Figure 116
Principal Component Plot - Transect 1
North Pole Refinery
Flint Hills Resources Alaska, LLC

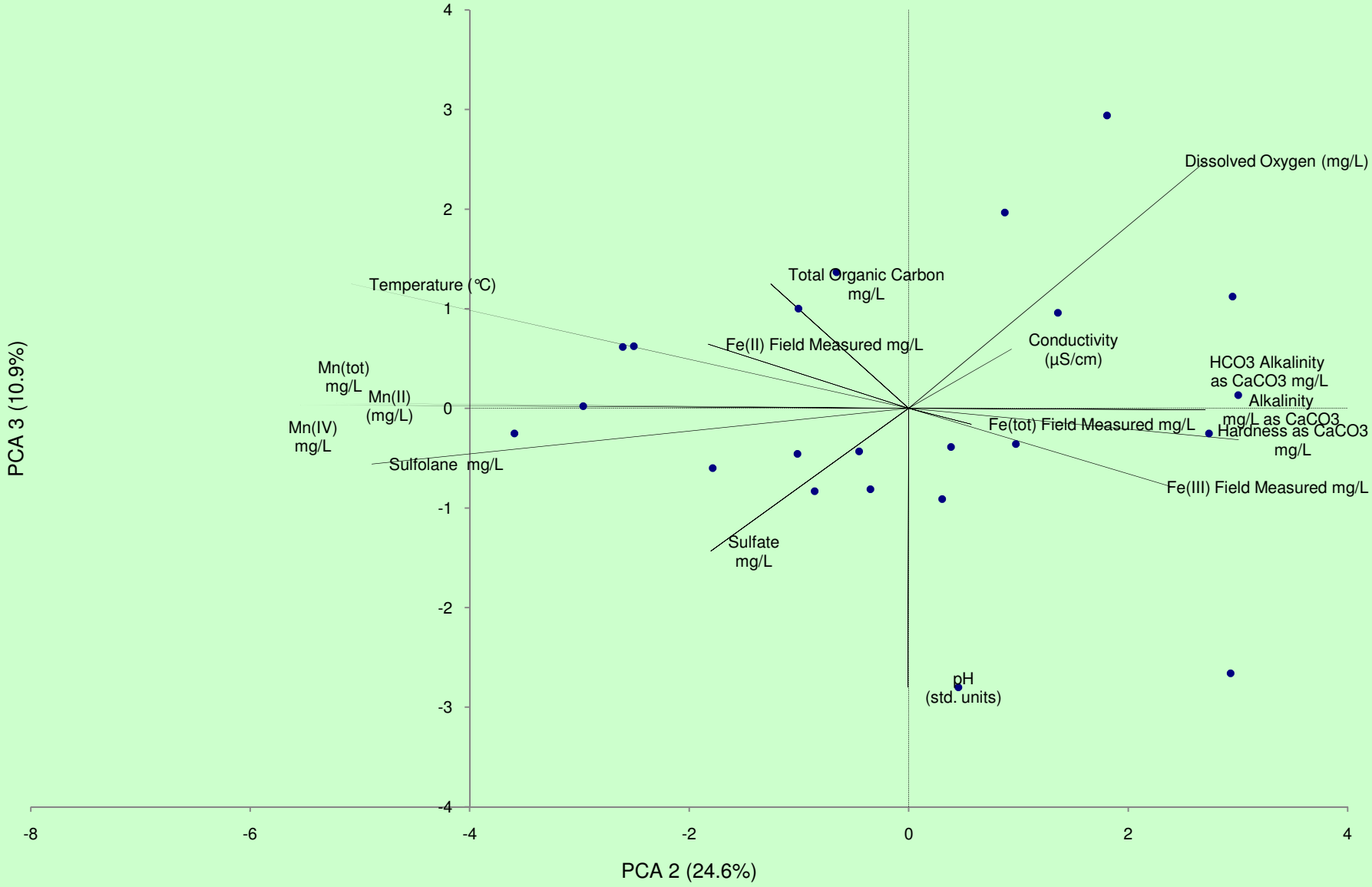
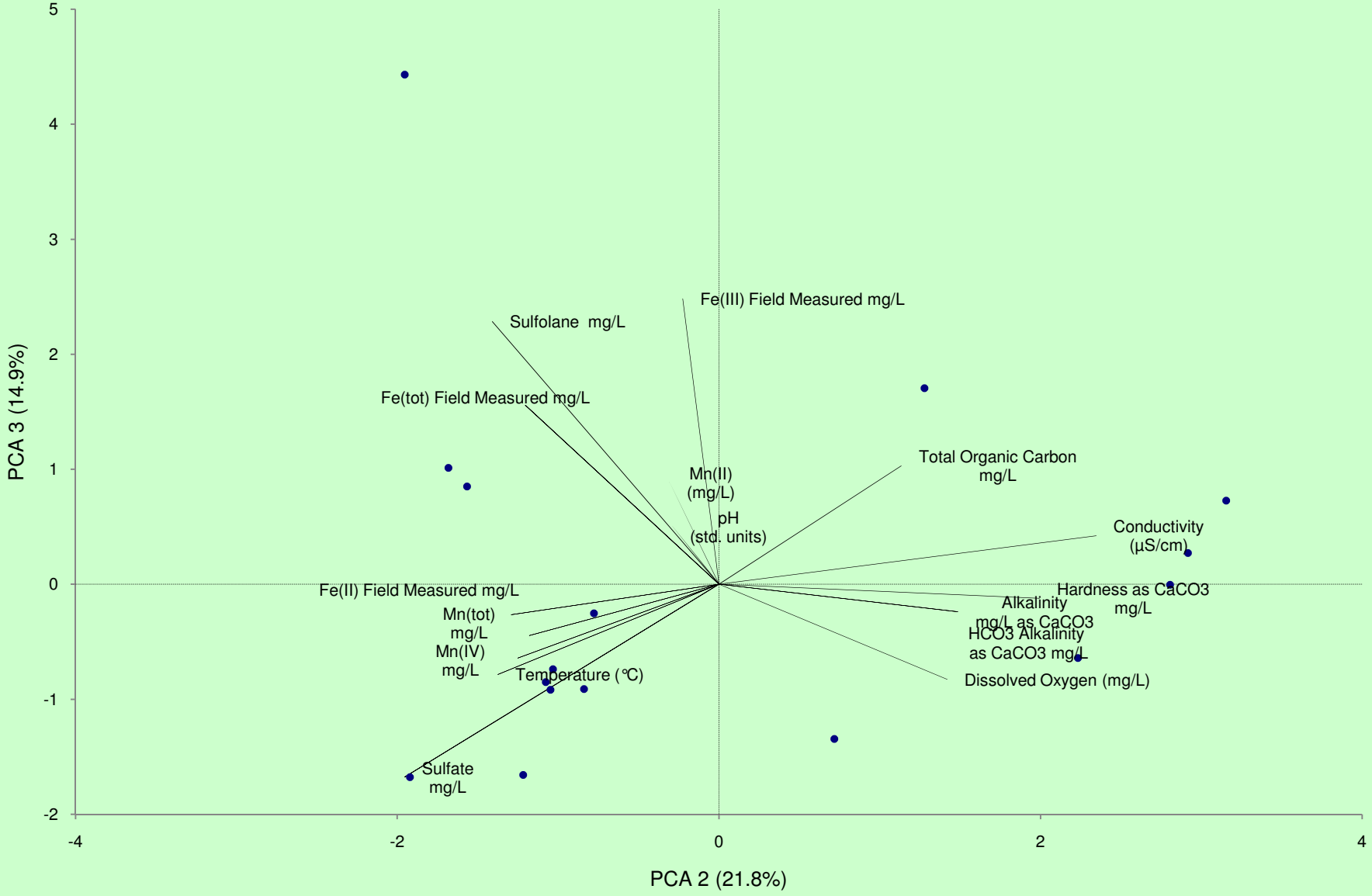


Figure 117
Principal Component Plot - Transect 2
North Pole Refinery
Flint Hills Resources Alaska, LLC



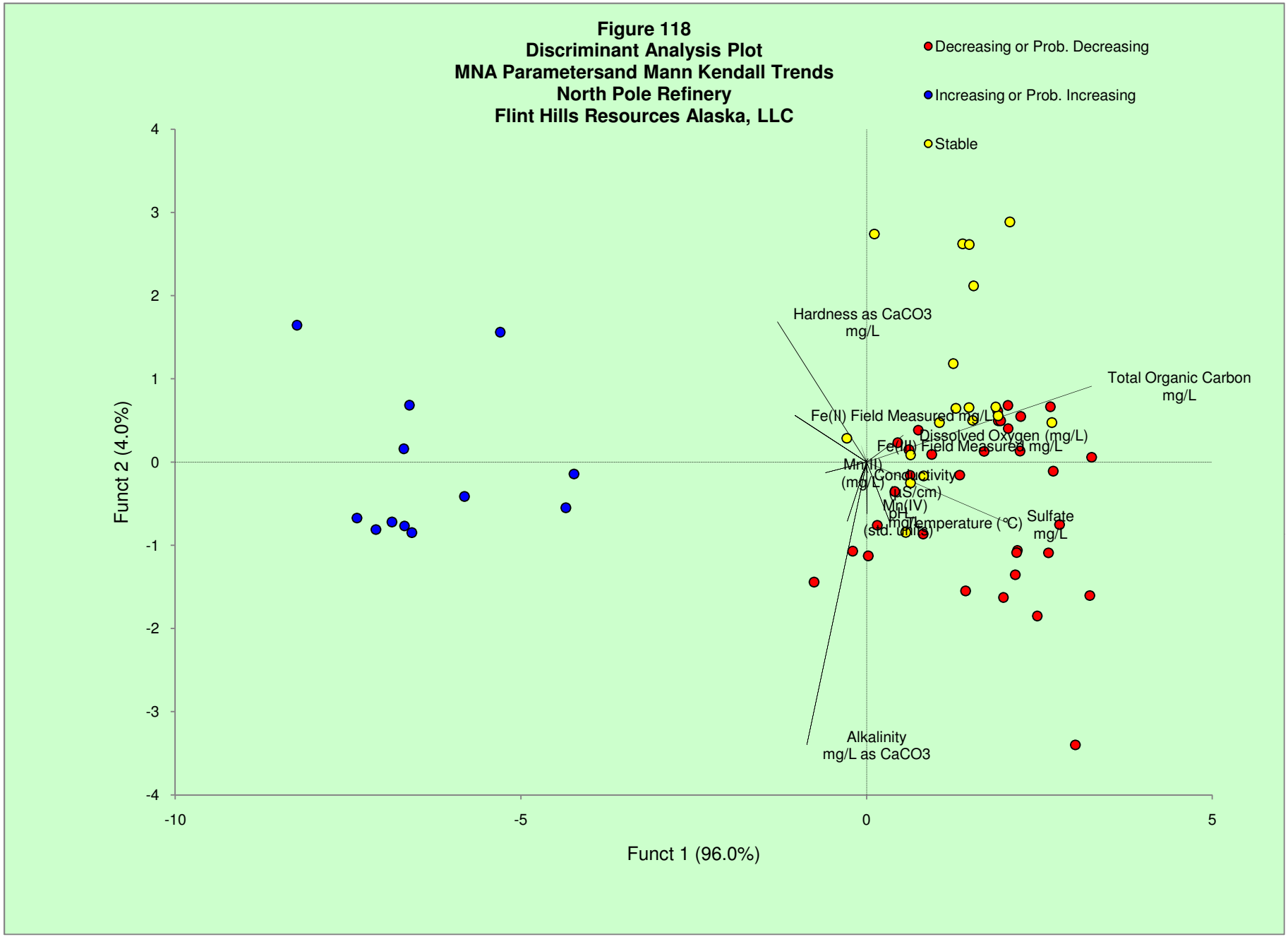


Figure 118
Discriminant Analysis Plot
MNA Parametersand Mann Kendall Trends
North Pole Refinery
Flint Hills Resources Alaska, LLC
Decreasing or Prob. Decreasing
Increasing or Prob. Increasing
Stable
Hardness as CaCO3 mg/L
Total Organic Carbon mg/L
Fe(II) Field Measured mg/L
Dissolved Oxygen (mg/L)
Fe(III) Field Measured mg/L
Mn(II) (mg/L)
Conductivity (µS/cm)
Mn(IV) (mg/L)
pH (std. units)
Temperature (°C)
Sulfate mg/L
Alkalinity mg/L as CaCO3
Funct 2 (4.0%)
Funct 1 (96.0%)
4
3
2
1
0
-1
-2
-3
-4
-10
-5
0
5

Figure 119
TOTAL PLFA BIOMASS IN WELL MW-130
North Pole Refinery
Fling Hills Resources Alaska, LLC

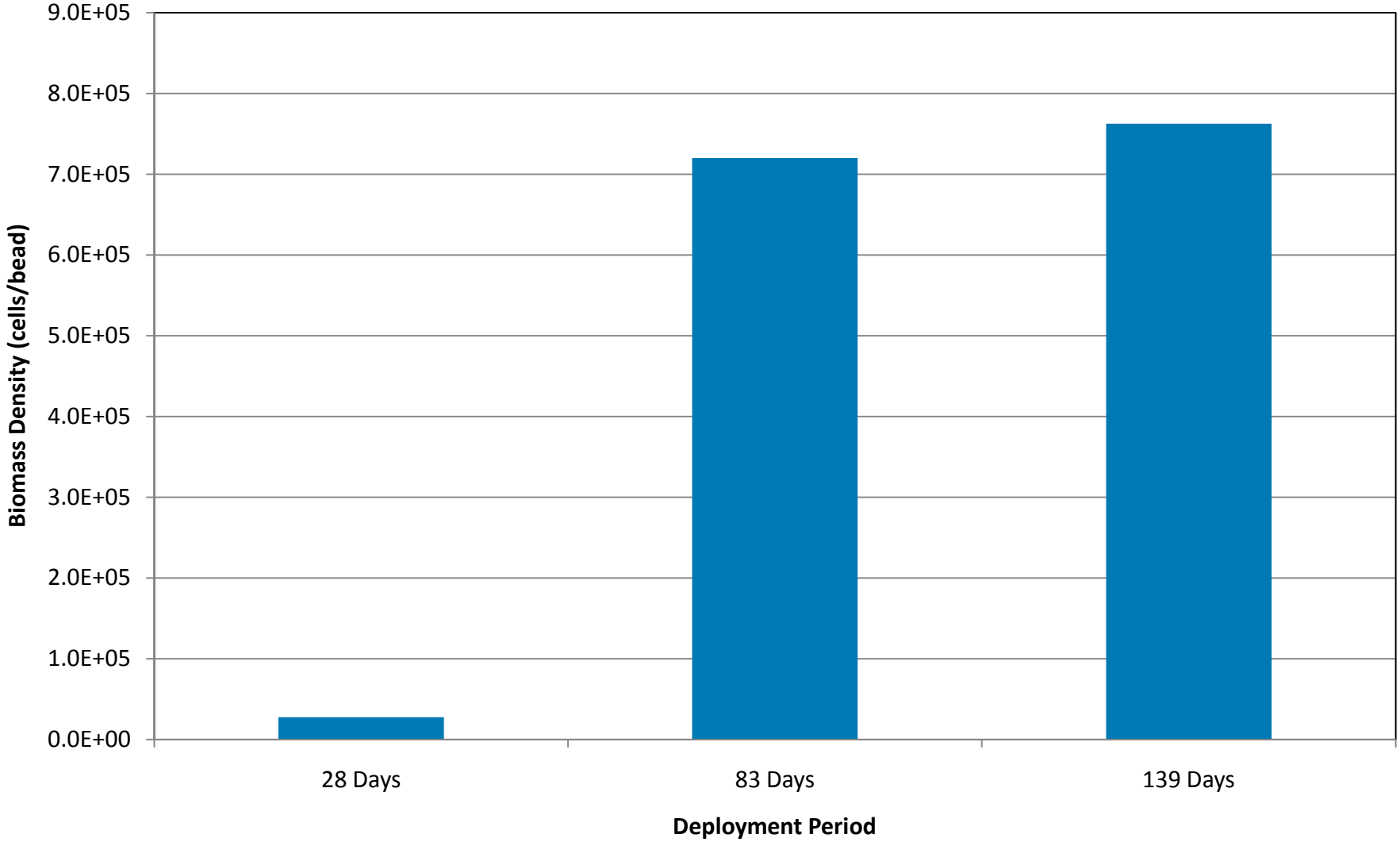


Figure 120
COMMUNITY COMPOSITION IN WELL MW-130
North Pole Refinery
Fling Hills Resources Alaska, LLC

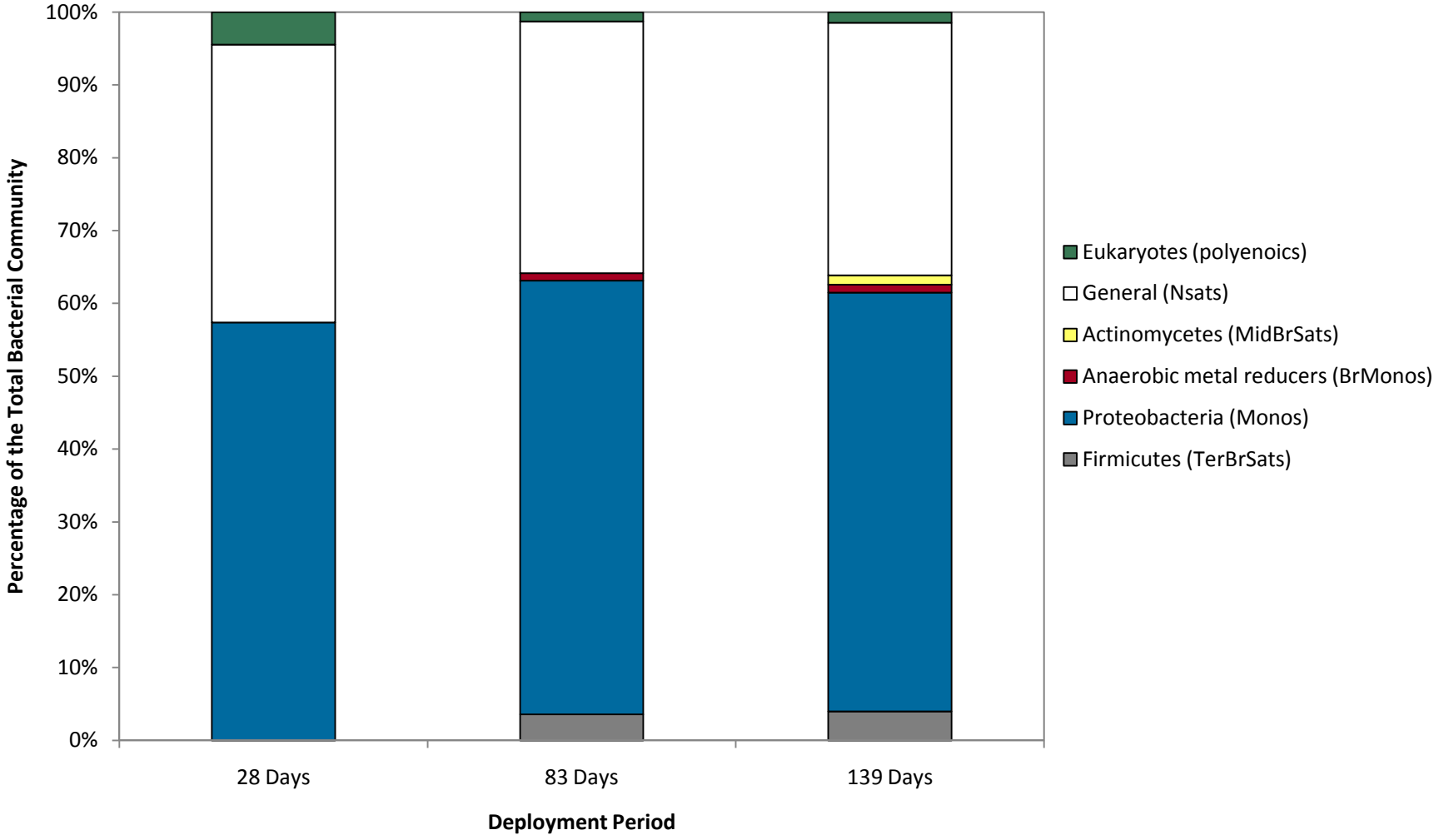


Figure 121
PHYLOGENETIC GROUP DENSITIES IN WELL MW-130
North Pole Refinery
Fling Hills Resources Alaska, LLC

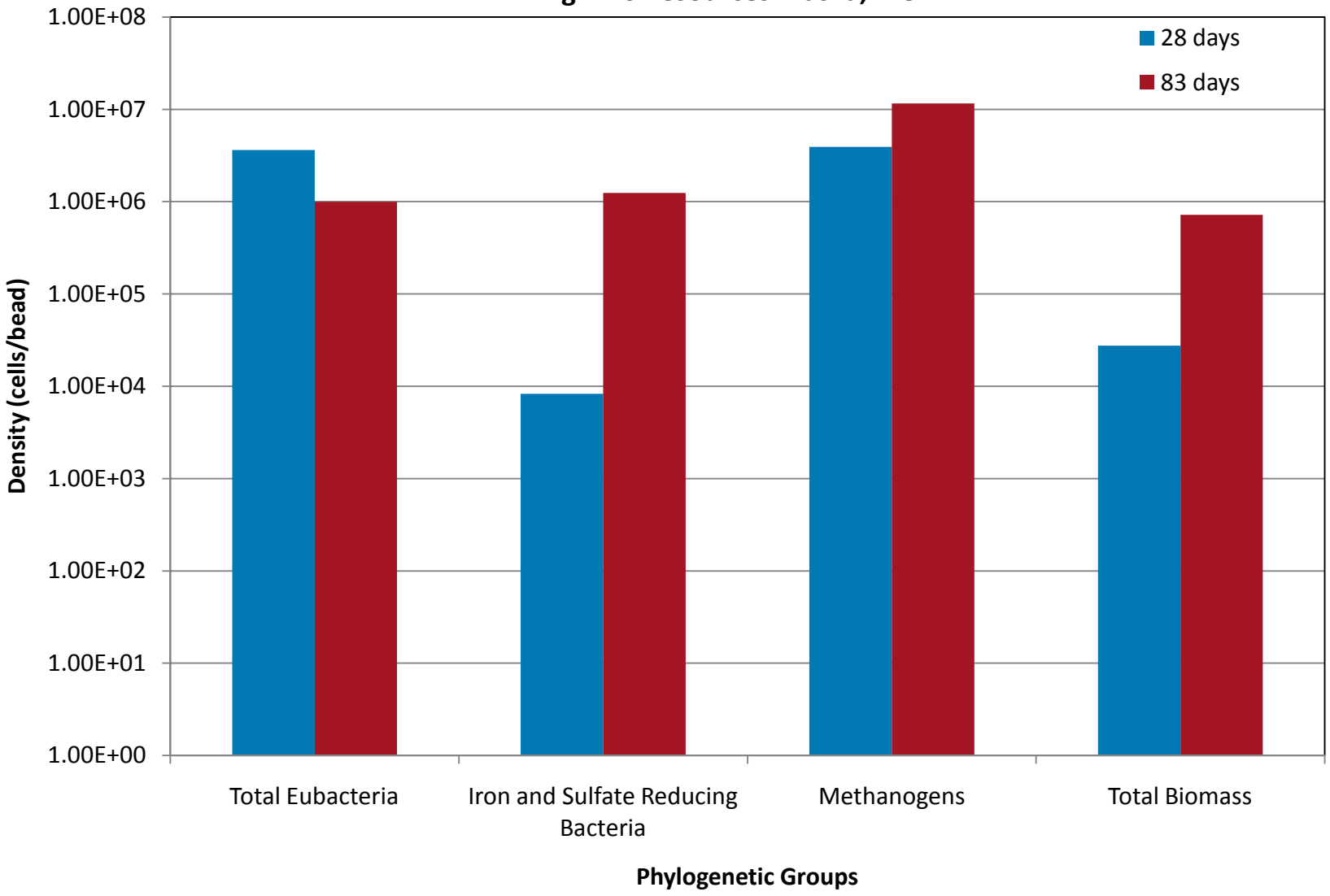
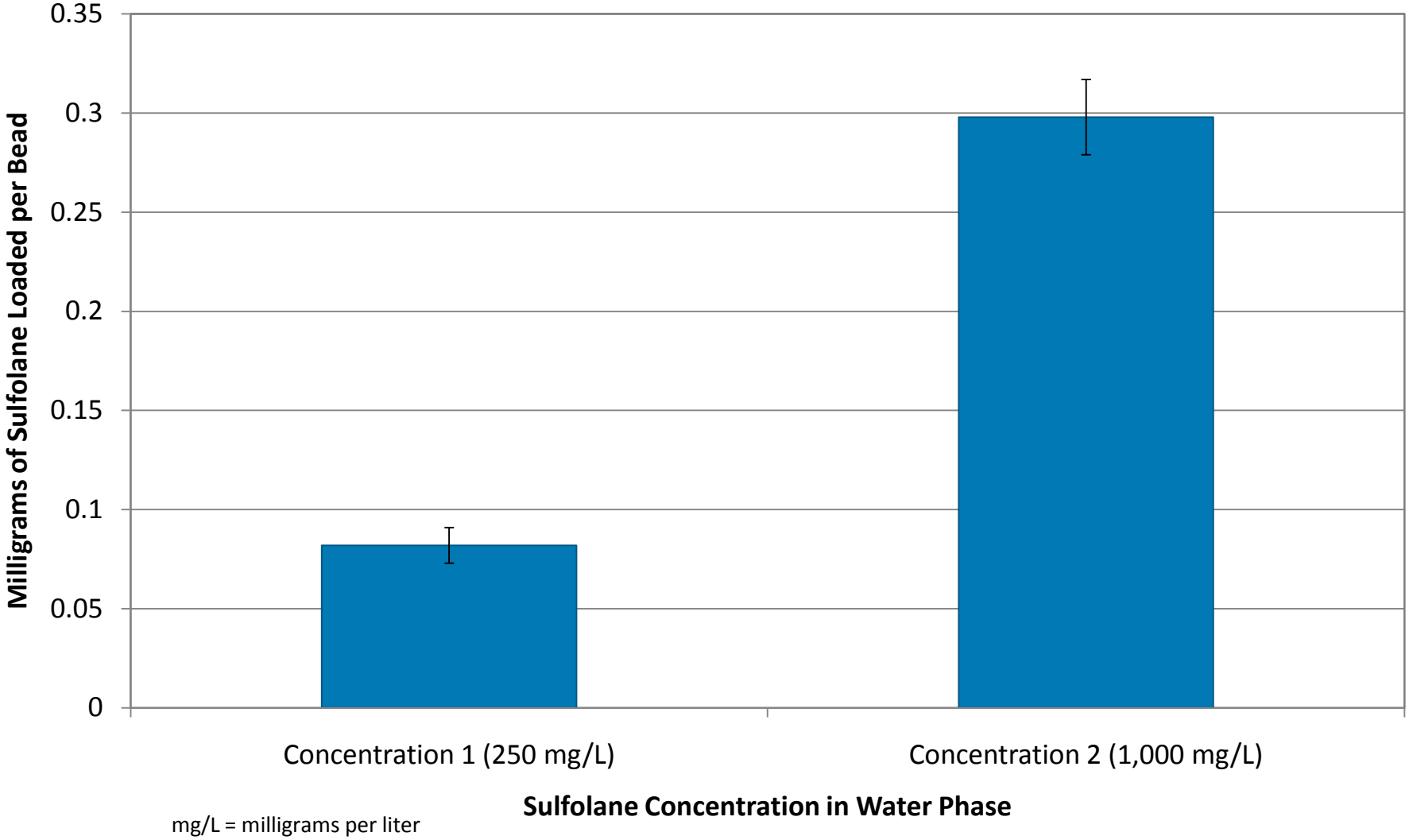


Figure 122
LOADING RATE OF SULFOLANE ONTO BIO-SEP BEADS
North Pole Refinery
Fling Hills Resources Alaska, LLC



mg/L = milligrams per liter

Figure 123
COMPARISON OF SULFOLANE EXTRACTION TECHNIQUE FOR BIO-SEP BEADS
North Pole Refinery
Flint Hills Resources Alaska, LLC

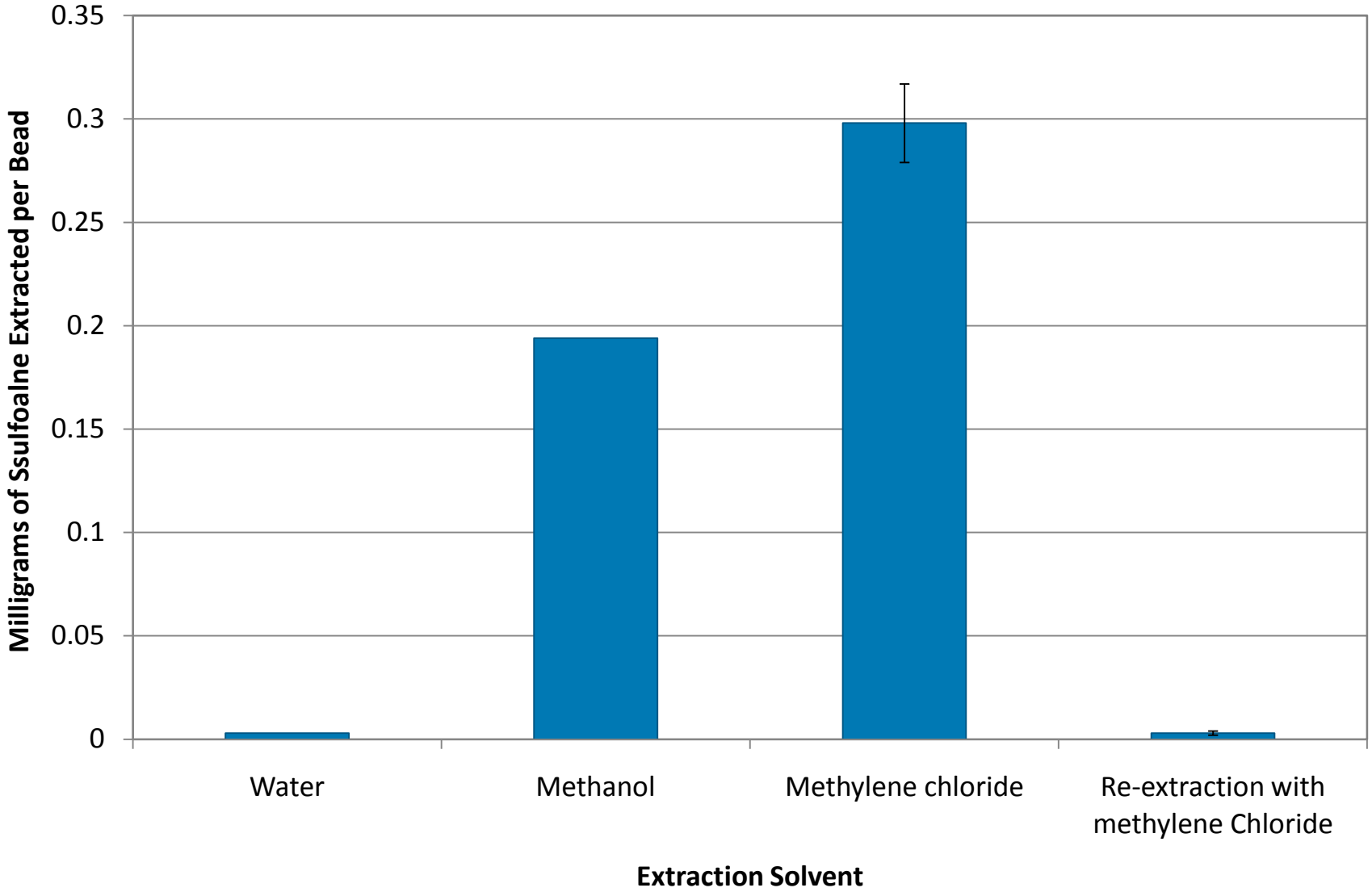


Figure 124
Sulfolane Leaching Study Results
North Pole Refinery
Flint Hills Resources Alaska, LLC

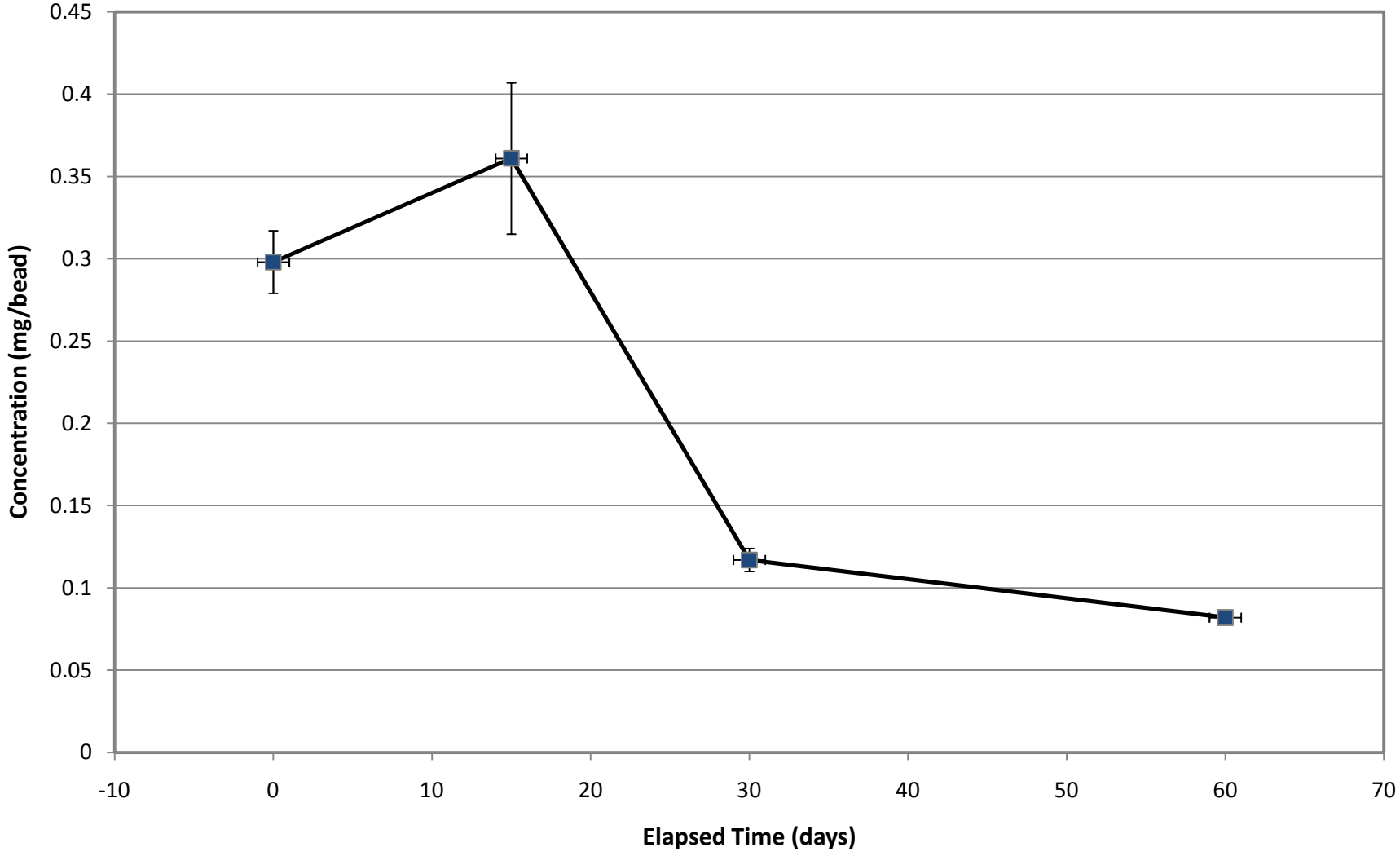


Figure 125
Isotopic Composition (δ^{13}Carbon) of Sulfolane vs. Distance Downgradient
North Pole Refinery
Flint Hills Resources Alaska, LLC

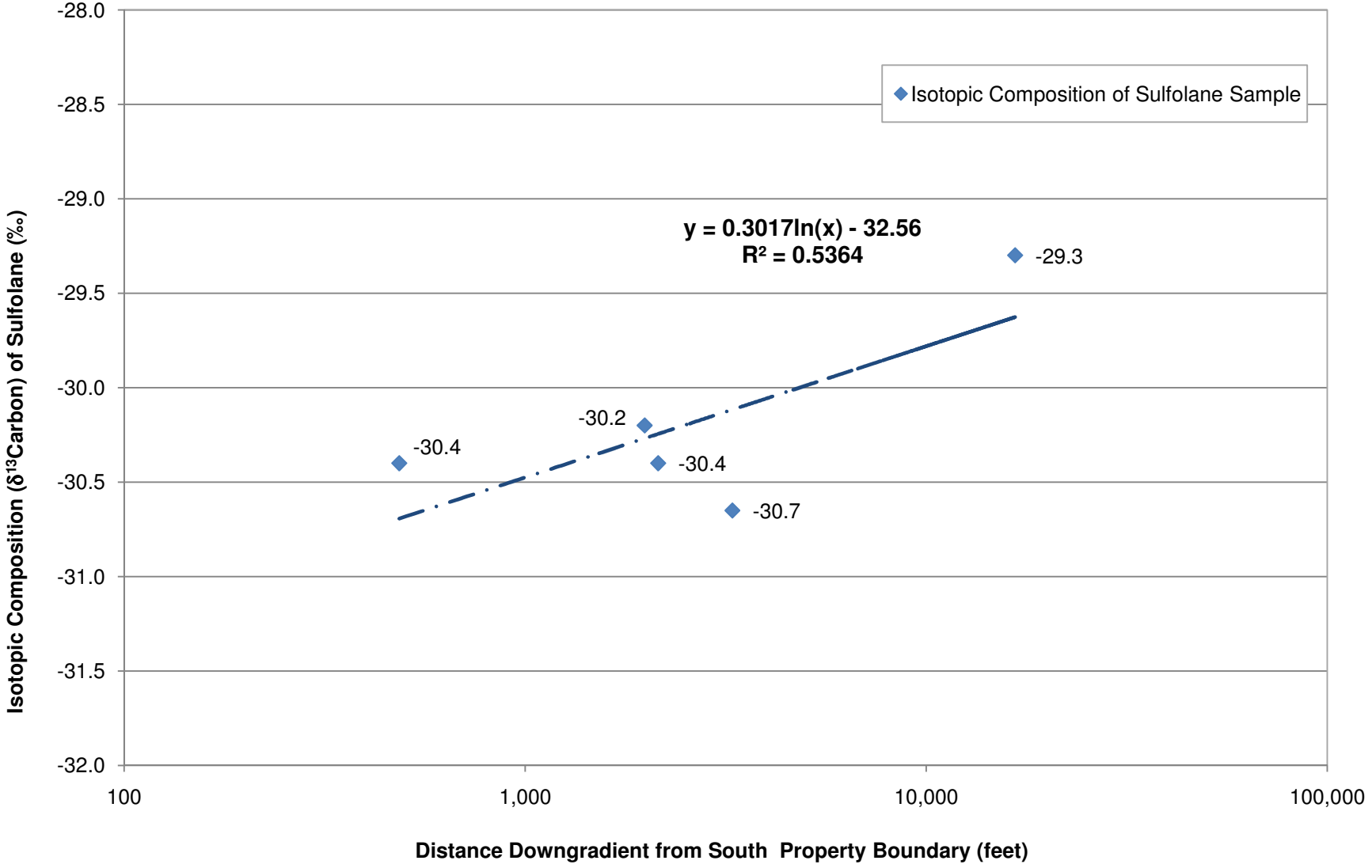
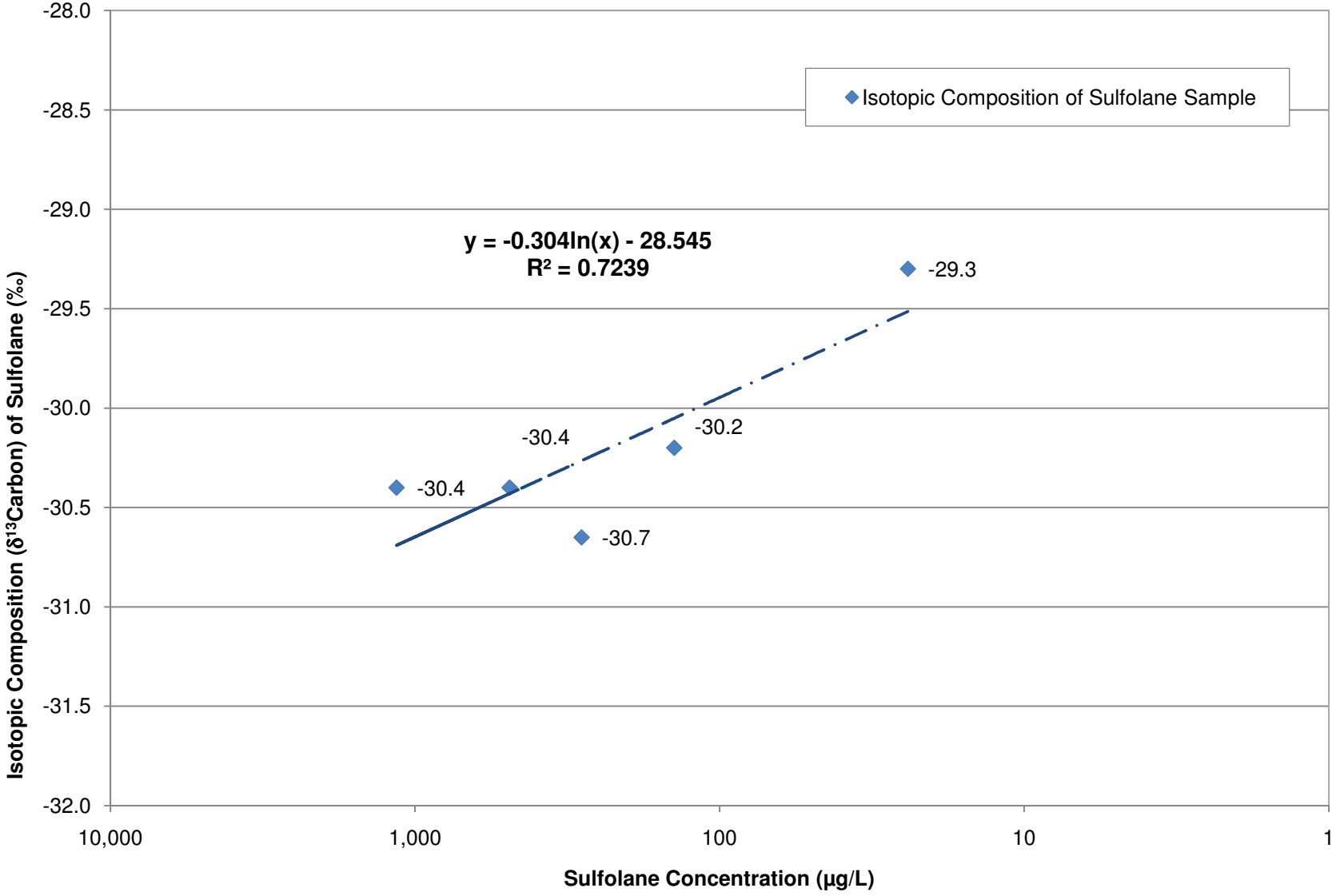


Figure 126
Isotopic Composition (δ^{13}Carbon) of Sulfolane vs. Sulfolane Concentration
North Pole Refinery
Flint Hills Resources Alaska, LLC



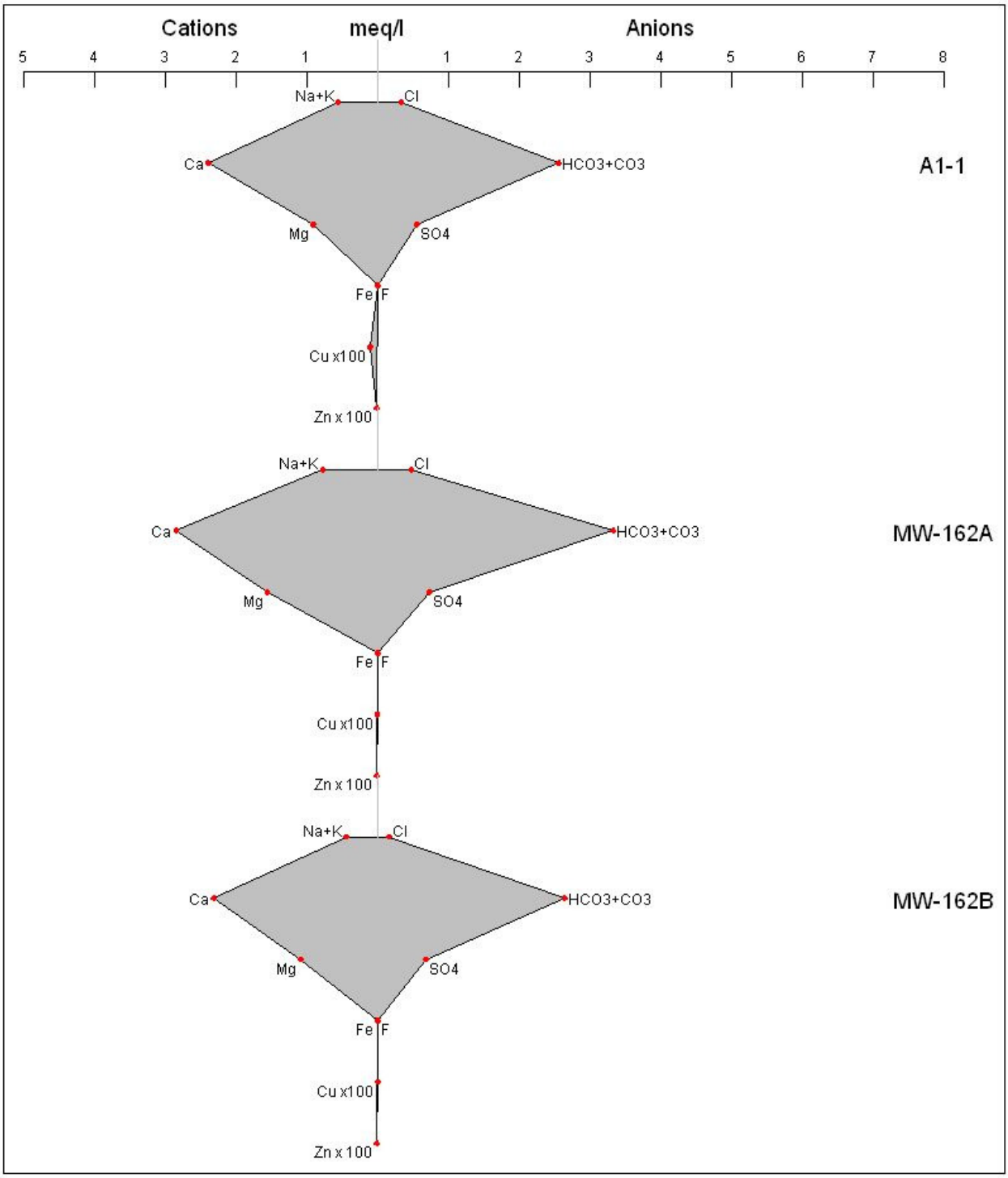


Figure 127
SUPRA- AND SUBPERMAFROST GEOCHEMISTRY COMPARISON – AREA 1
North Pole Refinery
Flint Hills Resources Alaska, LLC

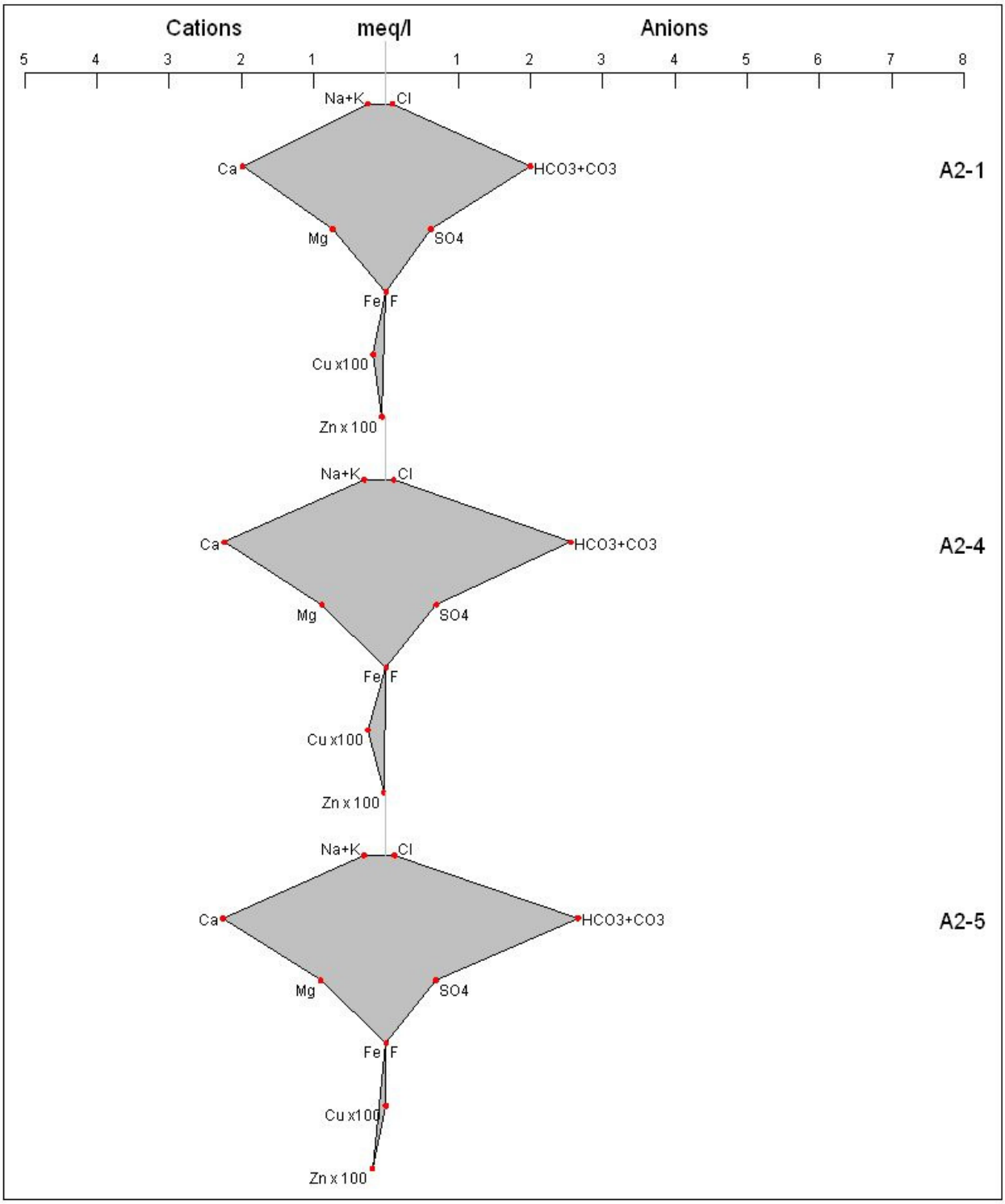


Figure 128a
SUPRA- AND SUBPERMAFROST GEOCHEMISTRY COMPARISON – AREA 2
North Pole Refinery
Flint Hills Resources Alaska, LLC

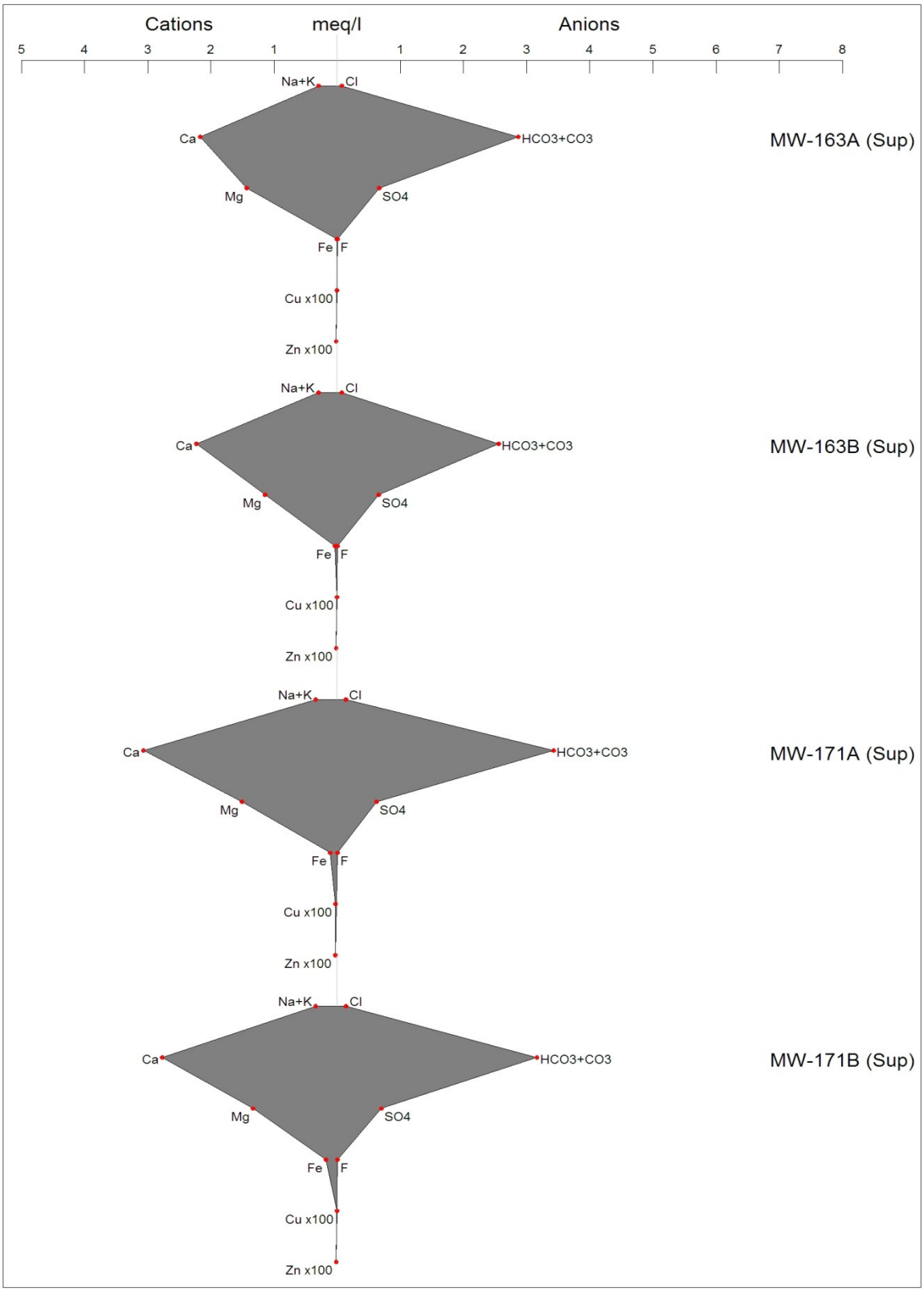


Figure 128b
SUPRA- AND SUBPERMAFROST GEOCHEMISTRY COMPARISON – AREA 2
North Pole Refinery
Flint Hills Resources Alaska, LLC

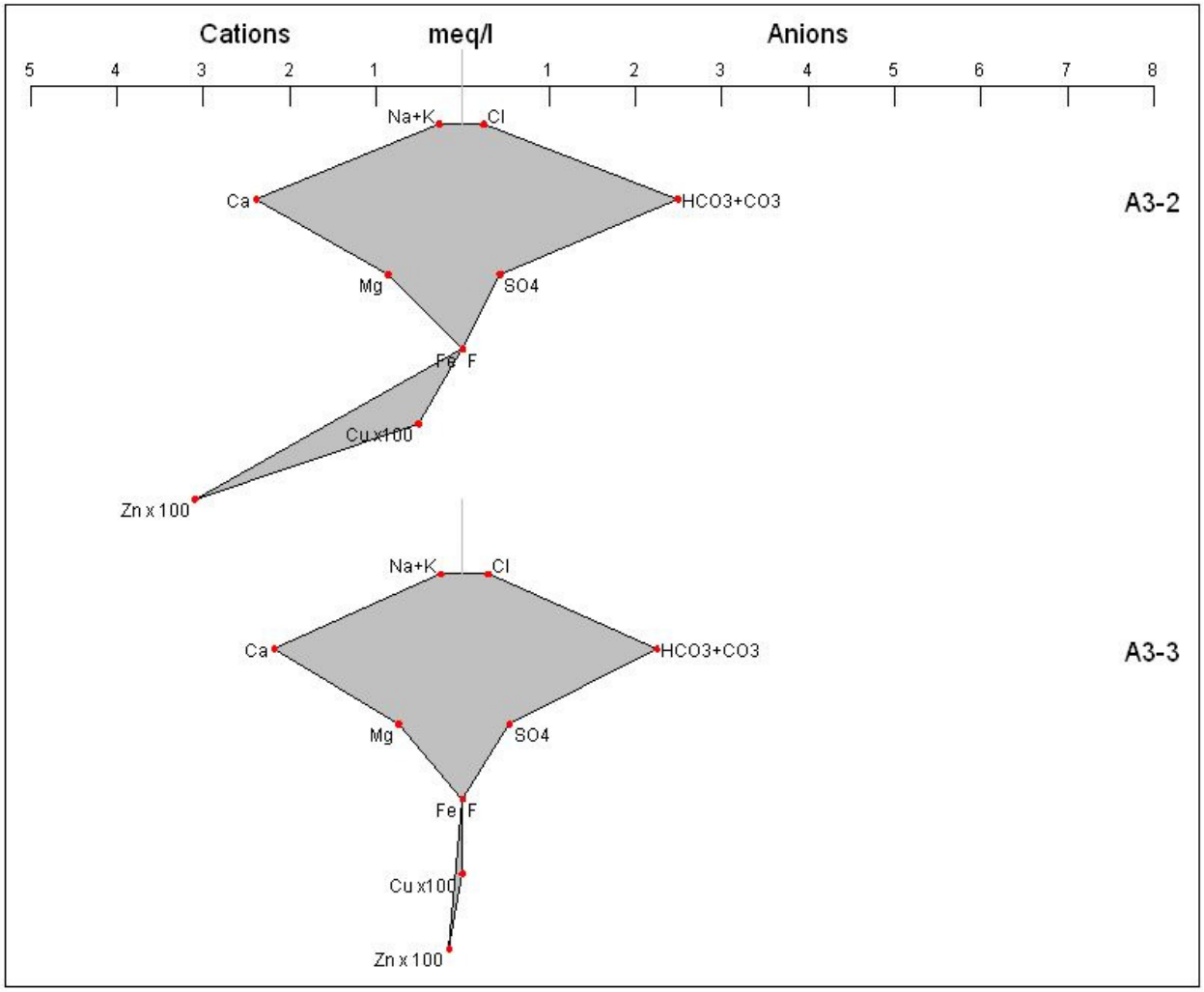


Figure 129a
SUPRA- AND SUBPERMAFROST GEOCHEMISTRY COMPARISON – AREA 3
North Pole Refinery
Flint Hills Resources Alaska, LLC

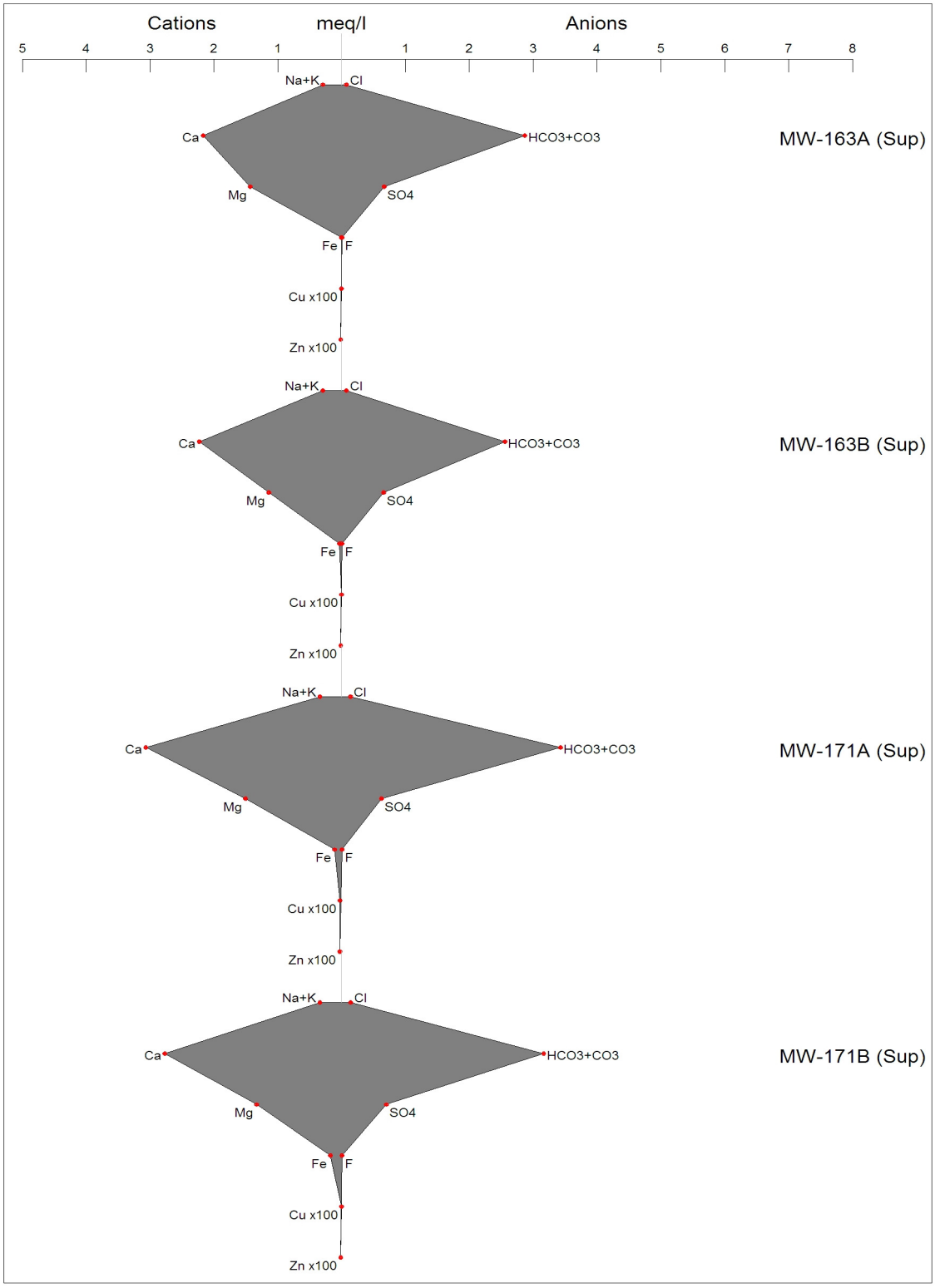


Figure 129b
SUPRA- AND SUBPERMAFROST GEOCHEMISTRY COMPARISON – AREA 3
North Pole Refinery
Flint Hills Resources Alaska, LLC

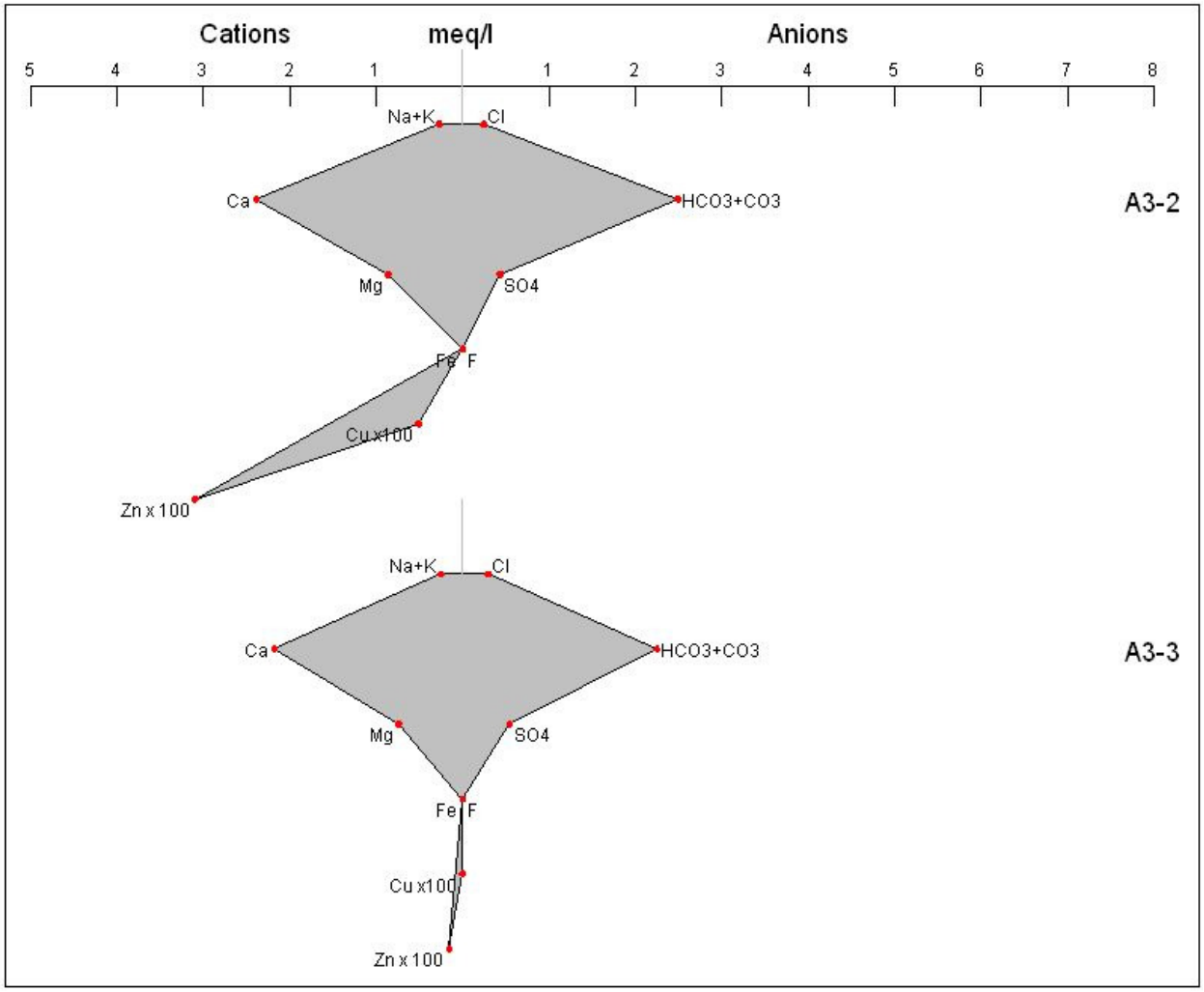


Figure 130a
SUPRA- AND SUBPERMAFROST GEOCHEMISTRY COMPARISON – AREA 4
North Pole Refinery
Flint Hills Resources Alaska, LLC

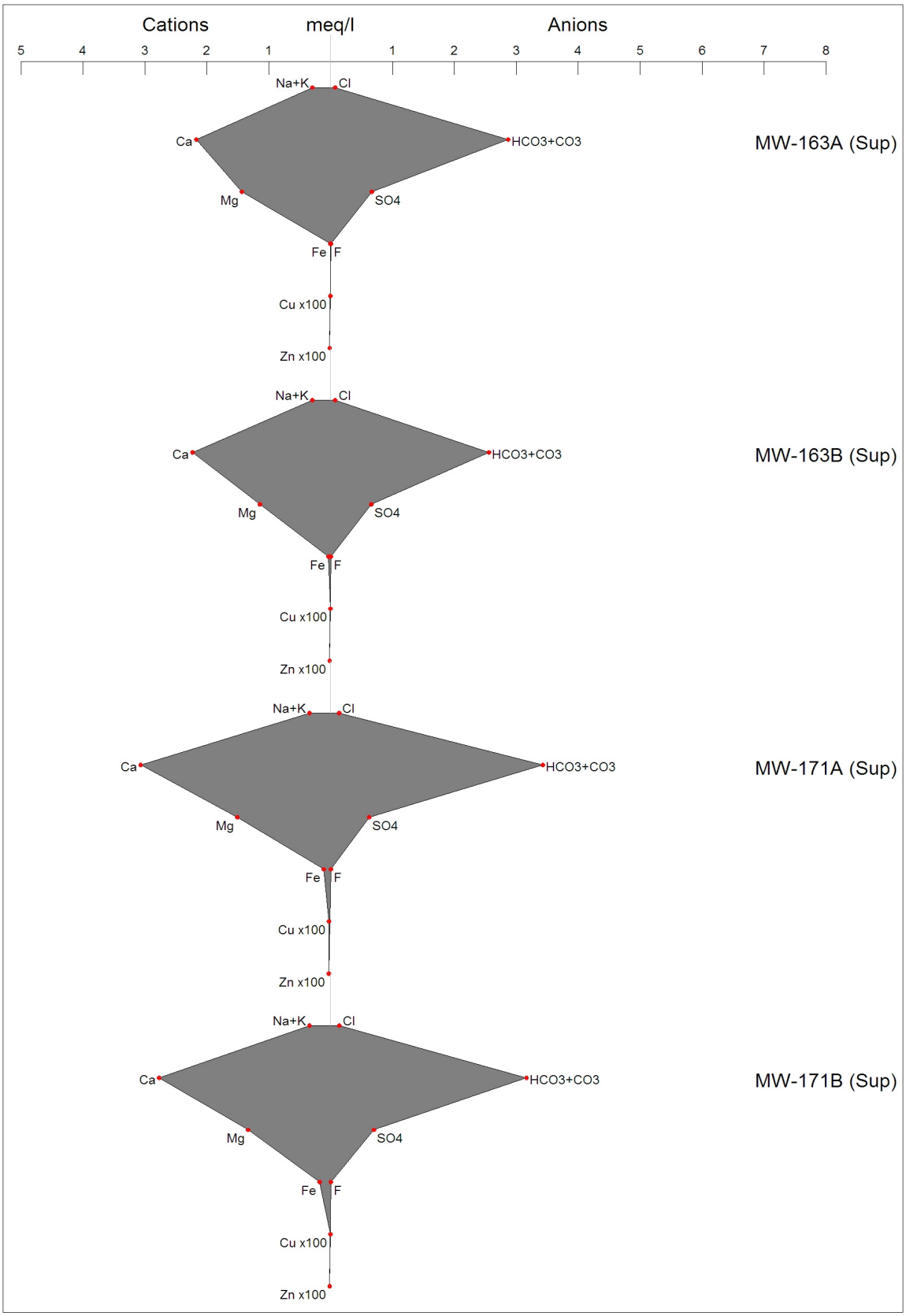


Figure 130b
SUPRA- AND SUBPERMAFROST GEOCHEMISTRY COMPARISON – AREA 4
North Pole Refinery
Flint Hills Resources Alaska, LLC

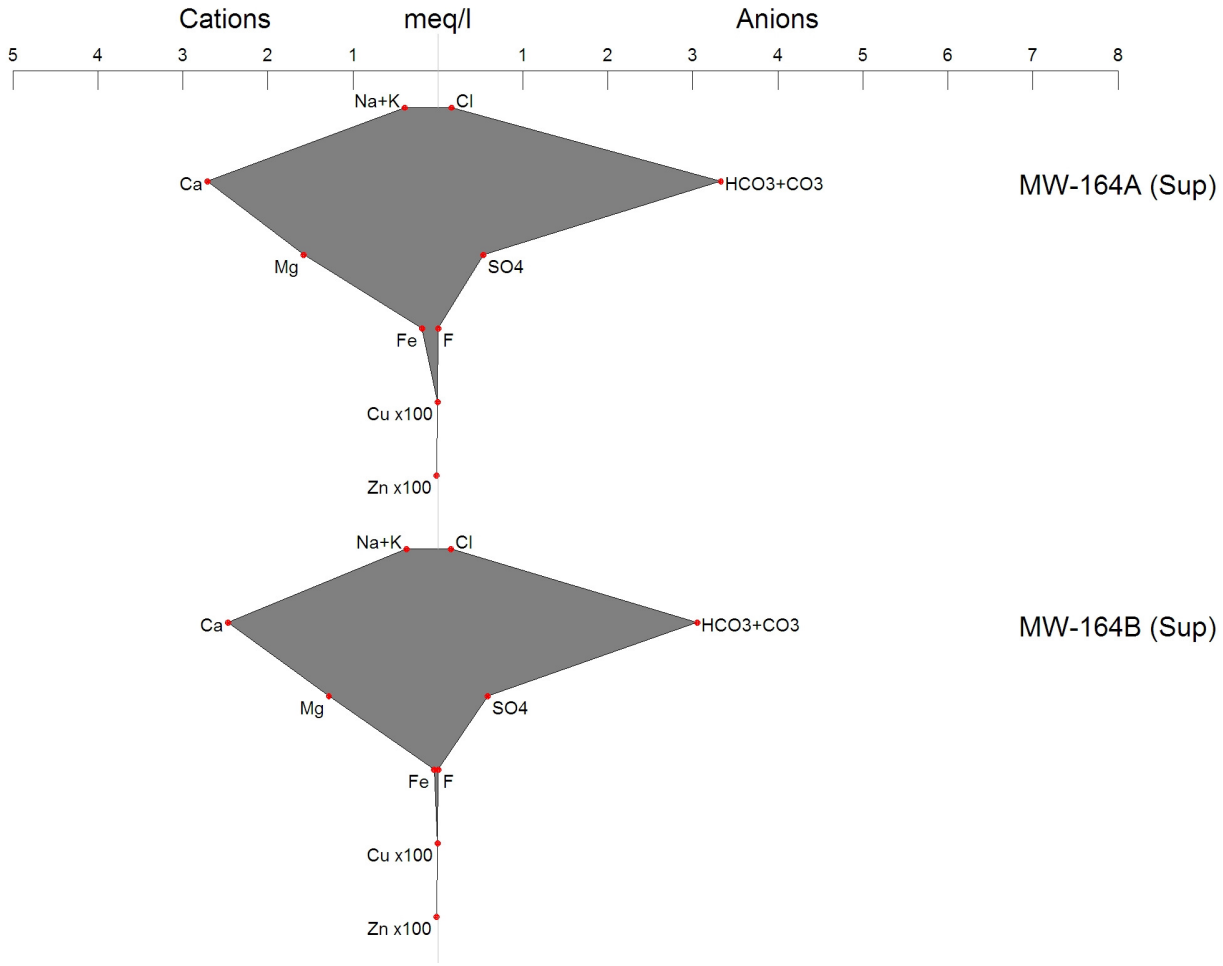


Figure 131
SUPRA- AND SUBPERMAFROST GEOCHEMISTRY COMPARISON – AREA 5
North Pole Refinery
Flint Hills Resources Alaska, LLC