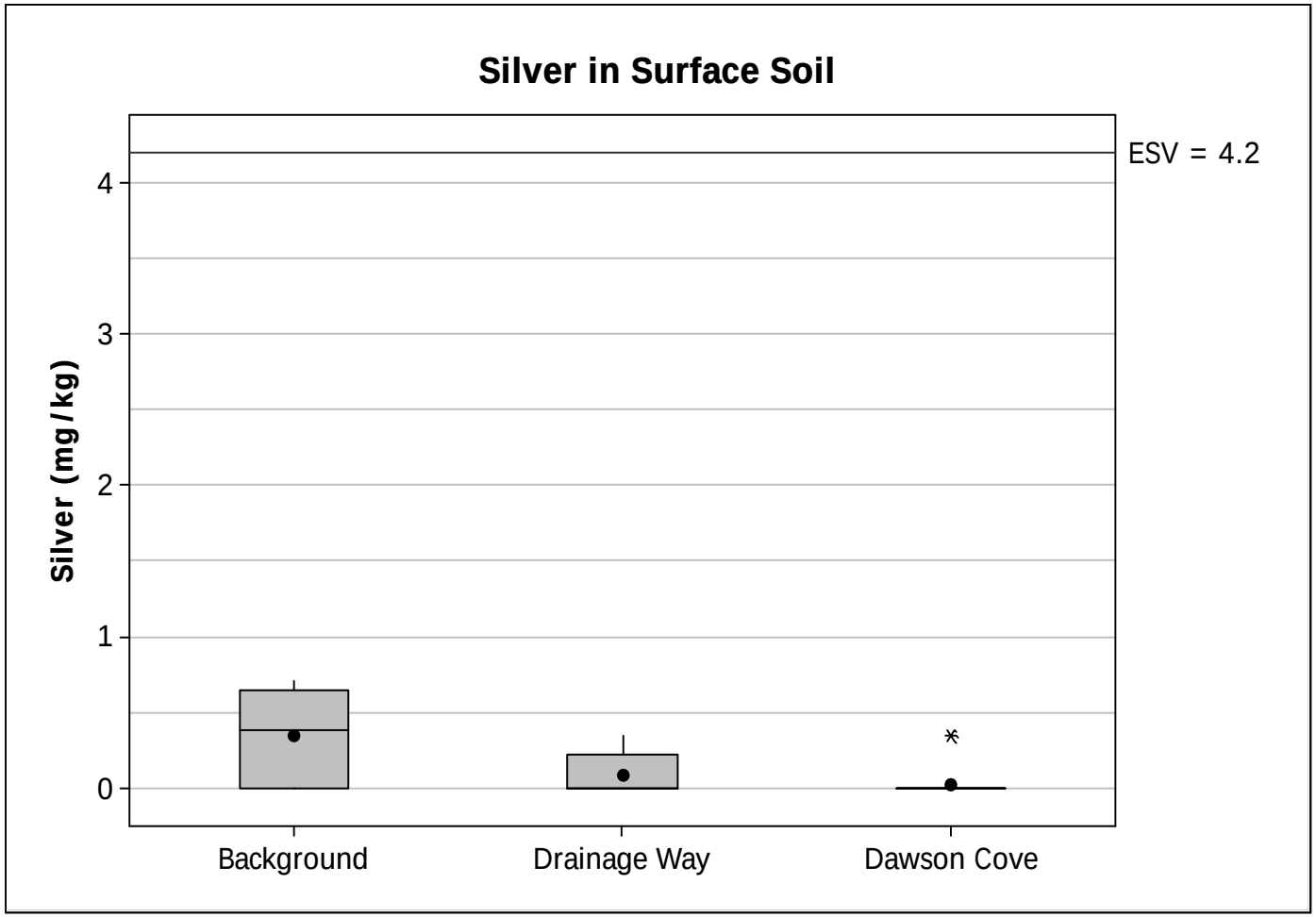
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

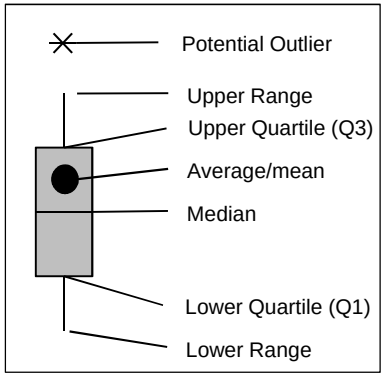
BOX PLOTS OF SELENIUM CONCENTRATIONS IN SOILS

ARCADIS

FIGURE

H-9





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

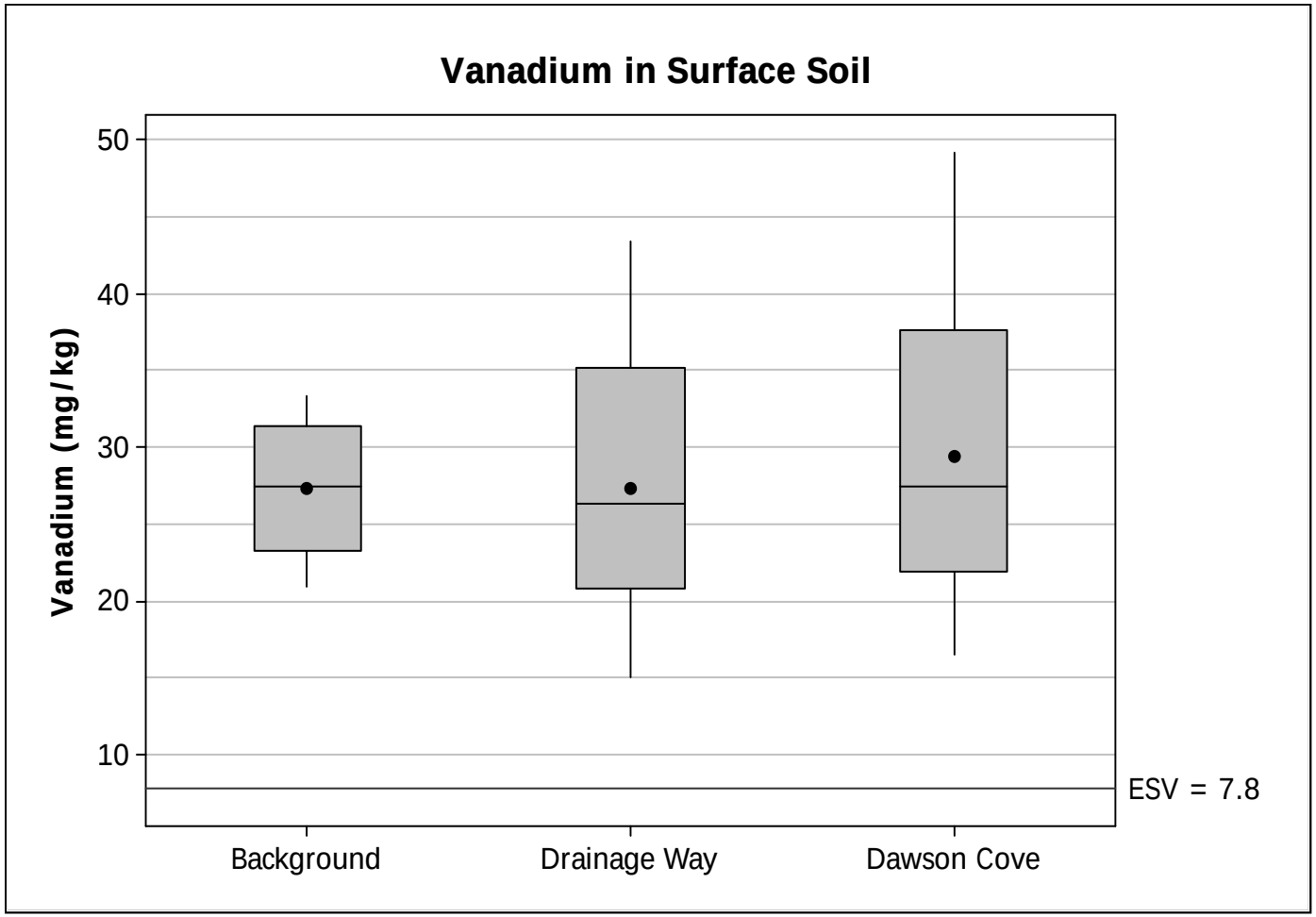
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

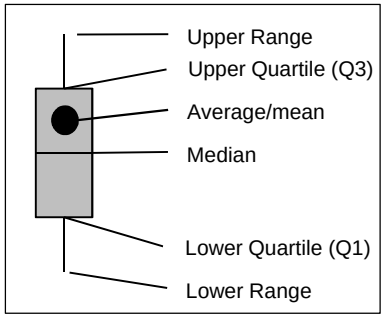
BOX PLOTS OF SILVER CONCENTRATIONS IN SOILS

ARCADIS

FIGURE

H-10





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

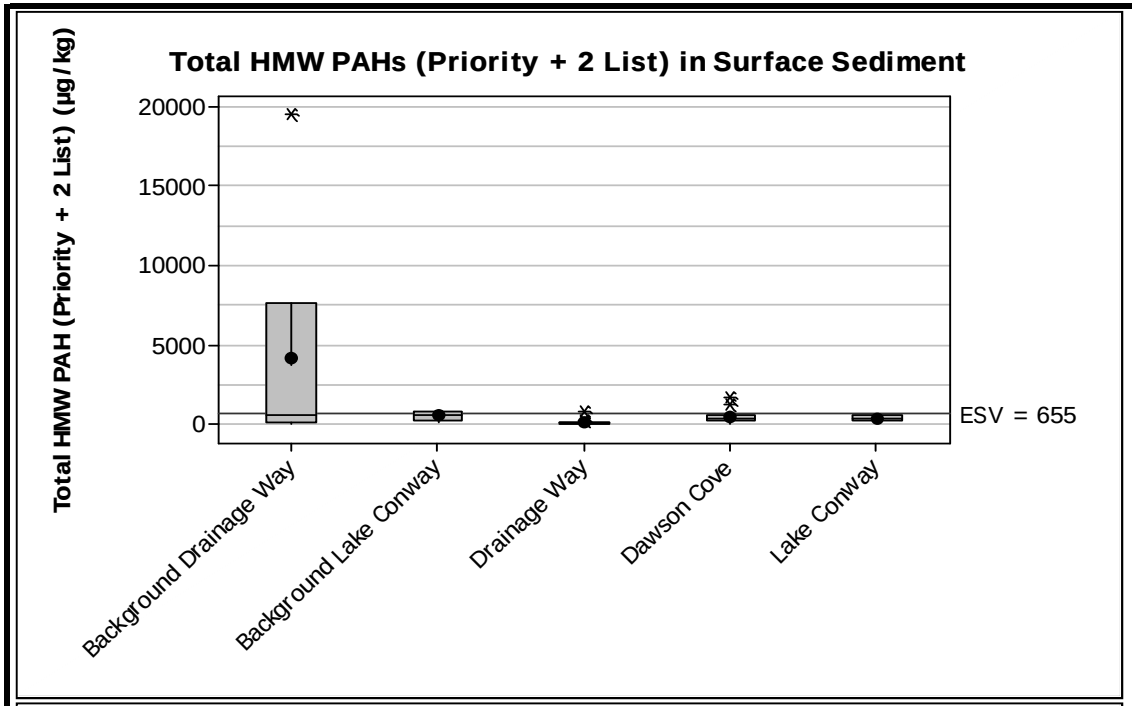
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

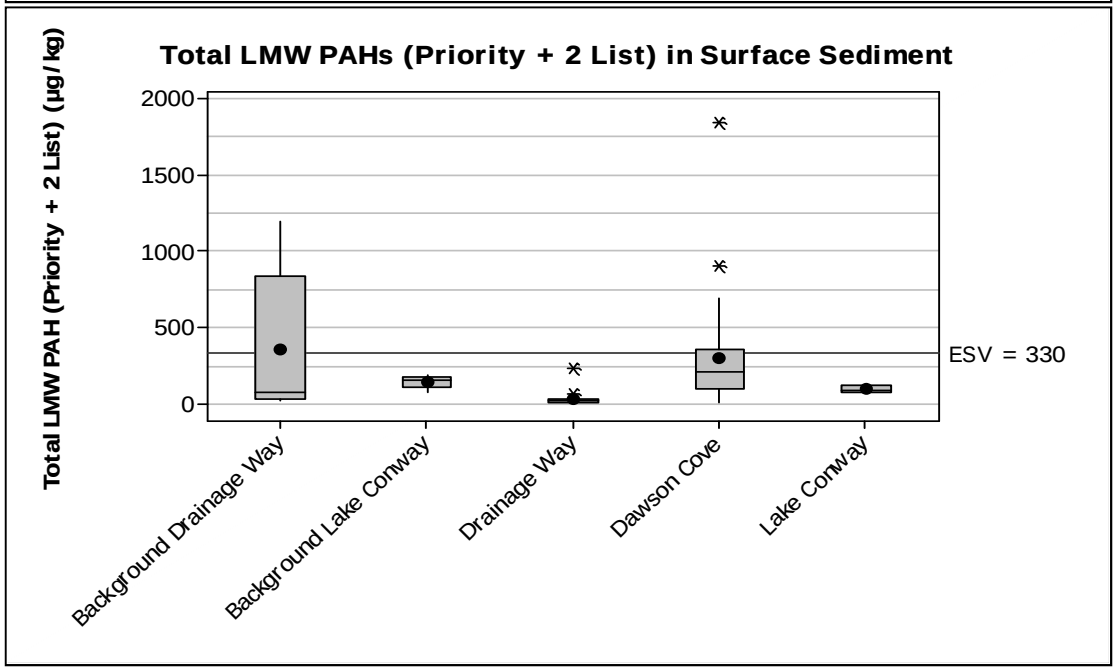
BOX PLOTS OF VANADIUM CONCENTRATIONS IN SOILS

ARCADIS

FIGURE

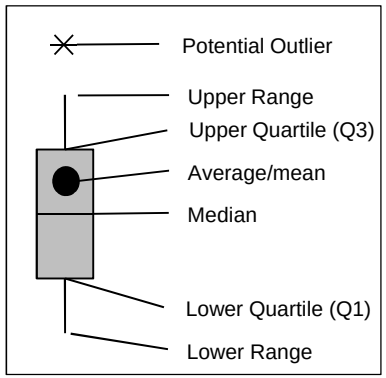
H-11





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



MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

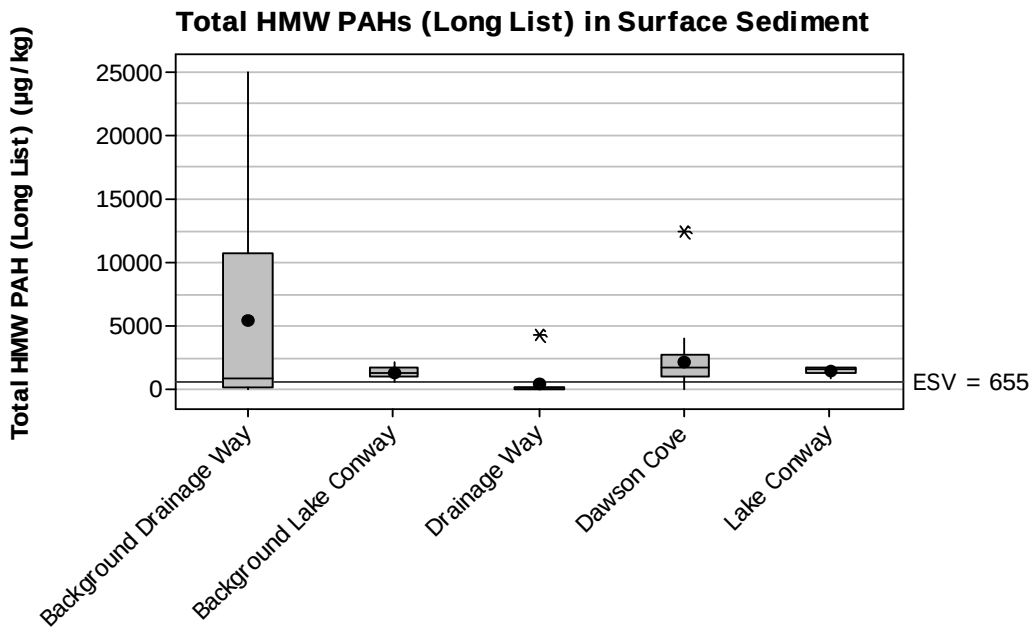
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

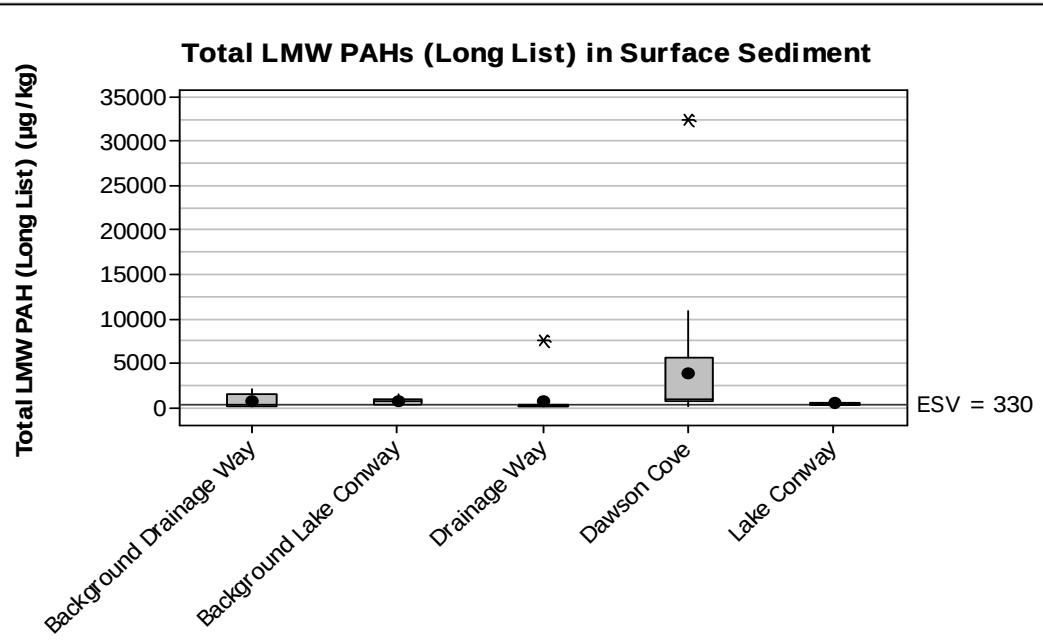
BOX PLOTS OF TOTAL PAH (PRIORITY + 2 LIST) CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

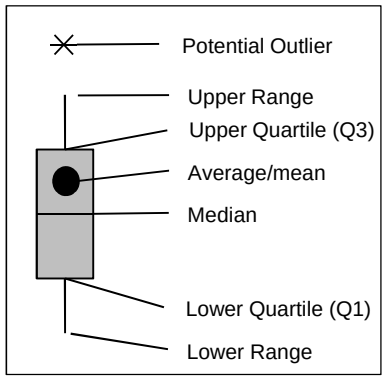
H-12





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



MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

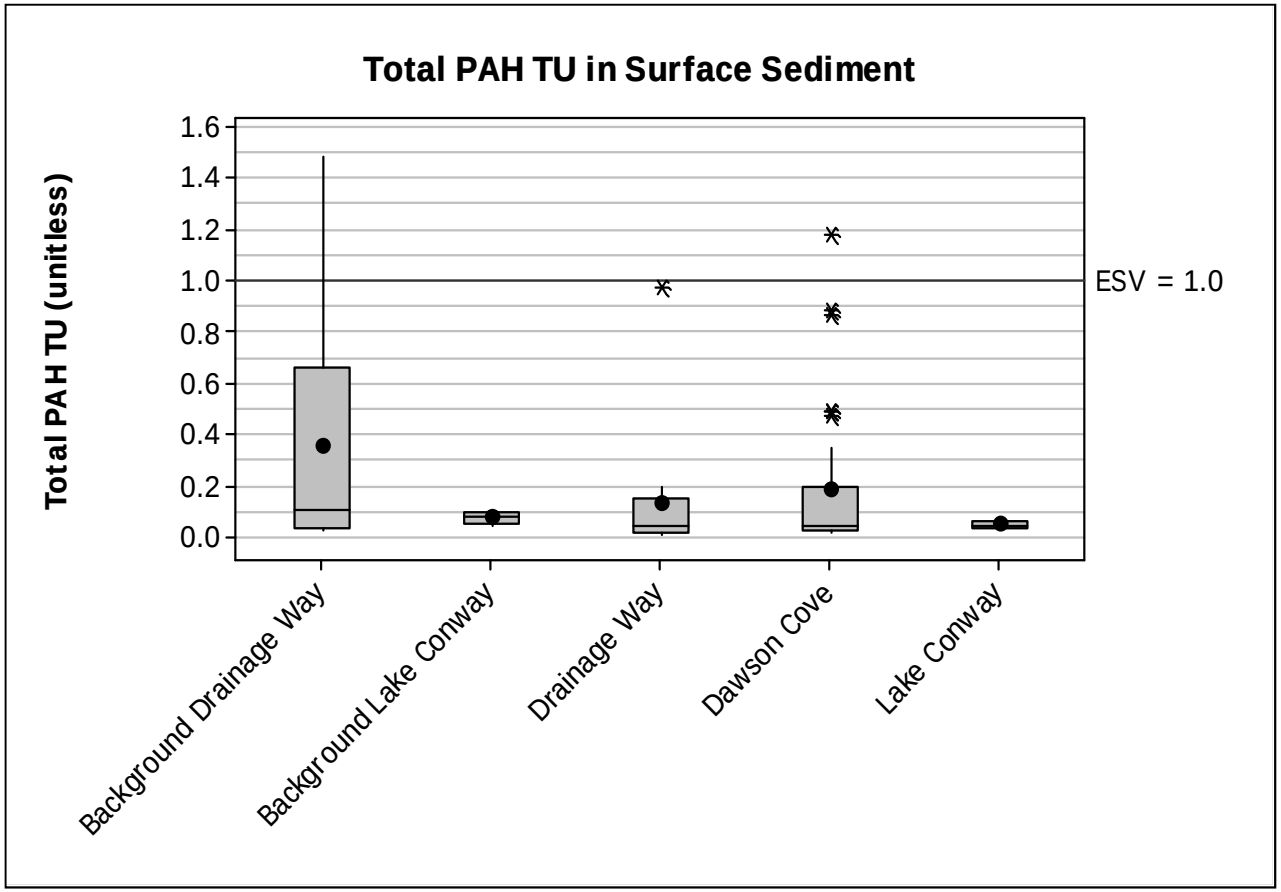
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

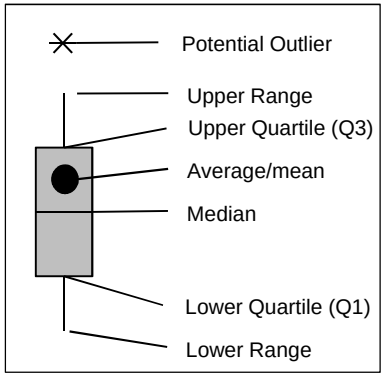
BOX PLOTS OF TOTAL PAH (LONG LIST) CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

H-13





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

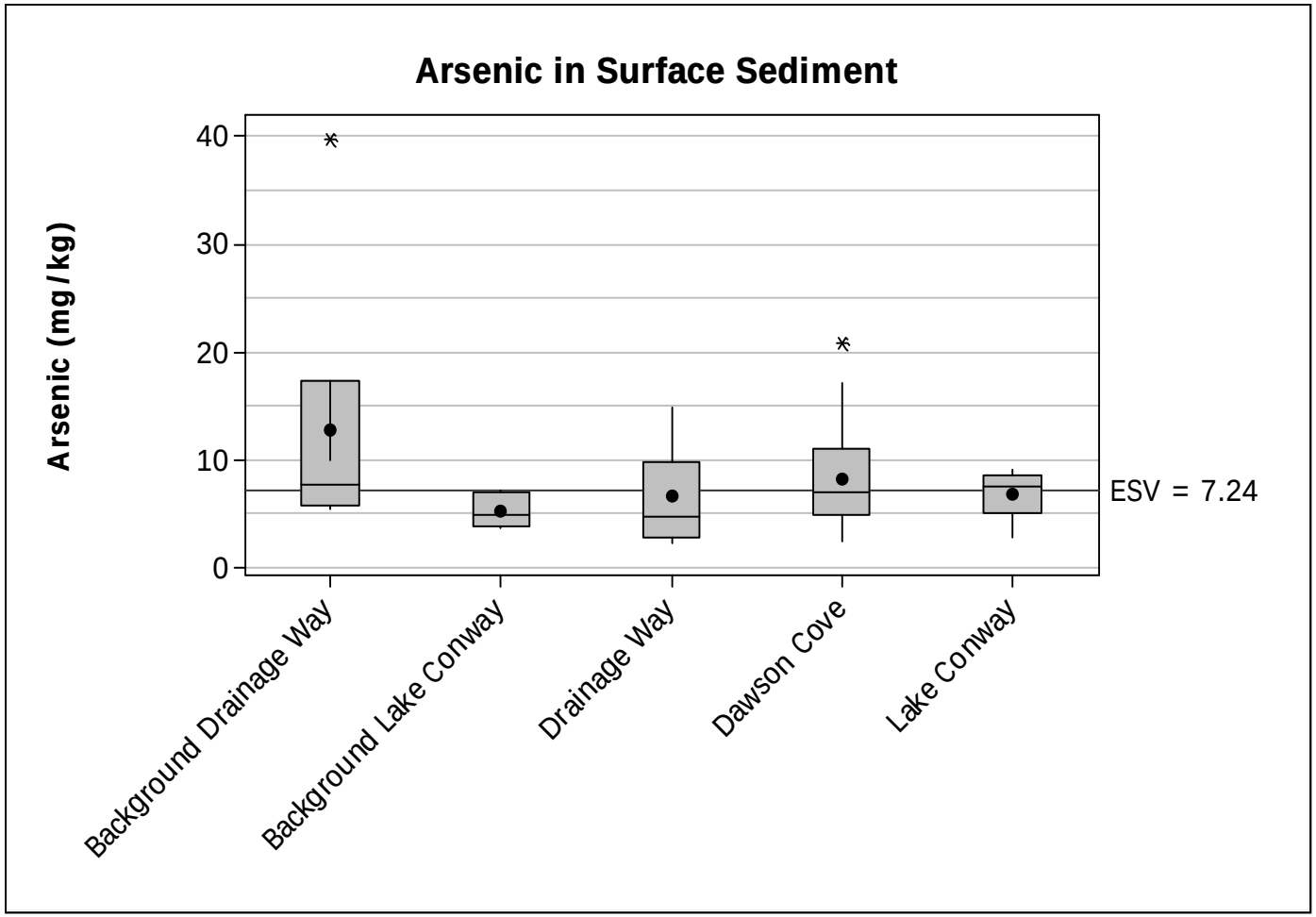
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

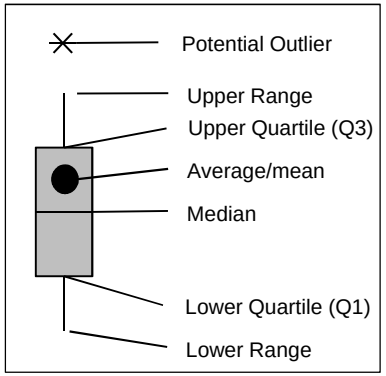
BOX PLOTS OF TOXICITY UNITS IN SEDIMENTS

ARCADIS

FIGURE

H-14





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

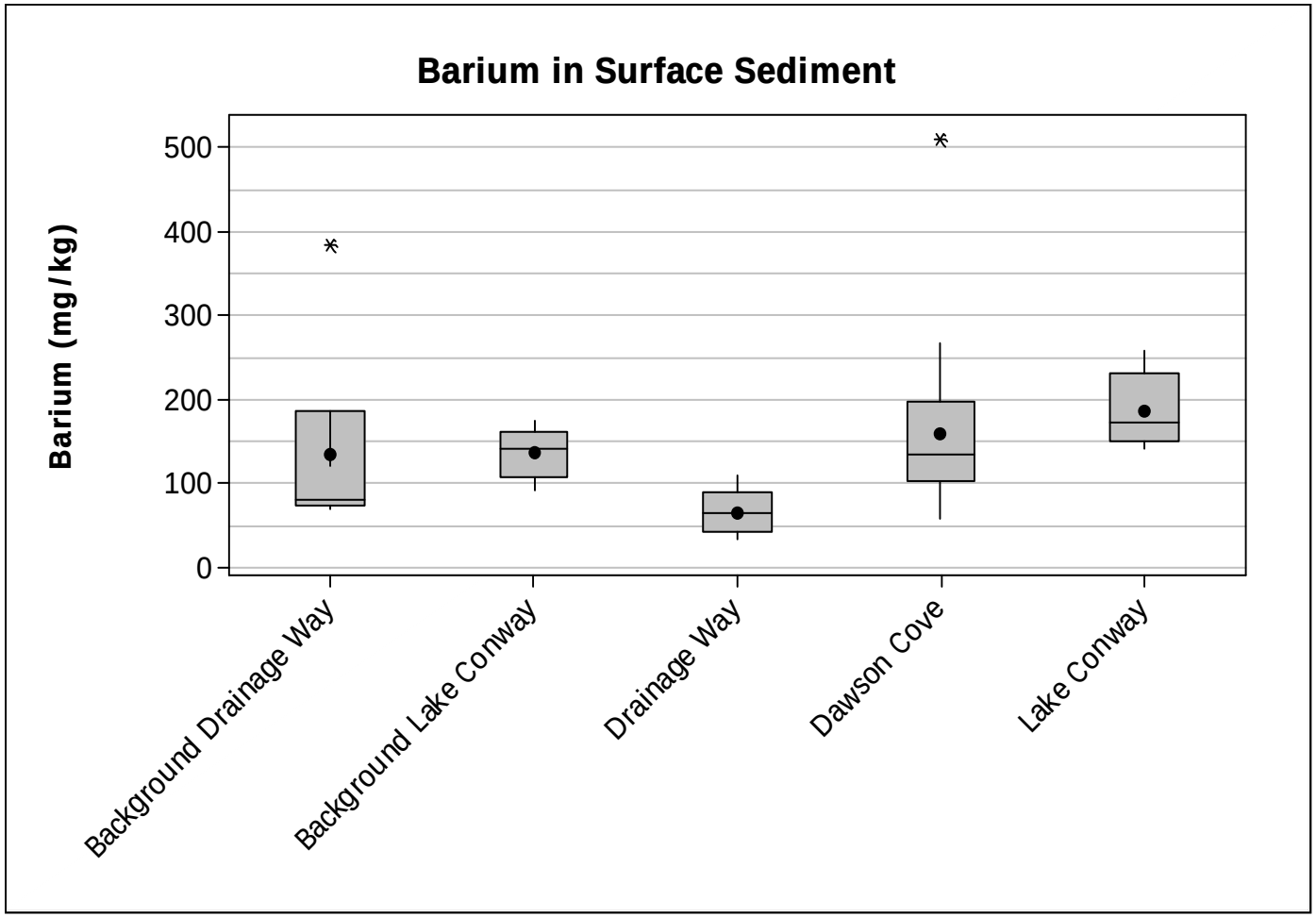
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

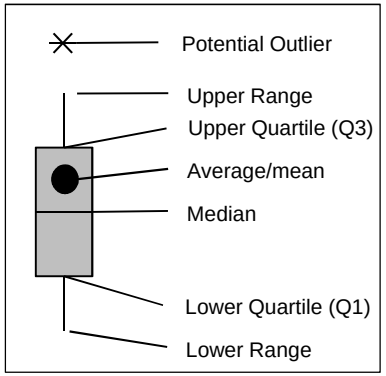
BOX PLOTS OF ARSENIC CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

H-15





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

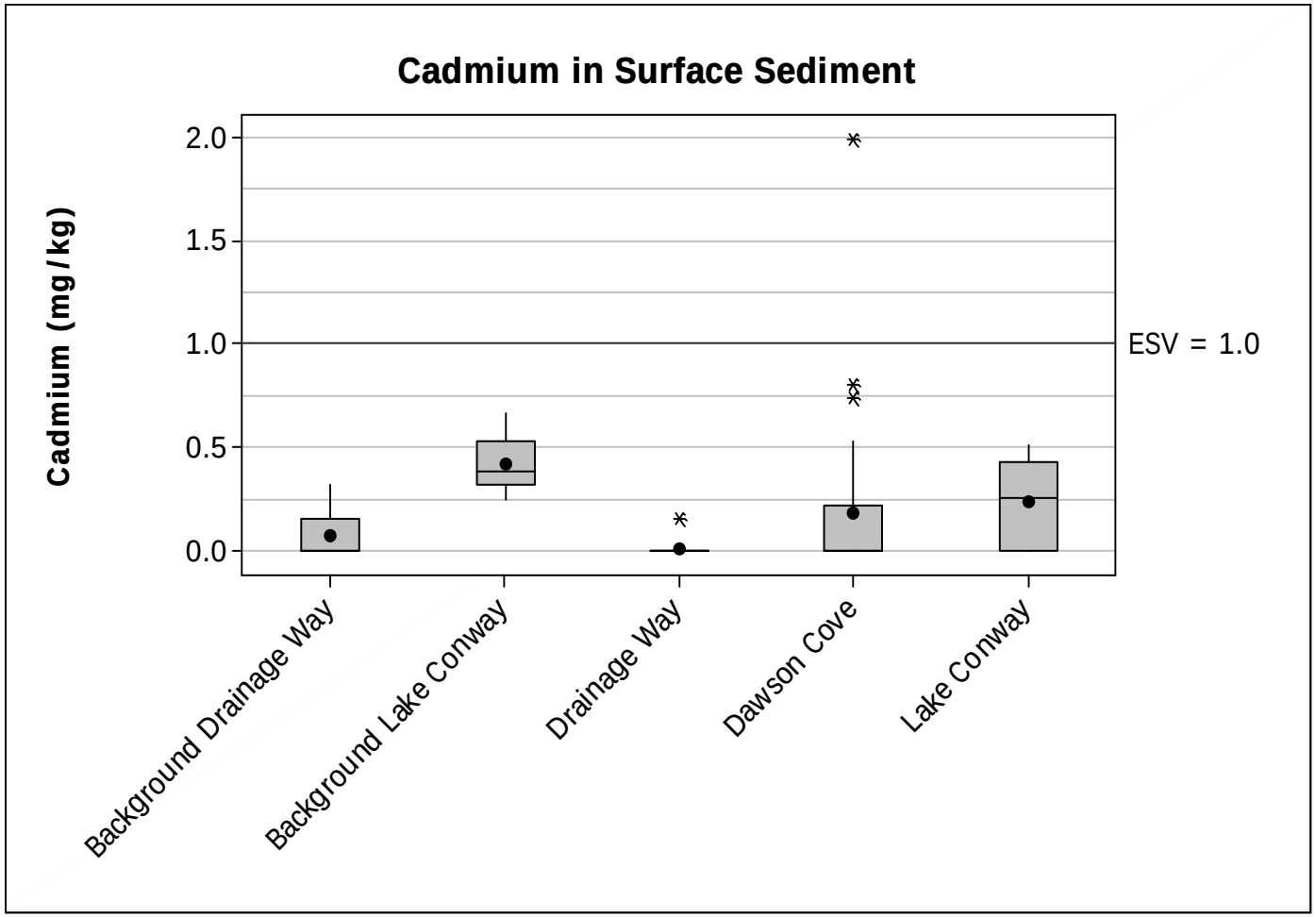
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

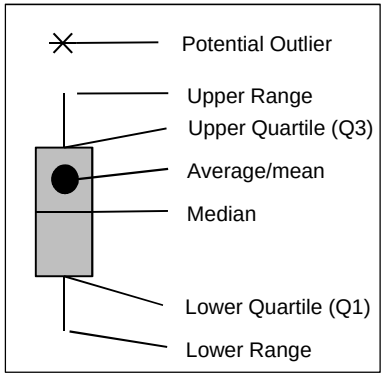
BOX PLOTS OF BARIUM CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

H-16





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

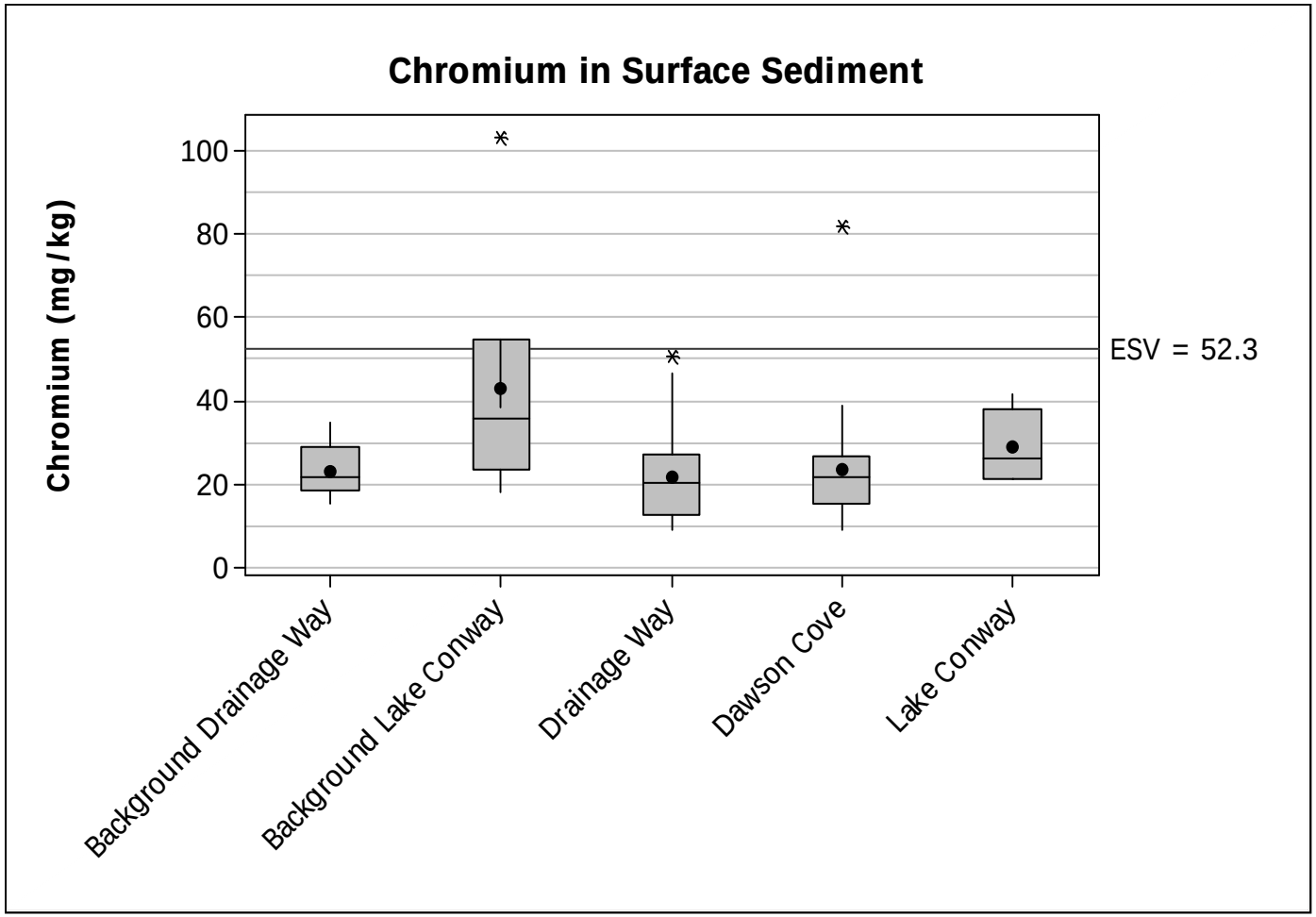
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

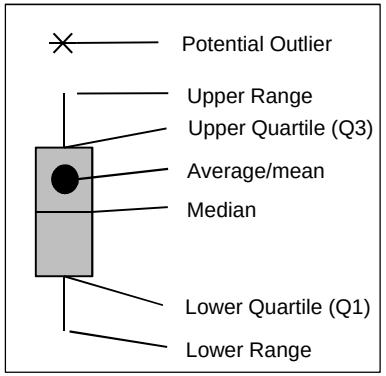
BOX PLOTS OF CADMIUM CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

H-17





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

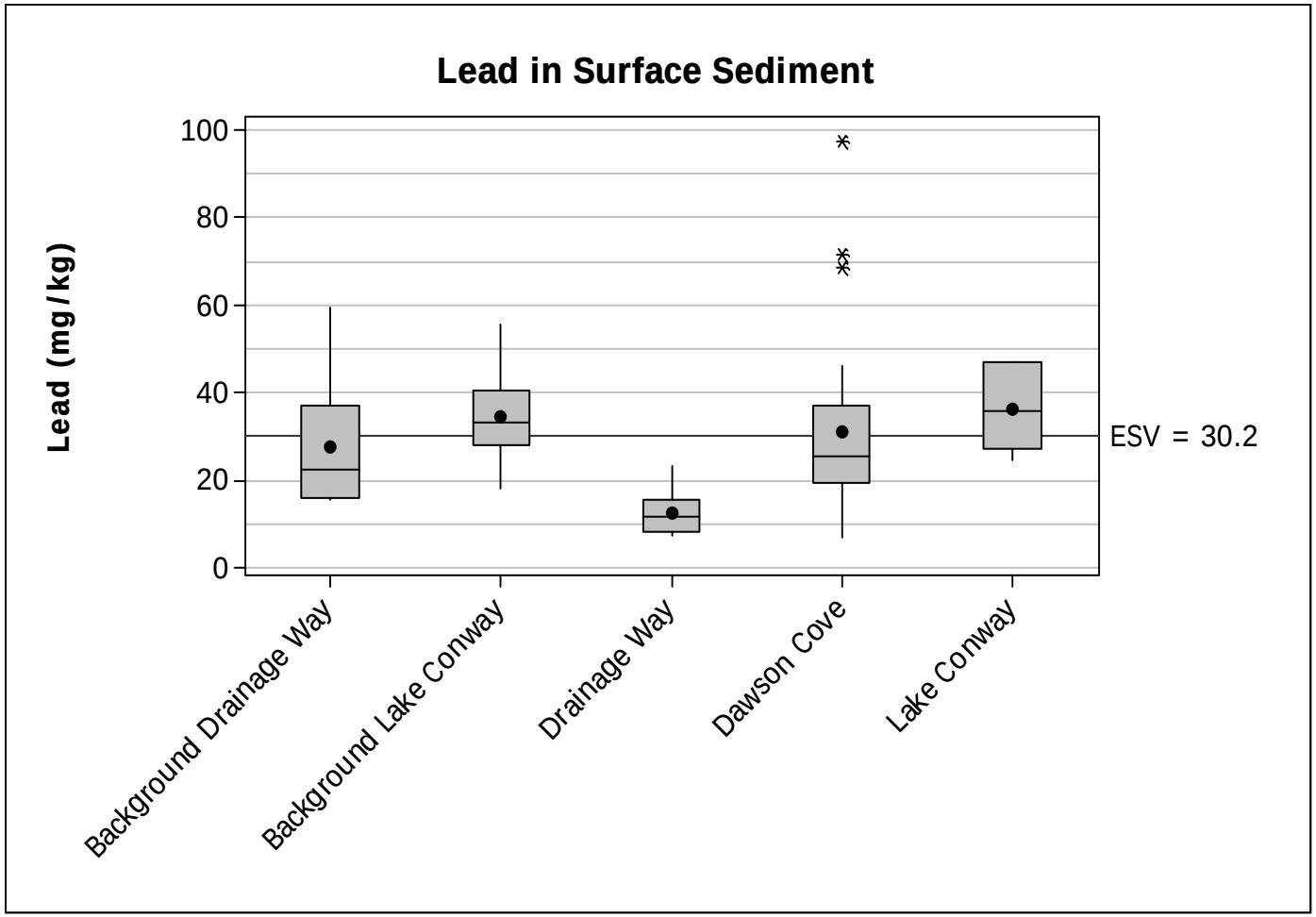
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

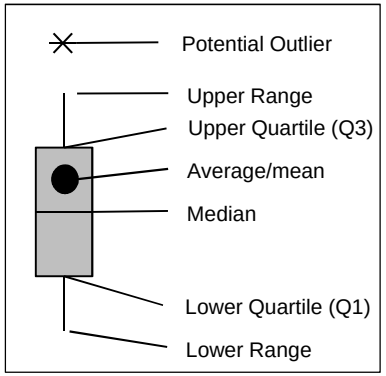
BOX PLOTS OF CHROMIUM CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

H-18





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

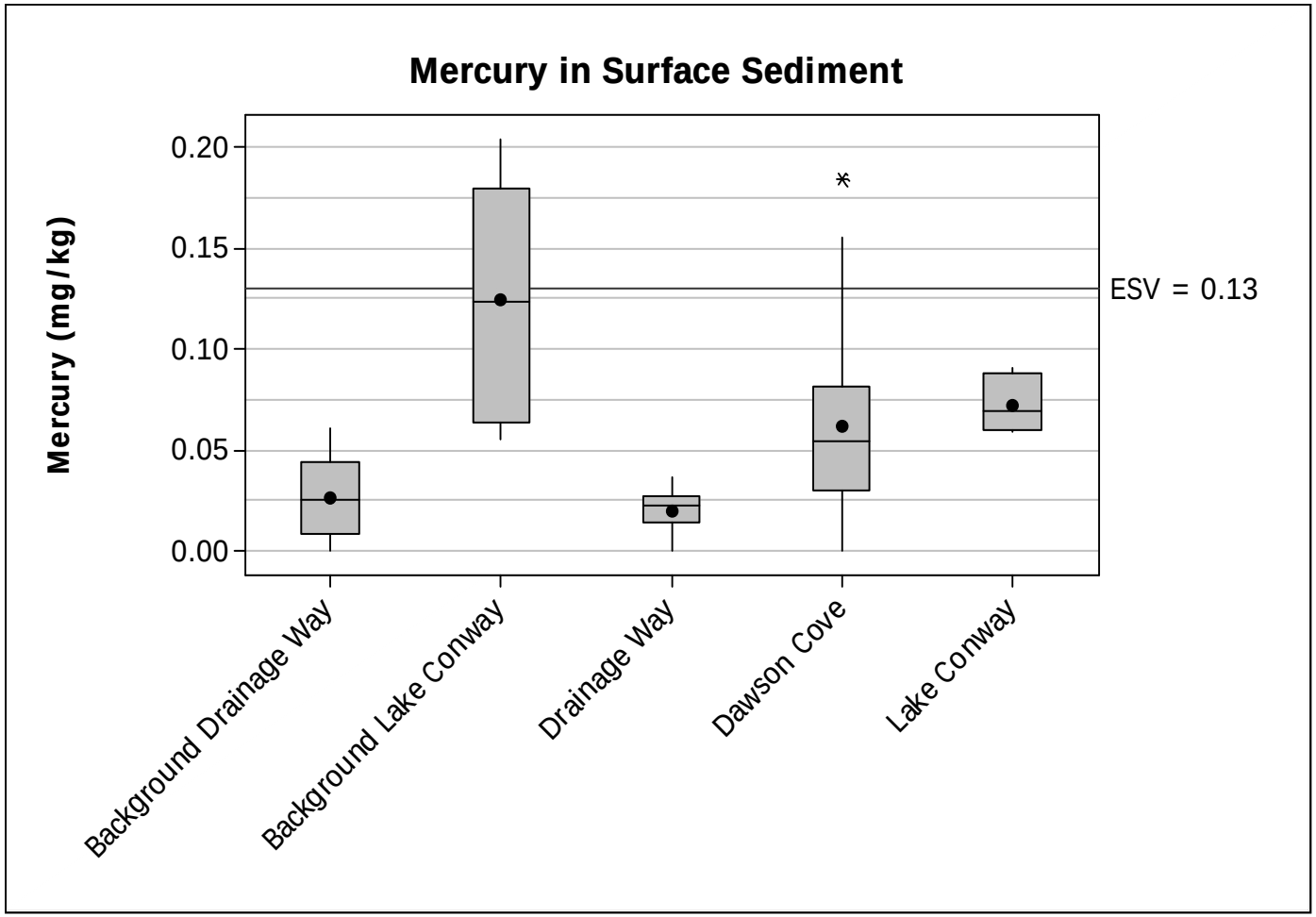
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

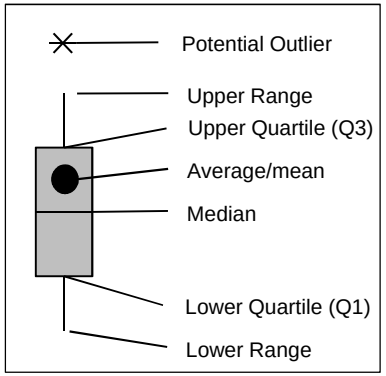
BOX PLOTS OF LEAD CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

H-19





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

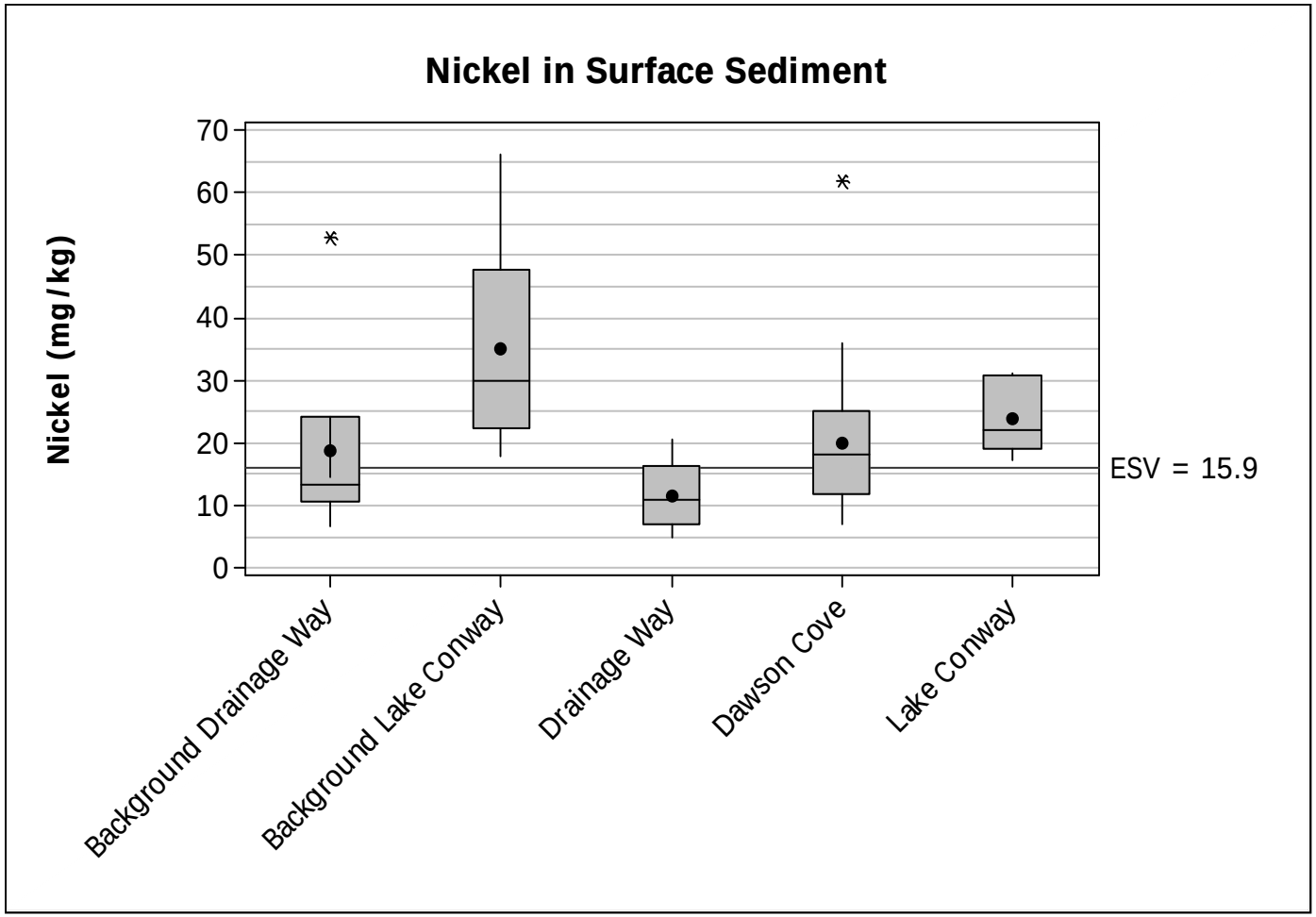
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

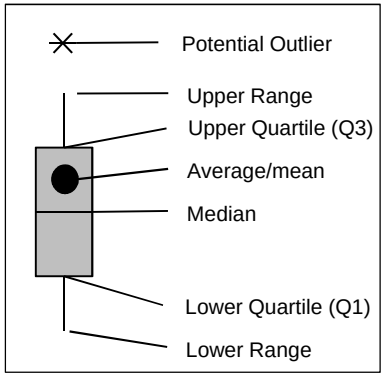
BOX PLOTS OF MERCURY CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

H-20





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

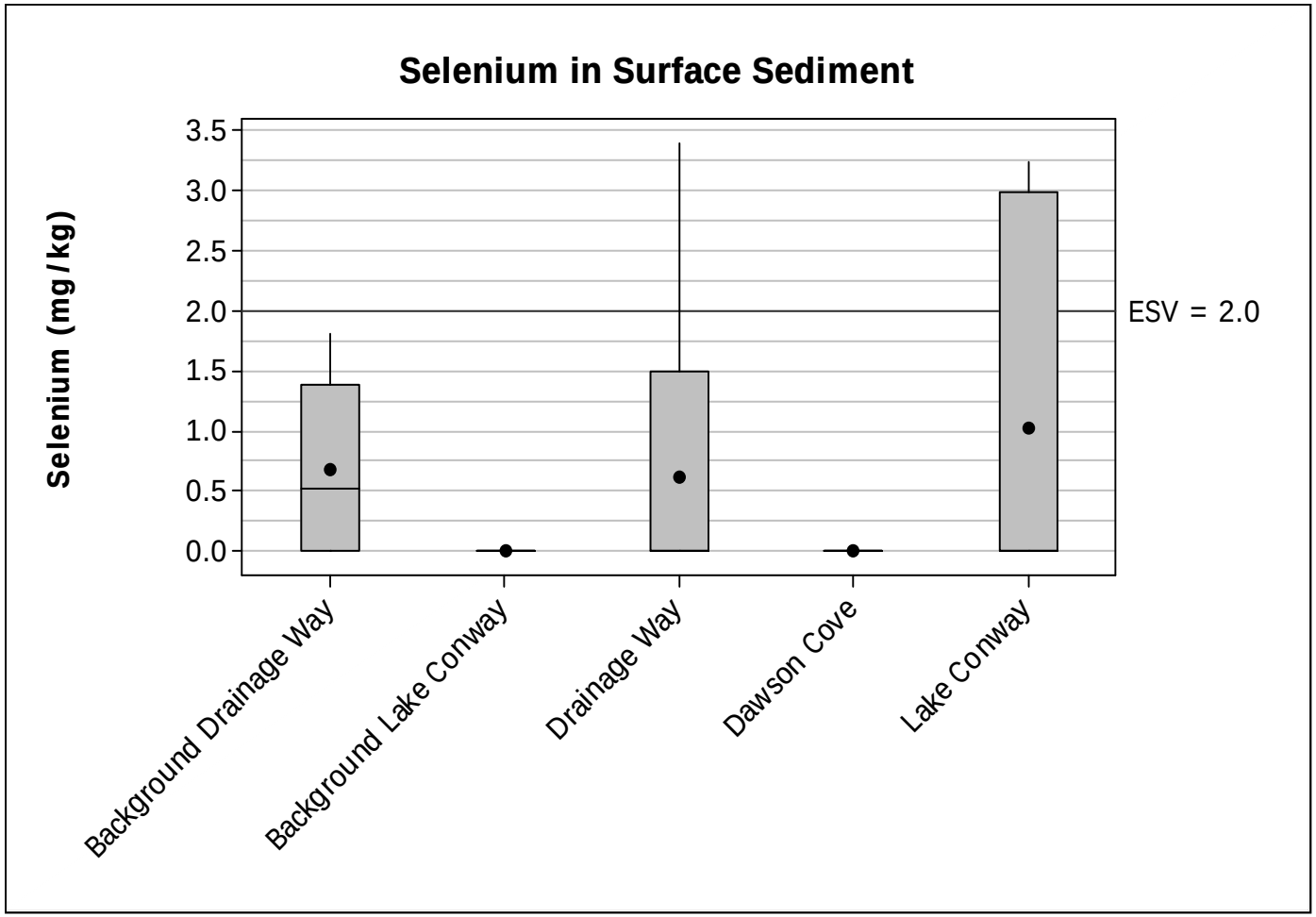
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

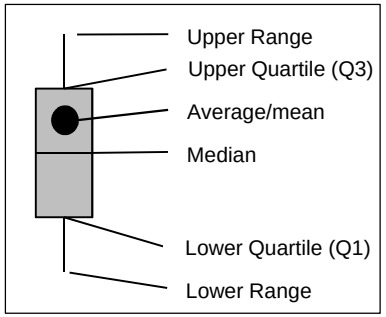
BOX PLOTS OF NICKEL CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

H-21





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)).
5. Abbreviations:
   ESV = ecological screening value
   mg/kg = milligrams per kilogram

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

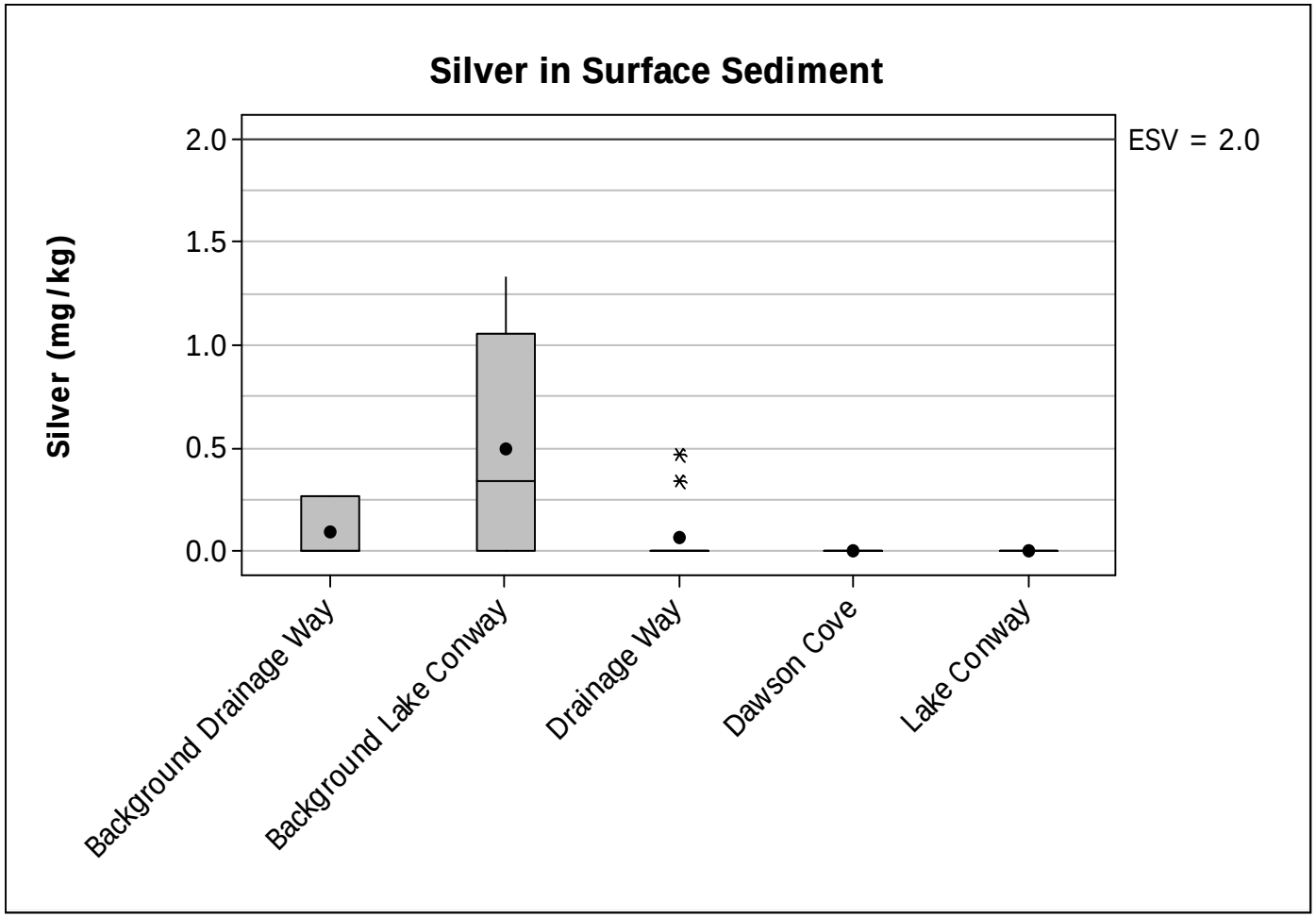
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

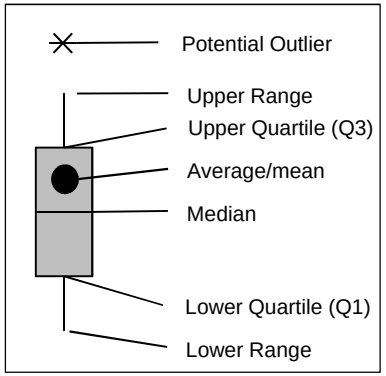
BOX PLOTS OF SELENIUM CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

H-22





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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

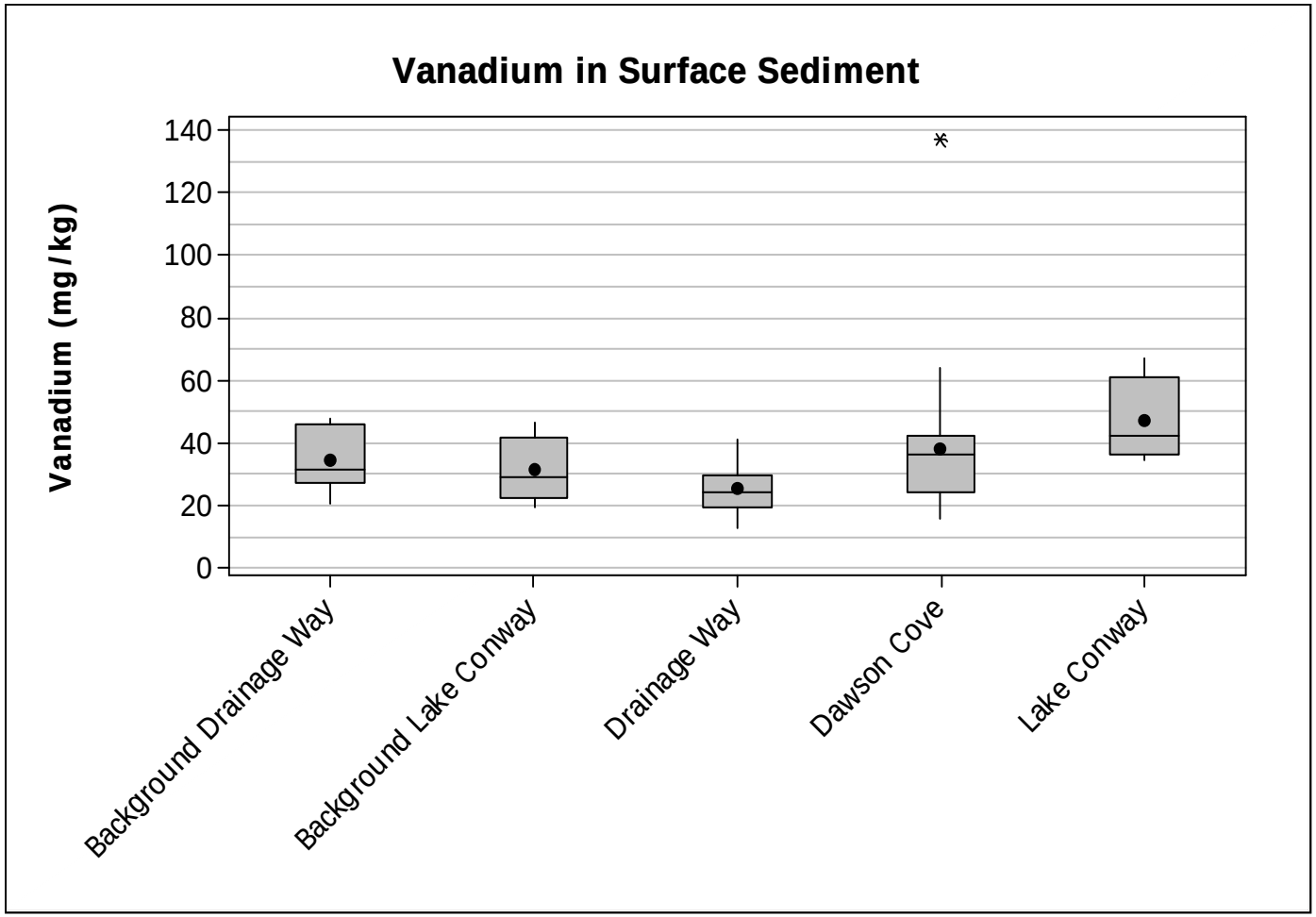
DOWNSTREAM AREAS DATA ASSESSMENT REPORT

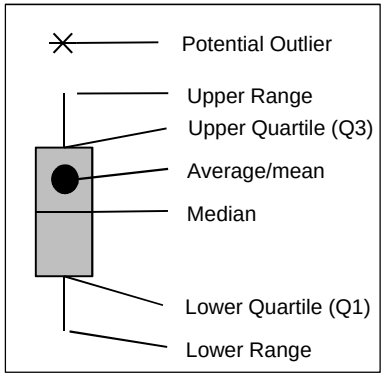
BOX PLOTS OF SILVER CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

H-23





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*(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

MAYFLOWER PIPELINE INCIDENT RESPONSE

EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY

DOWNSTREAM AREAS DATA ASSESSMENT REPORT

BOX PLOTS OF VANADIUM CONCENTRATIONS IN SEDIMENTS

ARCADIS

FIGURE

H-24