

Soils Investigation
Lot 2, Homer Public Library No.2
3713 Main Street, Homer Alaska 99603



John Deere 410 accessing the site

Completed by:
Homer Public Works Department
Carey Meyer, P.E.
City Engineer

Introduction and Project Understanding: The City Council requested that the Homer Public Works Department determine the type of soils that existing at the subject property in an attempt to understand their implications to site development and land value.

On April 17, 2019, Public Works mobilized a John Deere 410 backhoe to the site and completed one excavation to better understand the material that composed the mound near the center of the property. The property is relatively steep, densely vegetated, with mature spruce trees and mature alders. See attached aerial photo. The terrain and the density of vegetation limited access to much of the property. The investigation was limited to a single test hole to minimize cost, removal of vegetation, and ground disturbance.

There is evidence that the mound has previously been used as a material borrow site; the excavation into the north side of the hill is still evident.

The attached map shows the steepness of the property, two foot elevation contours, and the location of the completed test hole.

Field Investigation Results: A test hole was completed to a depth of 15 feet. See photos attached. No ground water was encountered. Subsurface soil conditions encountered at the site consisted of surface organics with roots (first 18") and a dark brown loamy soil (second 18").

Below this, to a depth of 9 feet was a dense brown, slightly plastic loamy soil with 6" – 8" diameter cobbles (less than 10% by volume, mostly round and durable, but some fractured easily).

Below 9 feet, a gray dense silt, moderately plastic, with some gravel was encountered. The gravel fractured easily. Excavation stopped at 15 feet; no groundwater was encountered. There was evidence of some thin sand layers.

Conclusion: Based on anecdotal evidence from contractors excavating on adjacent lots, there was some expectation that the mound in the center of the subject parcel consisted of classified gravel that could be used as structural fill. Based on the results of the test hole, that does not seem to be the case.

Surface organics, could be re-utilized on-site as topsoil. The soils encountered below the surface organics could be used to fill and flatten the site, but would not be suitable as structural fill. The soils encountered below 9 feet, if undisturbed, appeared able to support residential/light commercial conventional foundation footings.



1 inch = 60 feet



Shallow soil profile – surface organics



Material from 3' to 9' deep



Material from 9' to 15' -