Who's Eating the Carbon? Linking microbial community structure to decomposition with 13C-PLFA

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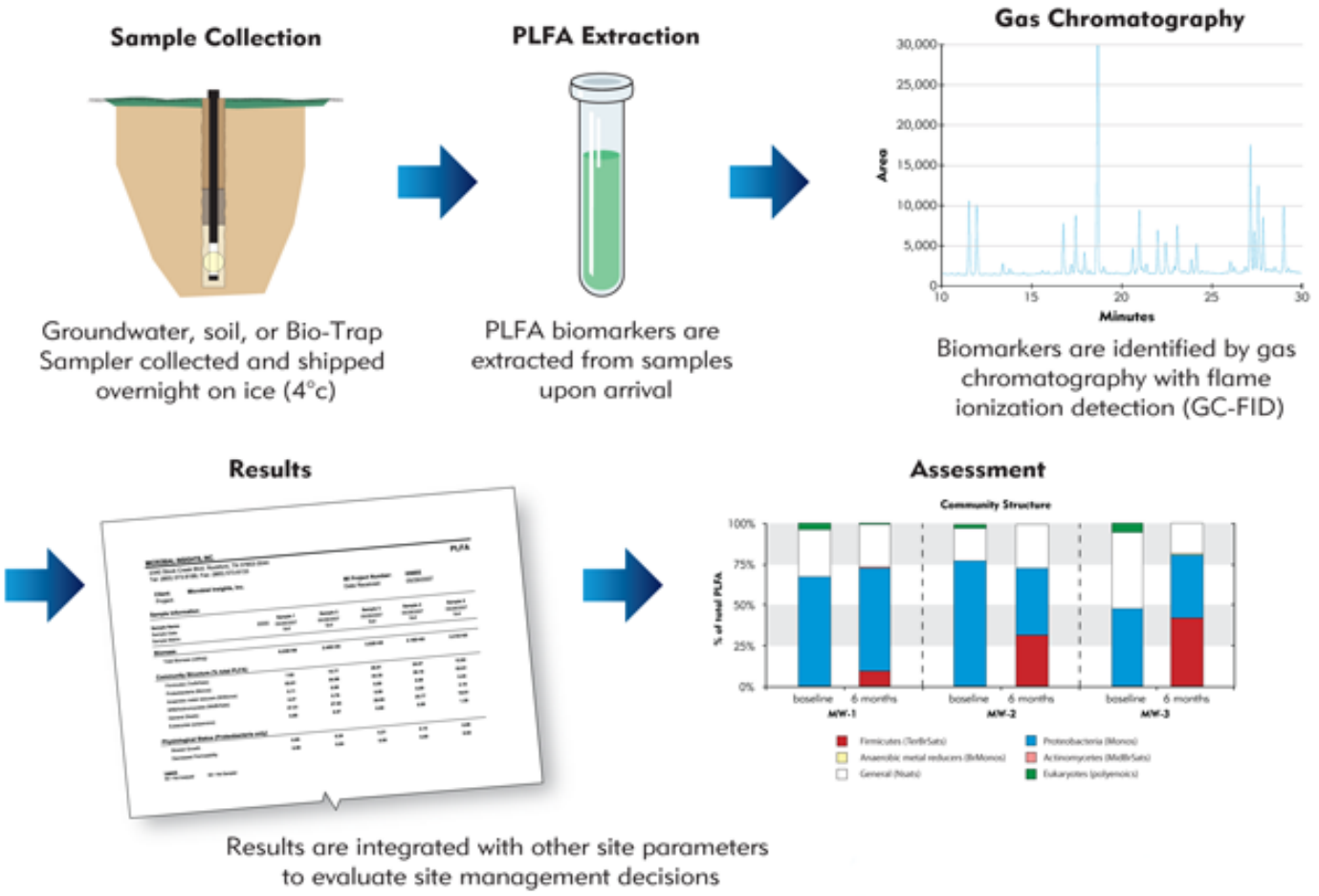
- Different classes of microbes have unique cell membrane components –> used to assess community structure
- Microbes that breakdown 13C labeled substrates incorporate this isotopic signature into their biomass

Breaking Down PLFA Analyses



13C PLFA includes an extra step where δ13C is calculated. PLFA compounds with 13C label will be heavier and have a different GC-MS peak.

Breaking Down PLFA Analyses

Conclusion: Advantages and Disadvantages of 13C-PLFA

- Identifies the *active* microbial community.
- Shows the relative abundance of relatively broad taxonomic groups.
- Cheaper than RNA sequencing techniques, but still an expensive analysis with lower taxonomic resolution.