

Differences in Soil pH between the different layers at Site A and Site B

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Background

- Fire 30 miles Southwest of test location
 - Started Saturday, September 13th
 - Data collected on Friday, September 26th
- Ash found all across test location
- Calcium Carbonate is found dissolved in soil
 - Calcium Carbonate is basic compound
- Precipitation
 - Helped to dissolve Calcium Carbonate in soil

Research Question

- How does the pH of the soil in Site A and Site B differ between the top layer of soil and the second layer of soil?

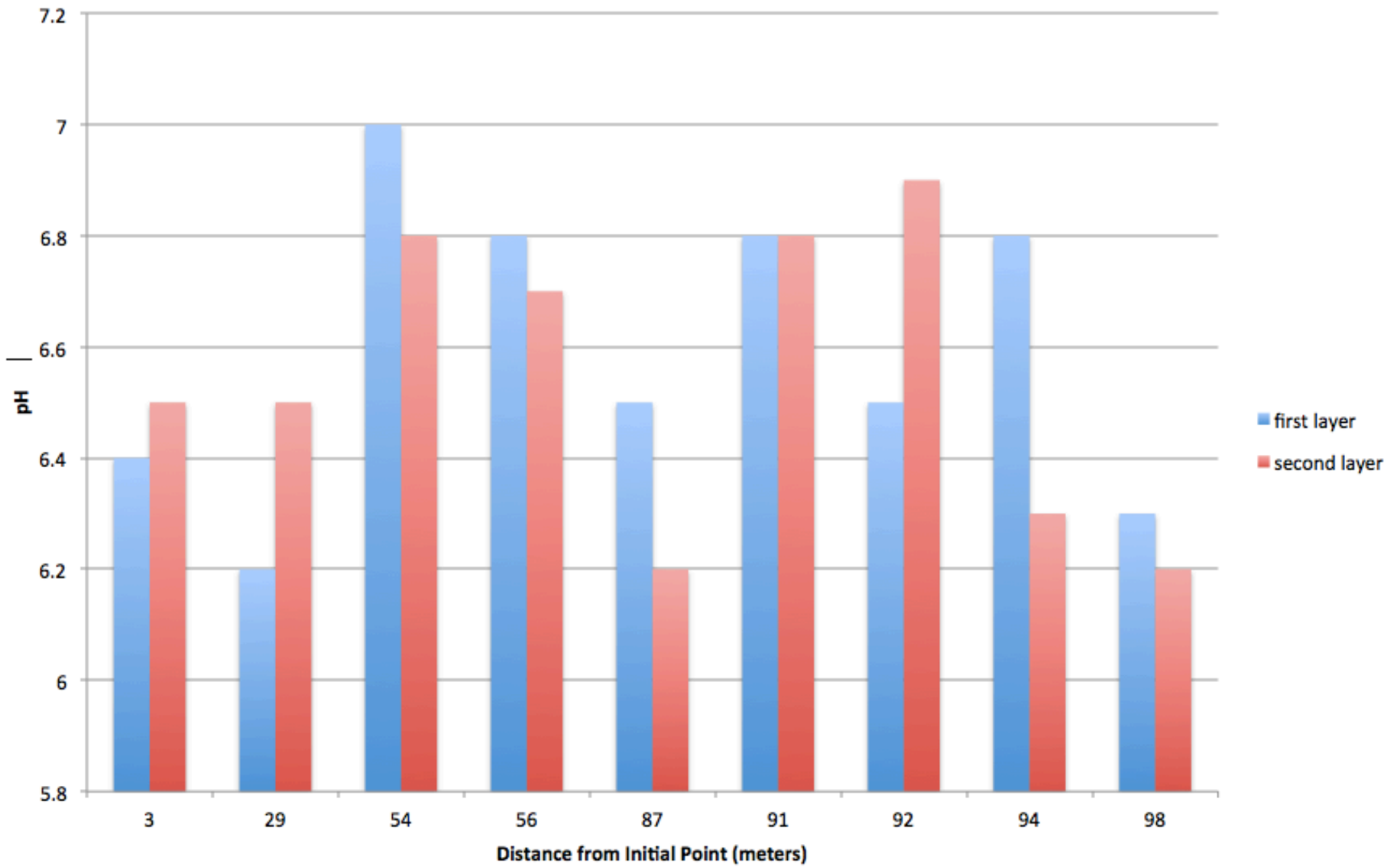
Hypothesis

- We hypothesize that because of the recent ash fallout, the soil will be more basic on the top layer than the bottom layer.

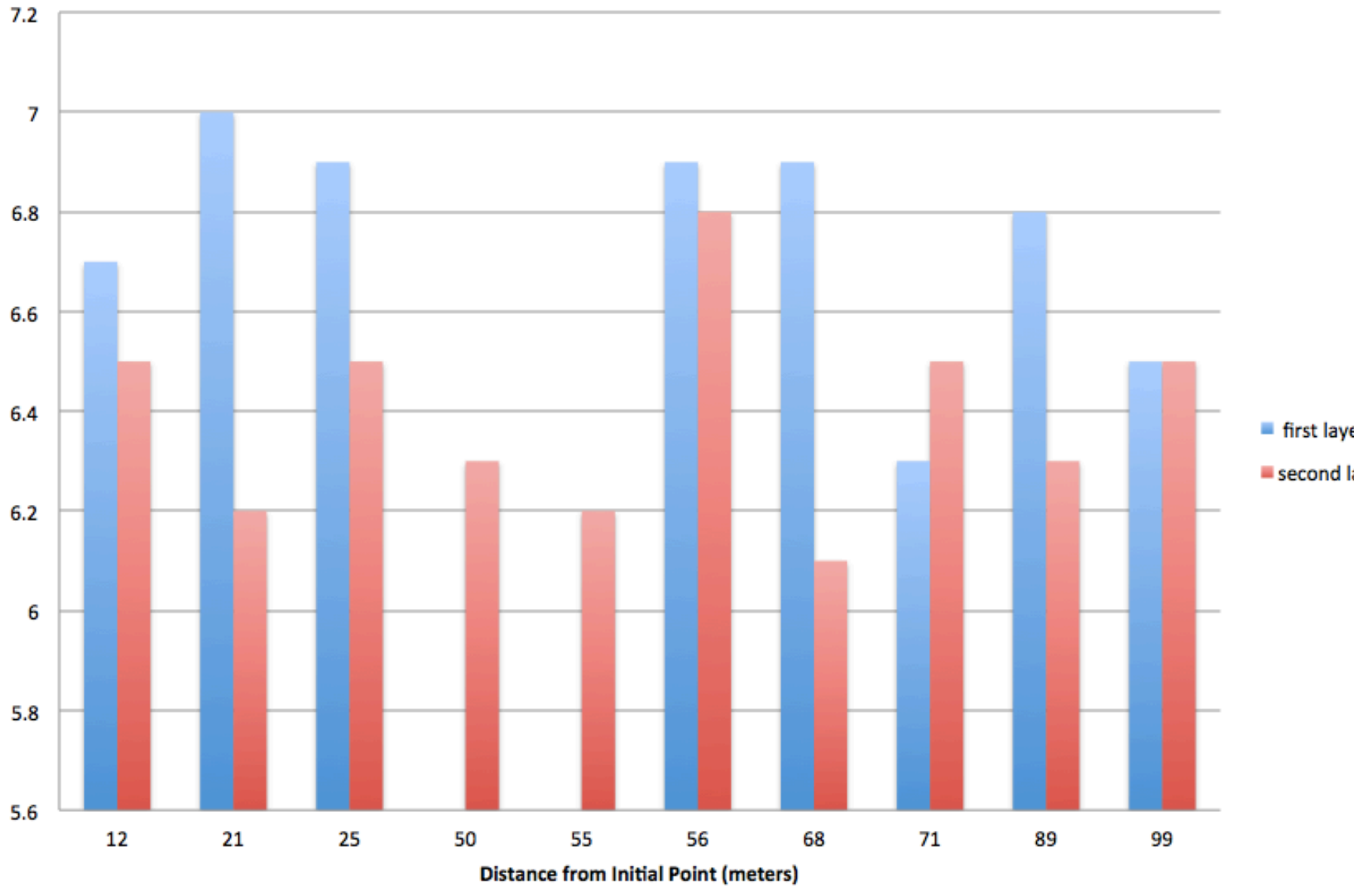
Procedure

- At Site A ($39^{\circ} 18' 27''$ North, $120^{\circ} 21' 13''$ West, elevation 2,067ft) and Site B ($39^{\circ} 18' 5''$ North, $120^{\circ} 21' 53''$ West, elevation unknown). We measured a 100 meter line and generated 10 random points, from which one sample from the top layer of the soil, and one sample from the second layer.
- We placed 10 milliliters of each soil sample in graduated containers. We added 40 milliliters of distilled water to each container and mixed the solution rigorously. We then used pH test strip/tablet to measure the pH in each container. We recorded the information in a data table.

Difference in pH between Soil Layers on Site A



Difference in pH between Soil Layers on Site B



Procedure Improvement

- Standardized core samples of soil
- Spend longer at each test site
 - Don't rush!
- Have a procedure for ash collection

Conclusion

- The soil in the top layer was on average was more basic than the second layer, most likely from the dissolved calcium carbonate in Site B
- The data from Site A is statistically inconclusive
- According to the ash count, Site B had more ash, supporting the evidence that the top layer of Site B was more basic