# APPENDIX B

# A P P E N D I X  B

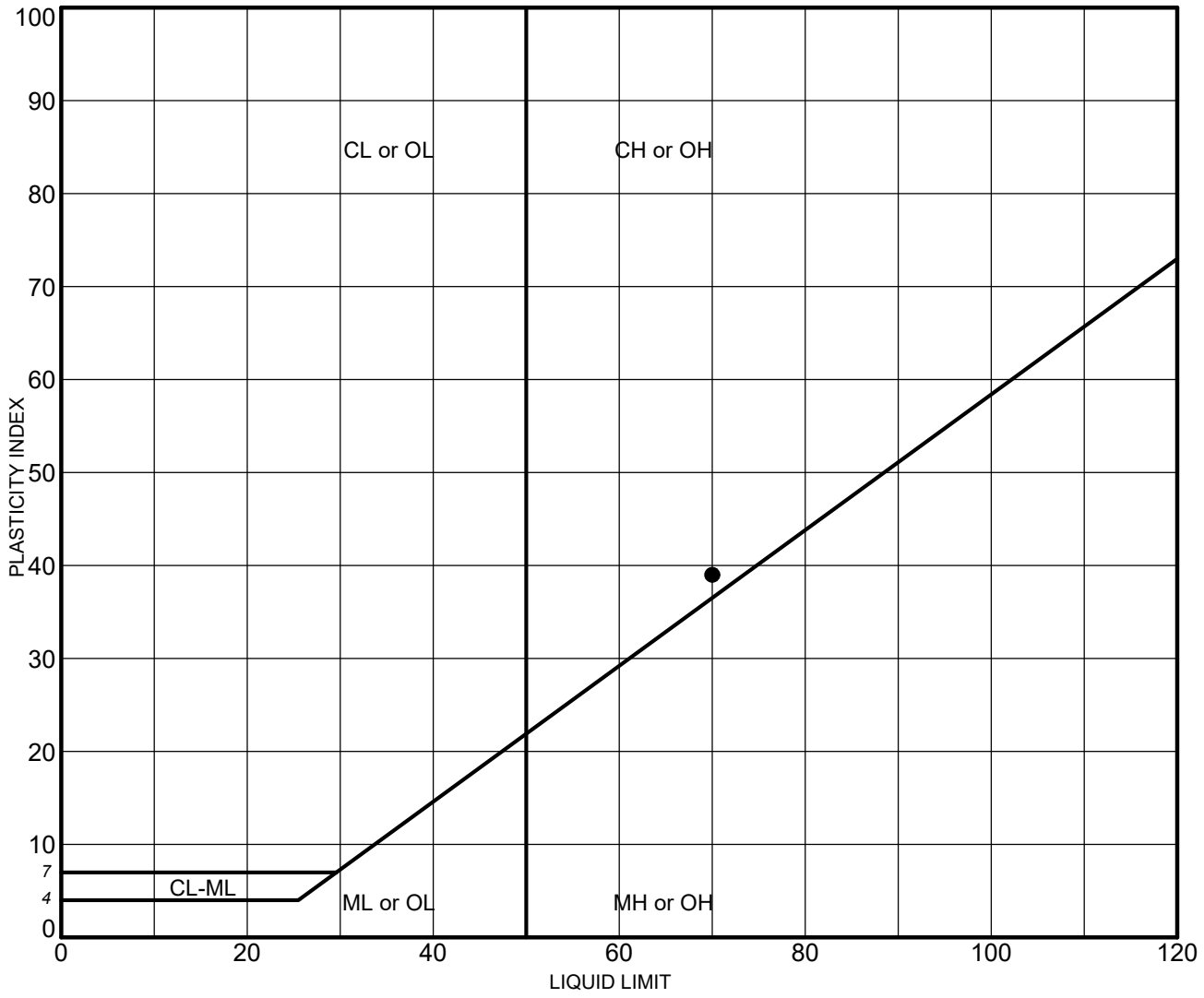
Laboratory Tests

Moisture Content (ASTM D2216) and Unit Weight (ASTM D2937) determinations were performed on selected samples as an aid in the classification and evaluation of soil properties. The test results are presented on the Logs of Borings at the appropriate sample depths.

One Atterberg Limits test (ASTM D4318) was performed on a selected soil sample to evaluate the liquid and plastic limits and to aid in soil classification. The test results are summarized on the Log of Boring at the appropriate sample depth. Graphic presentation of the test results is provided on Plate B-1.

One Triaxial Unconsolidated Undrained Compression (TXUU) test (ASTM D2850) was performed on a selected soil sample to evaluate the undrained shear strength of the clayey soils encountered. The approximate in-situ effective overburden pressure was used as the applied confining pressure for the relatively "undisturbed" soil sample. The test results and the stress-strain curve are presented on Plate B-2.

One Unconfined Compression test (ASTM D7012 Method C) was performed on a selected rock core to evaluate the unconfined compressive strength of the rock formation encountered. Results of the unconfined compression test are presented on Plate B-3.




| | Sample | Depth (ft) | LL | PL | PI | Description |
|---|---|---|---|---|---|---|
| ● | B-1 | 10.0-11.5 | 70 | 31 | 39 | Brown red w/ multi-color mottling silty clay (CH) w/ traces of gravel |
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NP = NON-PLASTIC

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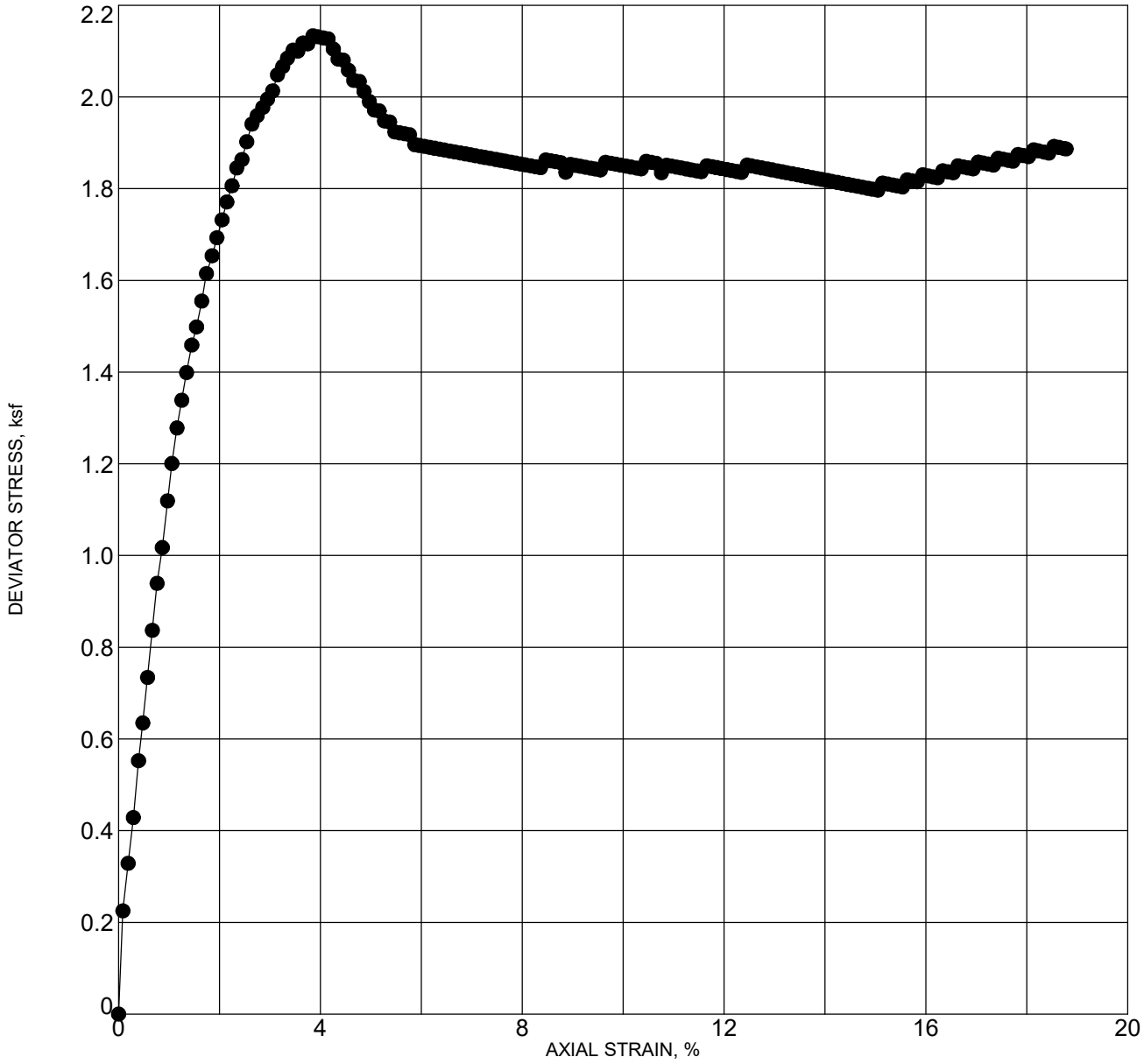
**ATTERBERG LIMITS TEST RESULTS - ASTM D4318**

TRAFFIC SIGNAL MODERNIZATION PROJECT
KAHUAPAANI STREET &
ULUNE STREET INTERSECTION
HALAWA, OAHU, HAWAII

Plate
B - 1

G ATTERBERG PI-100 LL-120 7328-00(A).GPJ GEOLABS.GDT 8/1/19




| | |
|---|---|
| Max. Deviator Stress (ksf): | 1.8 |
| Confining Stress (ksf): | 0.6 |

Location: B-1
Depth: 5.0 - 6.5 feet
Description: Brownish red w/ multi-color mottling silty clay w/ traces of gravel
Test Date: 6/4/2019

| | | | |
|---|---|---|---|
| Dry Density (pcf) | 80.3 | Sample Diameter (inches) | 2.300 |
| Moisture (%) | 44.3 | Sample Height (inches) | 5.133 |
| Axial Strain at Failure (%) | 15.0 | Strain Rate (% / minute) | 0.99 |

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**TRIAXIAL UU COMPRESSION TEST - ASTM D2850**

TRAFFIC SIGNAL MODERNIZATION PROJECT
KAHUAPAANI STREET &
ULUNE STREET INTERSECTION
HALAWA, OAHU, HAWAII

Plate
B - 2

G_TXUU_7328-00(A).GPJ GEOLABS.GDT 8/2/19

| Location | Depth | Length | Diameter | Length/ Diameter Ratio | Density | Load | Compressive Strength |
|---|---|---|---|---|---|---|---|
| | (feet) | (inches) | (inches) | | (pcf) | (lbs) | (psi) |
| B-1 | 21.5 - 26.5 | 6.700 | 3.200 | 2.09 | 159.4 | 82,430 | 10,250 |

ASTM D7012 (METHOD C)

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**UNIAXIAL COMPRESSIVE STRENGTH TEST**

TRAFFIC SIGNAL MODERNIZATION PROJECT
KAHUAPAANI STREET &
ULUNE STREET INTERSECTION
HALAWA, OAHU, HAWAII

Plate
B - 3

G_ROCK_UC_TEST_PORTRAIT_7328-00(A).GPJ GEOLABS.GDT 8/1/19