1 Nitrogen measurements

Carbon (C) and Nitrogen (N) weight percents were calculated using an Elemental CHN Analyzer model CDC 440HA with an atropine standard. Approximately 8 to 16 milligrams of each sample were weighed out. At each site 10 measurements were made. The weight percent for N was calculated for each run and plotted in Figure 1.

Due to inconsistencies in the standards, a correction was applied to the samples. This correction presupposes that at least two standards with respective N weight percent of values of M_1 and M_2 were measured. There were η samples measured in between the two standards. Let M_T be defined as the true value of the N standard. Let S_0 be the initial standard ratio which is equal to:

$$S_0 = M_1/M_T$$

Let S_η be the second N standard ratio which is equal to :

$$S_\eta = M_2/M_T$$

Let any standard ratio for any sample n, where n $\in [1, \eta - 1]$ be equal to :

$$S_n = S_{n-1} + \frac{S_\eta - S_0}{\eta}$$

Let the measured N value for any given sample be σ_n then the corrected N value is :

$$N_n = \sigma_n / S_n$$