

Appendix V6-5M

Predicted Metal Concentrations in Berry and Lichen
Samples from Dust Deposition and Root Uptake during
the Operational Phase



Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Bearberry (Arctostaphylos alpina)						Bearberry (Arctostaphylos alpina)						Bearberry (Arctostaphylos alpina)					
	CFW2-B-ARCTRUB (no soil match)						CFW1 ARTOSTAPHYLOS ALPINA (no soil match)						CFW2 ARTOSTAPHYLOS ALPINA (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter																		
Metals																		
Aluminum	4.20E-01	2.63E+00	3.96E-02	2.85E-01	2.91E+00	4.66E-01	6.40E-01	4.60E+00	1.35E-01	9.72E-01	5.58E+00	7.75E-01	4.60E-01	2.95E+00	3.96E-02	2.85E-01	3.23E+00	5.04E-01
Antimony	1.00E-03	6.25E-03	1.36E-07	9.82E-07	6.25E-03	1.00E-03	1.00E-03	7.19E-03	4.65E-07	3.35E-06	7.20E-03	1.00E-03	1.00E-03	6.41E-03	1.36E-07	9.82E-07	6.41E-03	1.00E-03
Arsenic	2.00E-03	1.25E-02	6.82E-07	4.91E-06	1.25E-02	2.00E-03	2.00E-03	1.44E-02	2.33E-06	1.68E-05	1.44E-02	2.00E-03	5.10E-03	3.27E-02	6.82E-07	4.91E-06	3.27E-02	5.10E-03
Barium	4.53E-01	2.83E+00	4.09E-06	2.95E-05	2.83E+00	4.53E-01	1.73E+00	1.24E+01	1.40E-05	1.01E-04	1.24E+01	1.73E+00	4.89E-01	3.13E+00	4.09E-06	2.95E-05	3.13E+00	4.89E-01
Beryllium	1.00E-03	6.25E-03	4.50E-07	3.24E-06	6.25E-03	1.00E-03	1.00E-03	7.19E-03	1.54E-06	1.11E-05	7.21E-03	1.00E-03	1.00E-03	6.41E-03	4.50E-07	3.24E-06	6.41E-03	1.00E-03
Bismuth	1.00E-03	6.25E-03	1.36E-07	9.82E-07	6.25E-03	1.00E-03	1.00E-03	7.19E-03	4.65E-07	3.35E-06	7.20E-03	1.00E-03	1.00E-03	6.41E-03	1.36E-07	9.82E-07	6.41E-03	1.00E-03
Cadmium	1.00E-03	6.25E-03	1.36E-07	9.82E-07	6.25E-03	1.00E-03	1.00E-03	7.19E-03	4.65E-07	3.35E-06	7.20E-03	1.00E-03	1.00E-03	6.41E-03	1.36E-07	9.82E-07	6.41E-03	1.00E-03
Calcium	9.70E+01	6.06E+02	4.37E-02	3.14E-01	6.07E+02	9.71E+01	1.63E+02	1.17E+03	1.49E-01	1.07E+00	1.17E+03	1.63E+02	1.12E+02	7.18E+02	4.37E-02	3.14E-01	7.18E+02	1.12E+02
Chromium	1.00E-02	6.25E-02	2.05E-04	1.47E-03	6.40E-02	1.02E-02	1.16E+01	8.35E+01	6.98E-04	5.03E-03	8.35E+01	1.16E+01	1.26E+01	8.08E+01	2.05E-04	1.47E-03	8.08E+01	1.26E+01
Cobalt	1.31E-02	8.19E-02	4.78E-05	3.44E-04	8.22E-02	1.32E-02	8.87E-02	6.38E-01	1.63E-04	1.17E-03	6.39E-01	8.89E-02	8.75E-02	5.61E-01	4.78E-05	3.44E-04	5.61E-01	8.76E-02
Copper	3.96E-01	2.48E+00	1.50E-04	1.08E-03	2.48E+00	3.96E-01	9.47E-01	6.81E+00	5.12E-04	3.69E-03	6.82E+00	9.48E-01	7.75E-01	4.97E+00	1.50E-04	1.08E-03	4.97E+00	7.75E-01
Iron	1.65E+00	1.03E+01	6.69E-02	4.81E-01	1.08E+01	1.73E+00	5.51E+01	3.96E+02	2.28E-01	1.64E+00	3.98E+02	5.53E+01	6.03E+01	3.87E+02	6.69E-02	4.81E-01	3.87E+02	6.04E+01
Lead	2.00E-03	1.25E-02	8.19E-07	5.89E-06	1.25E-02	2.00E-03	2.00E-03	1.44E-02	2.79E-06	2.01E-05	1.44E-02	2.00E-03	5.90E-03	3.78E-02	8.19E-07	5.89E-06	3.78E-02	5.90E-03
Magnesium	9.90E+01	6.19E+02	3.14E-02	2.26E-01	6.19E+02	9.90E+01	8.87E+01	6.38E+02	1.07E-01	7.71E-01	6.39E+02	8.88E+01	8.16E+01	5.23E+02	3.14E-02	2.26E-01	5.23E+02	8.16E+01
Manganese	7.11E-01	4.44E+00	1.27E-03	9.14E-03	4.45E+00	7.12E-01	1.99E+00	1.43E+01	4.33E-03	3.12E-02	1.43E+01	1.99E+00	2.51E+00	1.61E+01	1.27E-03	9.14E-03	1.61E+01	2.51E+00
Mercury	5.00E-04	3.13E-03	1.36E-08	9.82E-08	3.13E-03	5.00E-04	5.00E-04	3.60E-03	4.65E-08	3.35E-07	3.60E-03	5.00E-04	5.00E-04	3.21E-03	1.36E-08	9.82E-08	3.21E-03	5.00E-04
Molybdenum	1.47E-02	9.19E-02	6.82E-07	4.91E-06	9.19E-02	1.47E-02	2.73E-01	1.96E+00	2.33E-06	1.68E-05	1.96E+00	2.73E-01	3.16E-01	2.03E+00	6.82E-07	4.91E-06	2.03E+00	3.16E-01
Nickel	3.75E-01	2.34E+00	9.82E-05	7.07E-04	2.34E+00	3.75E-01	6.40E+00	4.60E+01	3.35E-04	2.41E-03	4.60E+01	6.40E+00	7.06E+00	4.53E+01	9.82E-05	7.07E-04	4.53E+01	7.06E+00
Phosphorus	1.46E+02	9.13E+02	3.00E-04	2.16E-03	9.13E+02	1.46E+02	1.91E+02	1.37E+03	1.02E-03	7.37E-03	1.37E+03	1.91E+02	1.44E+02	9.23E+02	3.00E-04	2.16E-03	9.23E+02	1.44E+02
Potassium	1.43E+03	8.94E+03	1.36E-04	9.82E-04	8.94E+03	1.43E+03	1.17E+03	8.42E+03	4.65E-04	3.35E-03	8.42E+03	1.17E+03	1.39E+03	8.91E+03	1.36E-04	9.82E-04	8.91E+03	1.39E+03
Selenium	1.00E-02	6.25E-02	6.82E-07	4.91E-06	6.25E-02	1.00E-02	1.00E-02	7.19E-02	2.33E-06	1.68E-05	7.20E-02	1.00E-02	1.00E-02	6.41E-02	6.82E-07	4.91E-06	6.41E-02	1.00E-02
Silver	5.00E-04	3.13E-03	1.36E-07	9.82E-07	3.13E-03	5.00E-04	5.00E-04	3.60E-03	4.65E-07	3.35E-06	3.60E-03	5.00E-04	5.00E-04	3.21E-03	1.36E-07	9.82E-07	3.21E-03	5.00E-04
Sodium	1.00E+02	6.25E+02	3.41E-04	2.46E-03	6.25E+02	1.00E+02	1.00E+01	7.19E+01	1.16E-03	8.38E-03	7.20E+01	1.00E+01	1.00E+01	6.41E+01	3.41E-04	2.46E-03	6.41E+01	1.00E+01
Strontium	2.83E-01	1.77E+00	1.91E-05	1.38E-04	1.77E+00	2.83E-01	3.38E-01	2.43E+00	6.52E-05	4.69E-04	2.43E+00	3.38E-01	2.65E-01	1.70E+00	1.91E-05	1.38E-04	1.70E+00	2.65E-01
Thallium	2.00E-04	1.25E-03	1.36E-07	9.82E-07	1.25E-03	2.00E-04	2.00E-04	1.44E-03	4.65E-07	3.35E-06	1.44E-03	2.00E-04	2.00E-04	1.28E-03	1.36E-07	9.82E-07	1.28E-03	2.00E-04
Tin	2.00E-03	1.25E-02	2.73E-06	1.96E-05	1.25E-02	2.00E-03	4.65E-01	3.35E+00	9.31E-06	6.70E-05	3.35E+00	4.65E-01	4.61E-01	2.96E+00	2.73E-06	1.96E-05	2.96E+00	4.61E-01
Titanium	5.00E-03	3.13E-02	3.00E-03	2.16E-02	5.29E-02	8.46E-03	5.00E-03	3.60E-02	1.02E-02	7.37E-02	1.10E-01	1.52E-02	5.00E-03	3.21E-02	3.00E-03	2.16E-02	5.37E-02	8.37E-03
Uranium	2.00E-04	1.25E-03	1.36E-07	9.82E-07	1.25E-03	2.00E-04	2.00E-04	1.44E-03	4.65E-07	3.35E-06	1.44E-03	2.00E-04	2.00E-04	1.28E-03	1.36E-07	9.82E-07	1.28E-03	2.00E-04
Vanadium	2.00E-03	1.25E-02	1.36E-04	9.82E-04	1.35E-02	2.16E-03	4.04E-02	2.91E-01	4.65E-04	3.35E-03	2.94E-01	4.09E-02	4.54E-02	2.91E-01	1.36E-04	9.82E-04	2.92E-01	4.56E-02
Zinc	1.79E+00	1.12E+01	8.05E-05	5.80E-04	1.12E+01	1.79E+00	2.14E+00	1.54E+01	2.75E-04	1.98E-03	1.54E+01	2.14E+00	1.91E+00	1.22E+01	8.05E-05	5.80E-04	1.22E+01	1.91E+00

Notes:

Sample CFW2-B-ARCTRUB was mislabelled and is actually Arctostaphylos alpina, and is the duplicate to CFW2 collected on the same date.

Berry sample CWF1 was mislabelled and is actually CFW1-B (thus a duplicate to CFW1-A).

(-) = not available

ww = wet weight

dw = dry weight

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Bearberry (Arctostaphylos alpina)						Bearberry (Arctostaphylos alpina)						Bearberry (Arctostaphylos alpina)					
	CFW3 ARTOSTAPHYLOS ALPINA (no soil match)						CFW4 ARTOSTAPHYLOS ALPINA (no soil match)						CFW6 ARTOSTAPHYLOS ALPINA (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter																		
Metals																		
Aluminum	4.10E-01	2.97E+00	6.87E-02	4.94E-01	3.47E+00	4.78E-01	2.00E-01	1.27E+00	4.58E-02	3.30E-01	1.60E+00	2.52E-01	9.20E-01	6.22E+00	3.74E-02	2.70E-01	6.49E+00	9.60E-01
Antimony	1.00E-03	7.25E-03	2.37E-07	1.70E-06	7.25E-03	1.00E-03	1.00E-03	6.37E-03	1.58E-07	1.14E-06	6.37E-03	1.00E-03	1.00E-03	6.76E-03	1.29E-07	9.30E-07	6.76E-03	1.00E-03
Arsenic	2.00E-03	1.45E-02	1.18E-06	8.52E-06	1.45E-02	2.00E-03	4.50E-03	2.87E-02	7.90E-07	5.68E-06	2.87E-02	4.50E-03	2.00E-03	1.35E-02	6.46E-07	4.65E-06	1.35E-02	2.00E-03
Barium	5.16E-01	3.74E+00	7.10E-06	5.11E-05	3.74E+00	5.16E-01	2.83E-01	1.80E+00	4.74E-06	3.41E-05	1.80E+00	2.83E-01	3.09E-01	2.09E+00	3.87E-06	2.79E-05	2.09E+00	3.09E-01
Beryllium	1.00E-03	7.25E-03	7.81E-07	5.63E-06	7.25E-03	1.00E-03	1.00E-03	6.37E-03	5.21E-07	3.75E-06	6.37E-03	1.00E-03	1.00E-03	6.76E-03	4.26E-07	3.07E-06	6.76E-03	1.00E-03
Bismuth	1.00E-03	7.25E-03	2.37E-07	1.70E-06	7.25E-03	1.00E-03	1.00E-03	6.37E-03	1.58E-07	1.14E-06	6.37E-03	1.00E-03	1.00E-03	6.76E-03	1.29E-07	9.30E-07	6.76E-03	1.00E-03
Cadmium	1.00E-03	7.25E-03	2.37E-07	1.70E-06	7.25E-03	1.00E-03	3.50E-03	2.23E-02	1.58E-07	1.14E-06	2.23E-02	3.50E-03	1.00E-03	6.76E-03	1.29E-07	9.30E-07	6.76E-03	1.00E-03
Calcium	9.82E+01	7.12E+02	7.58E-02	5.45E-01	7.12E+02	9.83E+01	1.68E+02	1.07E+03	5.05E-02	3.64E-01	1.07E+03	1.68E+02	6.04E+01	4.08E+02	4.13E-02	2.97E-01	4.08E+02	6.04E+01
Chromium	9.27E+00	6.72E+01	3.55E-04	2.56E-03	6.72E+01	9.27E+00	1.45E+01	9.24E+01	2.37E-04	1.71E-03	9.24E+01	1.45E+01	3.25E+00	2.20E+01	1.94E-04	1.39E-03	2.20E+01	3.25E+00
Cobalt	1.50E-01	1.09E+00	8.29E-05	5.97E-04	1.09E+00	1.50E-01	8.47E-02	5.39E-01	5.53E-05	3.98E-04	5.40E-01	8.48E-02	7.59E-02	5.13E-01	4.52E-05	3.25E-04	5.13E-01	7.59E-02
Copper	5.83E-01	4.22E+00	2.60E-04	1.88E-03	4.23E+00	5.83E-01	8.64E-01	5.50E+00	1.74E-04	1.25E-03	5.50E+00	8.64E-01	6.18E-01	4.18E+00	1.42E-04	1.02E-03	4.18E+00	6.18E-01
Iron	4.38E+01	3.17E+02	1.16E-01	8.35E-01	3.18E+02	4.39E+01	6.72E+01	4.28E+02	7.74E-02	5.57E-01	4.29E+02	6.73E+01	1.78E+01	1.20E+02	6.33E-02	4.56E-01	1.21E+02	1.79E+01
Lead	2.00E-03	1.45E-02	1.42E-06	1.02E-05	1.45E-02	2.00E-03	2.00E-03	1.27E-02	9.48E-07	6.82E-06	1.27E-02	2.00E-03	2.00E-03	1.35E-02	7.75E-07	5.58E-06	1.35E-02	2.00E-03
Magnesium	7.25E+01	5.25E+02	5.45E-02	3.92E-01	5.26E+02	7.26E+01	8.17E+01	5.20E+02	3.63E-02	2.61E-01	5.21E+02	8.17E+01	7.60E+01	5.14E+02	2.97E-02	2.14E-01	5.14E+02	7.60E+01
Manganese	1.96E+00	1.42E+01	2.20E-03	1.59E-02	1.42E+01	1.96E+00	2.35E+00	1.50E+01	1.47E-03	1.06E-02	1.50E+01	2.35E+00	1.40E+00	9.46E+00	1.20E-03	8.65E-03	9.47E+00	1.40E+00
Mercury	5.00E-04	3.62E-03	2.37E-08	1.70E-07	3.62E-03	5.00E-04	5.00E-04	3.18E-03	1.58E-08	1.14E-07	3.18E-03	5.00E-04	5.00E-04	3.38E-03	1.29E-08	9.30E-08	3.38E-03	5.00E-04
Molybdenum	4.26E-01	3.09E+00	1.18E-06	8.52E-06	3.09E+00	4.26E-01	3.27E-01	2.08E+00	7.90E-07	5.68E-06	2.08E+00	3.27E-01	1.86E-01	1.26E+00	6.46E-07	4.65E-06	1.26E+00	1.86E-01
Nickel	5.24E+00	3.80E+01	1.70E-04	1.23E-03	3.80E+01	5.24E+00	7.59E+00	4.83E+01	1.14E-04	8.19E-04	4.83E+01	7.59E+00	2.10E+00	1.42E+01	9.30E-05	6.69E-04	1.42E+01	2.10E+00
Phosphorus	1.45E+02	1.05E+03	5.21E-04	3.75E-03	1.05E+03	1.45E+02	1.05E+02	6.69E+02	3.47E-04	2.50E-03	6.69E+02	1.05E+02	1.79E+02	1.21E+03	2.84E-04	2.05E-03	1.21E+03	1.79E+02
Potassium	1.20E+03	8.70E+03	2.37E-04	1.70E-03	8.70E+03	1.20E+03	1.33E+03	8.47E+03	1.58E-04	1.14E-03	8.47E+03	1.33E+03	1.19E+03	8.04E+03	1.29E-04	9.30E-04	8.04E+03	1.19E+03
Selenium	1.00E-02	7.25E-02	1.18E-06	8.52E-06	7.25E-02	1.00E-02	1.00E-02	6.37E-02	7.90E-07	5.68E-06	6.37E-02	1.00E-02	1.00E-02	6.76E-02	6.46E-07	4.65E-06	6.76E-02	1.00E-02
Silver	5.00E-04	3.62E-03	2.37E-07	1.70E-06	3.62E-03	5.00E-04	5.00E-04	3.18E-03	1.58E-07	1.14E-06	3.19E-03	5.00E-04	5.00E-04	3.38E-03	1.29E-07	9.30E-07	3.38E-03	5.00E-04
Sodium	1.00E+01	7.25E+01	5.92E-04	4.26E-03	7.25E+01	1.00E+01	1.00E+01	6.37E+01	3.95E-04	2.84E-03	6.37E+01	1.00E+01	1.00E+01	6.76E+01	3.23E-04	2.32E-03	6.76E+01	1.00E+01
Strontium	2.38E-01	1.72E+00	3.32E-05	2.39E-04	1.72E+00	2.38E-01	1.39E-01	8.85E-01	2.21E-05	1.59E-04	8.86E-01	1.39E-01	1.54E-01	1.04E+00	1.81E-05	1.30E-04	1.04E+00	1.54E-01
Thallium	2.00E-04	1.45E-03	2.37E-07	1.70E-06	1.45E-03	2.00E-04	2.00E-04	1.27E-03	1.58E-07	1.14E-06	1.28E-03	2.00E-04	2.00E-04	1.35E-03	1.29E-07	9.30E-07	1.35E-03	2.00E-04
Tin	3.76E-01	2.72E+00	4.74E-06	3.41E-05	2.72E+00	3.76E-01	5.08E-01	3.24E+00	3.16E-06	2.27E-05	3.24E+00	5.08E-01	2.12E-01	1.43E+00	2.58E-06	1.86E-05	1.43E+00	2.12E-01
Titanium	5.00E-03	3.62E-02	5.21E-03	3.75E-02	7.37E-02	1.02E-02	5.00E-03	3.18E-02	3.47E-03	2.50E-02	5.69E-02	8.93E-03	3.10E-02	2.09E-01	2.84E-03	2.05E-02	2.30E-01	3.40E-02
Uranium	2.00E-04	1.45E-03	2.37E-07	1.70E-06	1.45E-03	2.00E-04	2.00E-04	1.27E-03	1.58E-07	1.14E-06	1.28E-03	2.00E-04	2.00E-04	1.35E-03	1.29E-07	9.30E-07	1.35E-03	2.00E-04
Vanadium	5.68E-02	4.12E-01	2.37E-04	1.70E-03	4.13E-01	5.70E-02	4.96E-02	3.16E-01	1.58E-04	1.14E-03	3.17E-01	4.98E-02	2.19E-02	1.48E-01	1.29E-04	9.30E-04	1.49E-01	2.20E-02
Zinc	1.22E+00	8.84E+00	1.40E-04	1.01E-03	8.84E+00	1.22E+00	2.26E+00	1.44E+01	9.32E-05	6.71E-04	1.44E+01	2.26E+00	1.37E+00	9.26E+00	7.62E-05	5.48E-04	9.26E+00	1.37E+00

Notes:

Sample CFW2-B-ARCTRUB was mislabelled and is actually Arctostaphylos alpina, and is the duplicate to CFW2 collected on the same date.

Berry sample CWF1 was mislabelled and is actually CFW1-B (thus a duplicate to CFW1-A).

(-) = not available

ww = wet weight

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Bearberry (Arctostaphylos alpina)									Bearberry (Arctostaphylos alpina)					
	D20 ARTOSTAPHYLOS ALPINA									D22 ARTOSTAPHYLOS ALPINA (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter															
Metals															
Aluminum	2.00E-01	1.63E+00	1.03E+04	1.58E-04	1.63E+00	9.63E-02	6.93E-01	2.32E+00	2.86E-01	1.28E+00	1.03E+01	6.49E-02	4.67E-01	1.08E+01	1.34E+00
Antimony	1.00E-03	8.13E-03	5.00E+00	1.63E-03	8.13E-03	3.32E-07	2.39E-06	8.13E-03	1.00E-03	1.00E-03	8.06E-03	2.24E-07	1.61E-06	8.07E-03	1.00E-03
Arsenic	2.00E-03	1.63E-02	2.50E+00	6.50E-03	1.63E-02	1.66E-06	1.20E-05	1.63E-02	2.00E-03	2.00E-03	1.61E-02	1.12E-06	8.06E-06	1.61E-02	2.00E-03
Barium	4.49E-01	3.65E+00	8.14E+01	4.48E-02	3.65E+00	9.96E-06	7.17E-05	3.65E+00	4.49E-01	5.08E-01	4.10E+00	6.71E-06	4.83E-05	4.10E+00	5.08E-01
Beryllium	1.00E-03	8.13E-03	2.50E-01	3.25E-02	8.14E-03	1.10E-06	7.89E-06	8.15E-03	1.00E-03	1.00E-03	8.06E-03	7.39E-07	5.32E-06	8.07E-03	1.00E-03
Bismuth	1.00E-03	8.13E-03	1.00E+01	8.13E-04	8.13E-03	3.32E-07	2.39E-06	8.13E-03	1.00E-03	1.00E-03	8.06E-03	2.24E-07	1.61E-06	8.07E-03	1.00E-03
Cadmium	3.60E-03	2.93E-02	2.50E-01	1.17E-01	2.93E-02	3.32E-07	2.39E-06	2.93E-02	3.60E-03	1.00E-03	8.06E-03	2.24E-07	1.61E-06	8.07E-03	1.00E-03
Calcium	1.43E+02	1.16E+03	1.11E+04	1.05E-01	1.17E+03	1.06E-01	7.65E-01	1.17E+03	1.44E+02	6.94E+01	5.60E+02	7.16E-02	5.16E-01	5.60E+02	6.95E+01
Chromium	9.72E-01	7.90E+00	8.20E+01	9.66E-02	7.92E+00	4.98E-04	3.59E-03	7.92E+00	9.74E-01	2.16E+00	1.74E+01	3.36E-04	2.42E-03	1.74E+01	2.16E+00
Cobalt	2.24E-02	1.82E-01	1.67E+01	1.09E-02	1.83E-01	1.16E-04	8.37E-04	1.83E-01	2.26E-02	4.75E-02	3.83E-01	7.83E-05	5.64E-04	3.84E-01	4.76E-02
Copper	3.49E-01	2.84E+00	3.83E+01	7.43E-02	2.85E+00	3.65E-04	2.63E-03	2.85E+00	3.50E-01	3.97E-01	3.20E+00	2.46E-04	1.77E-03	3.20E+00	3.97E-01
Iron	7.01E+00	5.70E+01	2.37E+04	2.41E-03	5.71E+01	1.63E-01	1.17E+00	5.83E+01	7.17E+00	1.17E+01	9.44E+01	1.10E-01	7.90E-01	9.51E+01	1.18E+01
Lead	2.00E-03	1.63E-02	1.50E+01	1.08E-03	1.63E-02	1.99E-06	1.43E-05	1.63E-02	2.00E-03	2.00E-03	1.61E-02	1.34E-06	9.67E-06	1.61E-02	2.00E-03
Magnesium	6.56E+01	5.33E+02	7.82E+03	6.85E-02	5.35E+02	7.64E-02	5.50E-01	5.36E+02	6.59E+01	7.04E+01	5.68E+02	5.15E-02	3.71E-01	5.68E+02	7.04E+01
Manganese	9.26E-01	7.53E+00	7.91E+02	9.53E-03	7.54E+00	3.09E-03	2.22E-02	7.56E+00	9.30E-01	1.32E+00	1.06E+01	2.08E-03	1.50E-02	1.07E+01	1.32E+00
Mercury	5.00E-04	4.07E-03	5.43E-02	7.49E-02	4.07E-03	3.32E-08	2.39E-07	4.07E-03	5.00E-04	5.00E-04	4.03E-03	2.24E-08	1.61E-07	4.03E-03	5.00E-04
Molybdenum	4.94E-02	4.02E-01	2.00E+00	2.01E-01	4.02E-01	1.66E-06	1.20E-05	4.02E-01	4.94E-02	1.36E-01	1.10E+00	1.12E-06	8.06E-06	1.10E+00	1.36E-01
Nickel	9.19E-01	7.47E+00	5.36E+01	1.40E-01	7.48E+00	2.39E-04	1.72E-03	7.48E+00	9.21E-01	1.44E+00	1.16E+01	1.61E-04	1.16E-03	1.16E+01	1.44E+00
Phosphorus	1.03E+02	8.37E+02	7.15E+02	1.17E+00	8.38E+02	7.31E-04	5.26E-03	8.38E+02	1.03E+02	1.56E+02	1.26E+03	4.92E-04	3.55E-03	1.26E+03	1.56E+02
Potassium	9.93E+02	8.07E+03	1.11E+03	7.27E+00	8.07E+03	3.32E-04	2.39E-03	8.07E+03	9.93E+02	1.05E+03	8.47E+03	2.24E-04	1.61E-03	8.47E+03	1.05E+03
Selenium	1.00E-02	8.13E-02	2.51E-01	3.25E-01	8.15E-02	1.66E-06	1.20E-05	8.15E-02	1.00E-02	1.00E-02	8.06E-02	1.12E-06	8.06E-06	8.07E-02	1.00E-02
Silver	5.00E-04	4.07E-03	1.00E+00	4.07E-03	4.07E-03	3.32E-07	2.39E-06	4.07E-03	5.00E-04	5.00E-04	4.03E-03	2.24E-07	1.61E-06	4.03E-03	5.00E-04
Sodium	1.00E+01	8.13E+01	1.00E+02	8.13E-01	8.15E+01	8.30E-04	5.98E-03	8.15E+01	1.00E+01	1.00E+01	8.06E+01	5.60E-04	4.03E-03	8.06E+01	1.00E+01
Strontium	1.05E-01	8.54E-01	3.33E+01	2.56E-02	8.54E-01	4.65E-05	3.35E-04	8.54E-01	1.05E-01	1.36E-01	1.10E+00	3.13E-05	2.26E-04	1.10E+00	1.36E-01
Thallium	2.00E-04	1.63E-03	5.00E-01	3.25E-03	1.63E-03	3.32E-07	2.39E-06	1.63E-03	2.00E-04	2.00E-04	1.61E-03	2.24E-07	1.61E-06	1.61E-03	2.00E-04
Tin	7.19E-02	5.85E-01	2.50E+00	2.34E-01	5.85E-01	6.64E-06	4.78E-05	5.85E-01	7.20E-02	1.60E-01	1.29E+00	4.48E-06	3.22E-05	1.29E+00	1.60E-01
Titanium	5.00E-03	4.07E-02	3.53E+02	1.16E-04	4.09E-02	7.31E-03	5.26E-02	9.35E-02	1.15E-02	4.40E-02	3.55E-01	4.92E-03	3.55E-02	3.90E-01	4.84E-02
Uranium	2.00E-04	1.63E-03	3.78E-01	4.30E-03	1.63E-03	3.32E-07	2.39E-06	1.63E-03	2.00E-04	2.00E-04	1.61E-03	2.24E-07	1.61E-06	1.61E-03	2.00E-04
Vanadium	6.40E-03	5.20E-02	4.64E+01	1.12E-03	5.22E-02	3.32E-04	2.39E-03	5.45E-02	6.71E-03	1.58E-02	1.27E-01	2.24E-04	1.61E-03	1.29E-01	1.60E-02
Zinc	1.88E+00	1.53E+01	4.72E+01	3.25E-01	1.53E+01	1.96E-04	1.41E-03	1.53E+01	1.88E+00	1.37E+00	1.10E+01	1.32E-04	9.51E-04	1.10E+01	1.37E+00

Notes:

Sample CFW2-B-ARCTRUB was mislabelled and is actually Arctostaphylos alpina, and is the duplicate to CFW2 collected on the same date.

Berry sample CWF1 was mislabelled and is actually CFW1-B (thus a duplicate to CFW1-A).

(-) = not available

ww = wet weight

dw = dry weight

^a Predicted vegetation concentration due to root uptake is calculated by multiplying the predicted total soil concentration from Appendix V6-5I with the biotransfer factor for co-collected vegetation and soil samples.

^b Predicted vegetation concentration due to dustfall deposition is calculated with the US EPA (2005) equation: Pd = 1000*predicted metal concentration in dustfall*Rp*(1-EXP(-kp*Tp))/(Yp*kp), where Pd = plant concentration due to deposition, Rp = Interception fraction of the edible portion of plant (unitless; equal to 0.0324 for berries which is what the US EPA 2005 recommends for exposed produce; equal to 0.0846 for all other species which is what the US EPA recommends for leafy vegetables), kp = Plant surface loss coefficient (18 year-1 as recommended by the US EPA 2005), Tp = Length of plant exposure to deposition per harvest of the edible portion of the ith plant group (0.5 year as the snow-free season lasts six months long), and Yp = Yield or standing crop biomass of the edible portion of the plant (0.25 for berries which is what the US EPA recommends for fruits; 5.66 kg DW/m2 for all other species as recommended by the US EPA 2005 for exposed vegetables).

Vegetation samples collected prior to 2014 were not co-collected with soil (no soil match), thus it was assumed the soil concentration was the same as baseline and additional metals are only from dust depostion to the plant.

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Bearberry (Arctostaphylos alpina)									Bearberry (Arctostaphylos alpina)					
	D29 ARTOSTAPHYLOS ALPINA									D75 ARTOSTAPHYLOS ALPINA (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter															
Metals															
Aluminum	2.00E-01	1.56E+00	1.86E+04	7.48E-05	1.39E+00	2.55E-02	1.83E-01	1.57E+00	2.02E-01	7.20E-01	4.59E+00	1.60E-01			

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Berry Mix (species unidentified)									Berry Mix (species unidentified)					
	D54-BERRY MIX									D55-BERRY MIX (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter															
Metals															
Aluminum	5.20E-01	3.85E+00	6.36E+02	6.15E-03	3.91E+00	2.92E-02	2.10E-01	4.12E+00	5.56E-01	6.70E-01	3.72E+00	3.49E-02	2.51E-01		

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Berry Mix (species unidentified)						Berry Mix (species unidentified)					
	D62-BERRY MIX (no soil match)						D63-BERRY MIX (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter												
Metals												
Aluminum	1.22E+00	9.04E+00	2.92E-02	2.11E-01	9.25E+00	1.25E+00	5.20E-01	3.29E+00	2.92E-02	2.11E-01	3.50E+00	5.53E-01
Antimony	1.00E-03	7.41E-03	1.01E-07	7.26E-07	7.41E-03	1.00E-03	1.00E-03	6.33E-03	1.01E-07	7.26E-07	6.33E-03	1.00E-03
Arsenic	2.00E-03	1.48E-02	5.04E-07	3.63E-06	1.48E-02	2.00E-03	2.00E-03	1.27E-02	5.04E-07	3.63E-06	1.27E-02	2.00E-03
Barium	6.45E-01	4.78E+00	3.03E-06	2.18E-05	4.78E+00	6.45E-01	9.73E-01	6.16E+00	3.03E-06	2.18E-05	6.16E+00	9.73E-01
Beryllium	1.00E-03	7.41E-03	3.33E-07	2.40E-06	7.41E-03	1.00E-03	1.00E-03	6.33E-03	3.33E-07	2.40E-06	6.33E-03	1.00E-03
Bismuth	1.00E-03	7.41E-03	1.01E-07	7.26E-07	7.41E-03	1.00E-03	1.00E-03	6.33E-03	1.01E-07	7.26E-07	6.33E-03	1.00E-03
Cadmium	3.60E-03	2.67E-02	1.01E-07	7.26E-07	2.67E-02	3.60E-03	1.00E-03	6.33E-03	1.01E-07	7.26E-07	6.33E-03	1.00E-03
Calcium	9.94E+01	7.36E+02	3.23E-02	2.32E-01	7.37E+02	9.94E+01	1.26E+02	7.97E+02	3.23E-02	2.32E-01	7.98E+02	1.26E+02
Chromium	4.26E+00	3.16E+01	1.51E-04	1.09E-03	3.16E+01	4.26E+00	2.71E+00	1.72E+01	1.51E-04	1.09E-03	1.72E+01	2.71E+00
Cobalt	3.30E-02	2.44E-01	3.53E-05	2.54E-04	2.45E-01	3.30E-02	4.46E-02	2.82E-01	3.53E-05	2.54E-04	2.83E-01	4.46E-02
Copper	6.58E-01	4.87E+00	1.11E-04	7.99E-04	4.87E+00	6.58E-01	1.05E+00	6.65E+00	1.11E-04	7.99E-04	6.65E+00	1.05E+00
Iron	2.12E+01	1.57E+02	4.94E-02	3.56E-01	1.57E+02	2.12E+01	1.42E+01	8.99E+01	4.94E-02	3.56E-01	9.02E+01	1.43E+01
Lead	2.00E-03	1.48E-02	6.05E-07	4.36E-06	1.48E-02	2.00E-03	2.00E-03	1.27E-02	6.05E-07	4.36E-06	1.27E-02	2.00E-03
Magnesium	6.61E+01	4.90E+02	2.32E-02	1.67E-01	4.90E+02	6.61E+01	6.47E+01	4.09E+02	2.32E-02	1.67E-01	4.10E+02	6.47E+01
Manganese	4.11E+00	3.04E+01	9.38E-04	6.75E-03	3.05E+01	4.11E+00	5.83E+00	3.69E+01	9.38E-04	6.75E-03	3.69E+01	5.83E+00
Mercury	5.00E-04	3.70E-03	1.01E-08	7.26E-08	3.70E-03	5.00E-04	5.00E-04	3.16E-03	1.01E-08	7.26E-08	3.16E-03	5.00E-04
Molybdenum	1.34E-01	9.93E-01	5.04E-07	3.63E-06	9.93E-01	1.34E-01	1.61E-01	1.02E+00	5.04E-07	3.63E-06	1.02E+00	1.61E-01
Nickel	2.36E+00	1.75E+01	7.26E-05	5.23E-04	1.75E+01	2.36E+00	1.58E+00	1.00E+01	7.26E-05	5.23E-04	1.00E+01	1.58E+00
Phosphorus	1.20E+02	8.89E+02	2.22E-04	1.60E-03	8.89E+02	1.20E+02	1.04E+02	6.58E+02	2.22E-04	1.60E-03	6.58E+02	1.04E+02
Potassium	1.06E+03	7.85E+03	1.01E-04	7.26E-04	7.85E+03	1.06E+03	9.35E+02	5.92E+03	1.01E-04	7.26E-04	5.92E+03	9.35E+02
Selenium	1.00E-02	7.41E-02	5.04E-07	3.63E-06	7.41E-02	1.00E-02	1.00E-02	6.33E-02	5.04E-07	3.63E-06	6.33E-02	1.00E-02
Silver	5.00E-04	3.70E-03	1.01E-07	7.26E-07	3.70E-03	5.00E-04	5.00E-04	3.16E-03	1.01E-07	7.26E-07	3.17E-03	5.00E-04
Sodium	1.00E+01	7.41E+01	2.52E-04	1.82E-03	7.41E+01	1.00E+01	1.00E+01	6.33E+01	2.52E-04	1.82E-03	6.33E+01	1.00E+01
Strontium	2.02E-01	1.50E+00	1.41E-05	1.02E-04	1.50E+00	2.02E-01	1.97E-01	1.25E+00	1.41E-05	1.02E-04	1.25E+00	1.97E-01
Thallium	2.00E-04	1.48E-03	1.01E-07	7.26E-07	1.48E-03	2.00E-04	2.00E-04	1.27E-03	1.01E-07	7.26E-07	1.27E-03	2.00E-04
Tin	2.17E-01	1.61E+00	2.02E-06	1.45E-05	1.61E+00	2.17E-01	3.28E-01	2.08E+00	2.02E-06	1.45E-05	2.08E+00	3.28E-01
Titanium	2.40E-02	1.78E-01	2.22E-03	1.60E-02	1.94E-01	2.62E-02	1.60E-02	1.01E-01	2.22E-03	1.60E-02	1.17E-01	1.85E-02
Uranium	2.00E-04	1.48E-03	1.01E-07	7.26E-07	1.48E-03	2.00E-04	2.00E-04	1.27E-03	1.01E-07	7.26E-07	1.27E-03	2.00E-04
Vanadium	1.81E-02	1.34E-01	1.01E-04	7.26E-04	1.35E-01	1.82E-02	1.81E-02	1.15E-01	1.01E-04	7.26E-04	1.15E-01	1.82E-02
Zinc	1.31E+00	9.70E+00	5.95E-05	4.28E-04	9.70E+00	1.31E+00	1.21E+00	7.66E+00	5.95E-05	4.28E-04	7.66E+00	1.21E+00

Notes:

Sample CFW2-B-ARCTRUB was mislabelled and is actually Arctostaphylos alpina, and is the duplicate to CFW2 collected on the same date.

Berry sample CWF1 was mislabelled and is actually CFW1-B (thus a duplicate to CFW1-A).

(-) = not available

ww = wet weight

dw = dry weight

^a Predicted vegetation concentration due to root uptake is calculated by multiplying the predicted total soil concentration from Appendix V6-5I with the biotransfer factor for co-collected vegetation and soil samples.

^b Predicted vegetation concentration due to dustfall deposition is calculated with the US EPA (2005) equation: Pd = 1000*predicted metal concentration in dustfall*Rp*(1-EXP(-kp*Tp))/(Yp*kp), where Pd = plant concentration due to deposition, Rp = Interception fraction of the edible portion of plant (unitless; equal to 0.0324 for berries which is what the US EPA 2005 recommends for exposed produce; equal to 0.0846 for all other species which is what the US EPA recommends for leafy vegetables), kp = Plant surface loss coefficient (18 year-1 as recommended by the US EPA 2005), Tp = Length of plant exposure to deposition per harvest of the edible portion of the ith plant group (0.5 year as the snow-free season lasts six months long), and Yp = Yield or standing crop biomass of the edible portion of the plant (0.25 for berries which is what the US EPA recommends for fruits; 5.66 kg DW/m2 for all other species as recommended by the US EPA 2005 for exposed vegetables).

Vegetation samples collected prior to 2014 were not co-collected with soil (no soil match), thus it was assumed the soil concentration was the same as baseline and additional metals are only from dust depostion to the plant.

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Berry Mix (species unidentified)									Berry Mix (species unidentified)					
	D65-BERRY MIX									D71-BERRY MIX (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter															
Metals															
Aluminum	1.03E+00	7.41E+00	2.66E+03	2.80E-03	7.44E+00	3.18E-02	2.29E-01	7.67E+00	1.07E+00	2.03E+00	1.45E+01	1.91E-01	1.38E+00		

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Berry Mix (species unidentified)									Berry Mix (species unidentified)								
	D72-BERRY MIX									D06-BERRY MIX								
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter	(mg/kg ww)	(mg/kg dw)	(mg/kg dw)	(unitless)	(mg/kg dw)	(g/m ² /year dw)	(mg/kg dw)	(mg/kg dw)	(mg/kg ww)	(mg/kg ww)	(mg/kg dw)	(mg/kg dw)	(unitless)	(mg/kg dw)	(g/m ² /year dw)	(mg/kg dw)	(mg/kg dw)	(mg/kg ww)
Metals																		
Aluminum	7.64E+00	5.54E																

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Berry Mix (species unidentified)						Berry Mix (species unidentified)						Berry Mix (species unidentified)					
	D12-BERRY MIX (no soil match)						D16-BERRY MIX (no soil match)						D26-BERRY MIX (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter																		
Metals																		
Aluminum	8.40E-01	6.56E+00	1.15E-01															

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Berry Mix (species unidentified)						Berry Mix (species unidentified)					
	D39-BERRY MIX (no soil match)						D42-BERRY MIX (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter												
Metals												
Aluminum	1.94E+00	1.47E+01	2.31E-02	1.67E-01	1.49E+01	1.96E+00	2.48E+01	1.89E+02	6.82E-02	4.91E-01	1.90E+02	2.49E+01
Antimony	1.00E-03	7.58E-03	7.98E-08	5.75E-07	7.58E-03	1.00E-03	1.00E-03	7.63E-03	2.35E-07	1.69E-06	7.64E-03	1.00E-03
Arsenic	2.00E-03	1.52E-02	3.99E-07	2.87E-06	1.52E							

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Berry Mix (species unidentified)									Berry Mix (species unidentified)					
	D43-BERRY MIX									D40-BERRY MIX (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter	(mg/kg ww)	(mg/kg dw)	(mg/kg dw)	(unitless)	(mg/kg dw)	(g/m ² /year dw)	(mg/kg dw)	(mg/kg dw)	(mg/kg ww)	(mg/kg ww)	(mg/kg dw)	(g/m ² /year dw)	(mg/kg dw)	(mg/kg dw)	(mg/kg ww)
Metals															
Aluminum	7.30E-01	5.37E+00	1.64E+04	3.35E-04	5.52E+00										

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Berry Mix (species unidentified)						Berry Mix (species unidentified)						Bog Blueberry (Vaccinium uliginosum)					
	D50-BERRY MIX (no soil match)						D51-BERRY MIX (no soil match)						D52-VACCINIUM (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter																		
Metals																		
Aluminum	4.80E-01	3.64E+00																

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Crowberry (Empetrum nigrum)						Crowberry (Empetrum nigrum)						Crowberry (Empetrum nigrum)					
	CFW1-A-EMPENIG (no soil match)						CWF1-EMPENIG (no soil match)						CWF5-EMPENIG (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter	(mg/kg ww)	(mg/kg dw)	(g/m ² /year dw)	(mg/kg dw)	(mg/kg dw)	(mg/kg ww)	(mg/kg ww)	(mg/kg dw)	(g/m ² /year dw)	(mg/kg dw)	(mg/kg dw)	(mg/kg ww)	(mg/kg ww)	(mg/kg dw)	(g/m ² /year dw)	(mg/kg dw)	(mg/kg dw)	(mg/kg ww)

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Crowberry (Empetrum nigrum)									Lichen (Flavocetraria culcullata)					
	LSA-21									D73 FLAVOCETRARIA CUCULLATA (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter															
Metals															
Aluminum	2.00E-01	1.16E+00	4.77E+03	2.43E-04	1.16E+00	4.33E-02	3.12E-01	1.47E+00	2.55E-01	6.47E					

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Lichen (Flavocetraria culcullata)									Lichen (Flavocetraria culcullata)					
	D82 FLAVOCETRARIA CUCULLATA									D114 FLAVOCETRARIA CUCULLATA (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter															
Metals															
Aluminum	1.02E+02	1.16E+02	3.50E+03	3.32E-02	1.16E+02	7.15E-02	5.93E-02	1.16E+02	1.03E+02	3.61E+01	5.63E+01	2.74E-02	2.28E-02	5.63E+01	3.61E+01</

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Lichen (Flavocetraria culcullata) 023 FLAVOCETRARIA CUCULLATA									Lichen (Flavocetraria culcullata) 021 FLAVOCETRARIA CUCULLATA								
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter	(mg/kg ww)	(mg/kg dw)	(mg/kg dw)	(unitless)	(mg/kg dw)	(g/m ² /year dw)	(mg/kg dw)	(mg/kg dw)	(mg/kg ww)	(mg/kg ww)	(mg/kg dw)	(mg/kg dw)	(unitless)	(mg/kg dw)	(g/m ² /year dw)	(mg/kg dw)	(mg/kg dw)	(mg/kg ww)
Metals																		

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Lichen (Flavocetraria culcullata)						Lichen (Flavocetraria culcullata)								
	010 FLAVOCETRARIA CUCULLATA (no soil match)						011 FLAVOCETRARIA CUCULLATA								
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter															
Metals															
Aluminum	6.47E+01	8.32E+01	2.77E-02	2.30E-02	8.32E+01	6.47E+01	6.44E+01	7.50E+01	3.47E+03	2.17E-02	7.54E+01	6.36E-02			

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Lichen (Flavocetraria culcullata)						Lichen (Flavocetraria nivalis)					
	SITE 15 - F. CUCULATTA (no soil match)						D63 FLAVOCETRARIA NIVALIS (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter												
Metals												
Aluminum	9.86E+01	1.22E+02	2.30E-02	1.91E-02	1.22E+02	9.86E+01	3.87E+01	4.77E+01	2.92E-02	2.43E-02	4.77E+01	3.87E+01
Antimony	5.00E-03	6.20E-03	7.95E-08	6.60E-08	6.20E-03	5.00E-03	2.80E-03					

Appendix V6-5M. Predicted Metal Concentrations in Berry and Lichen Samples from Dust Deposition and Root Uptake during the Operational Phase

Species Sample ID	Lichen (Flavocetraria nivalis)									Lichen (Flavocetraria nivalis)					
	D65 FLAVOCETRARIA NIVALIS									D62 FLAVOCETRARIA NIVALIS (no soil match)					
	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Soil Concentration (mg/kg dw)	Biotransfer Factor (unitless)	Predicted Concentration from Uptake from Soil ^a (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg ww)	Baseline Metal Concentration in Vegetation (mg/kg dw)	Predicted Concentration of Metal in Dust (g/m ² /year dw)	Predicted Concentration of Metal in Project-related Dust ^b (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg dw)	Total Predicted Metal Concentration in Vegetation (mg/kg ww)
Parameter															
Metals															
Aluminum	3.99E+01	4.41E+01	2.66E+03	1.66E-02	4.43E+01	3.18E-02	2.64E-02	4.43E							

