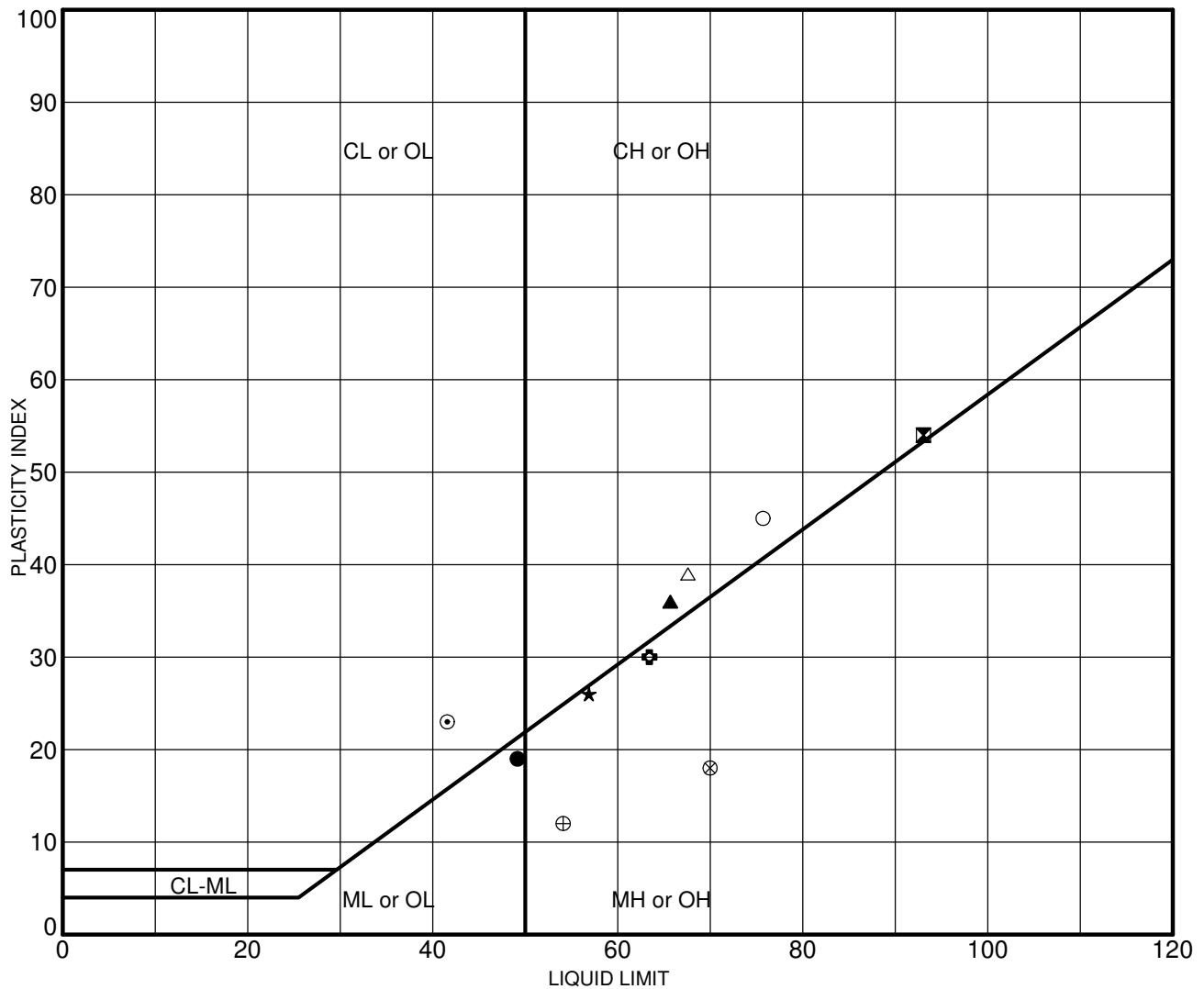




| Sample    | Depth (ft) | LL | PL | PI | Description                                       |
|-----------|------------|----|----|----|---------------------------------------------------|
| ● BULK-1  | 5.0-8.0    | 49 | 30 | 19 | Orangish brown sandy silt (ML)                    |
| ⊠ BULK-2  | 5.0-8.0    | 93 | 39 | 54 | Brown with multi-color mottling silty clay (CH)   |
| ▲ BULK-3  | 4.0-6.0    | 66 | 30 | 36 | Dark grayish brown silty clay (CH)                |
| ★ BULK-4  | 2.0-6.0    | 57 | 31 | 26 | Reddish brown clayey silt (MH)                    |
| ⊙ BULK-5  | 5.0-8.0    | 42 | 19 | 23 | Reddish brown to grayish brown gravelly clay (CL) |
| ⊕ BULK-6  | 2.0-5.0    | 63 | 33 | 30 | Brown with orange mottling clayey silt (MH)       |
| ○ BULK-7  | 2.0-5.0    | 76 | 31 | 45 | Brown with red mottling silty clay (CH)           |
| △ BULK-8  | 3.0-6.0    | 68 | 29 | 39 | Brown with orange mottling silty clay (CH)        |
| ⊗ BULK-9  | 4.0-7.0    | 70 | 52 | 18 | Brown with orange mottling clayey silt (MH)       |
| ⊕ BULK-10 | 6.0-9.0    | 54 | 42 | 12 | Orangish brown clayey silt (MH)                   |

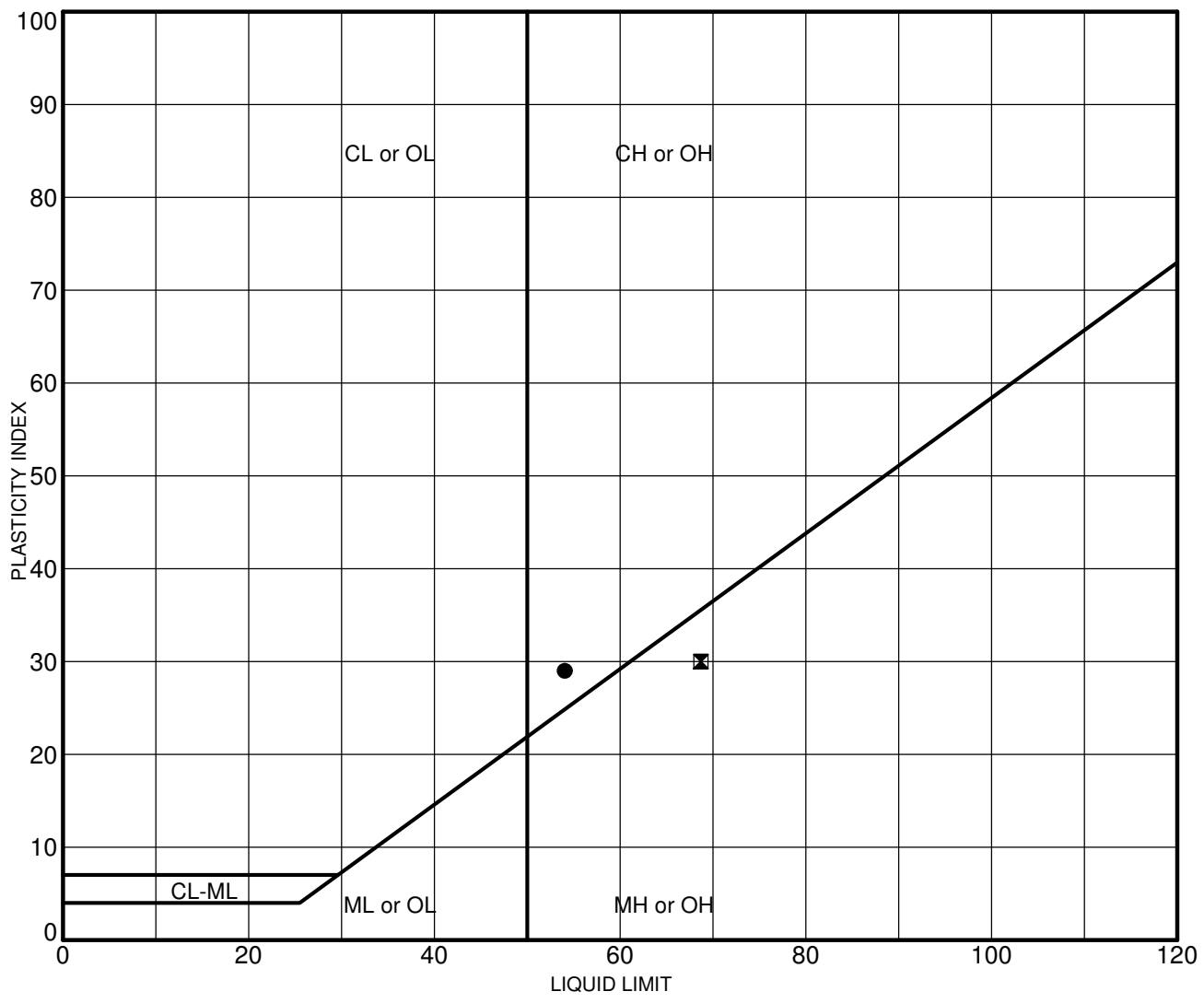


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 W.O. 6782-00(A)

#### ATTERBERG LIMITS TEST RESULTS - ASTM D 4318

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

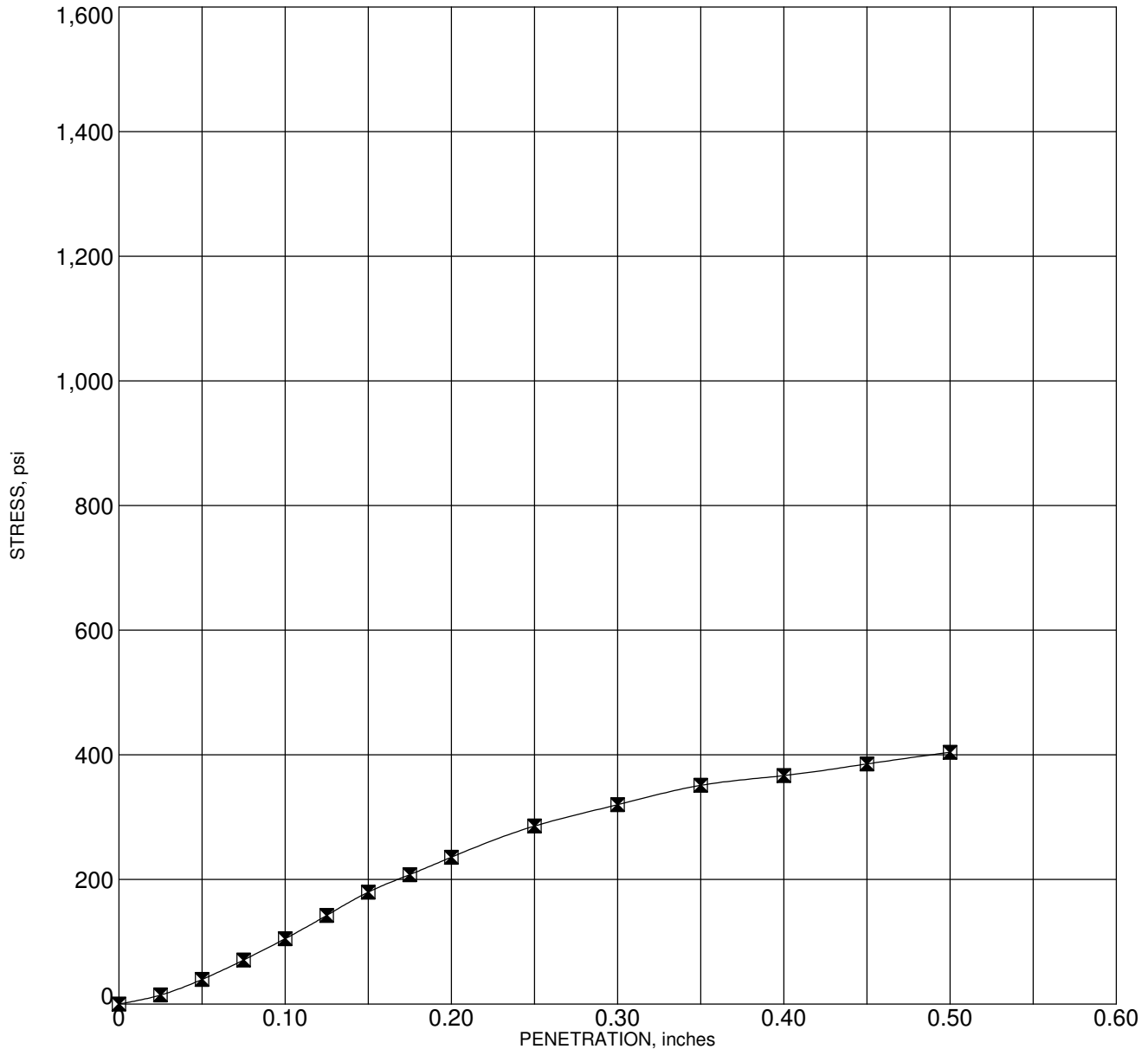
Plate  
**C - 1**



|   | Sample  | Depth (ft) | LL | PL | PI | Description                           |
|---|---------|------------|----|----|----|---------------------------------------|
| ● | BULK-11 | 4.0-7.0    | 54 | 25 | 29 | Grayish brown to gray silty clay (CH) |
| ⊠ | BULK-12 | 5.0-7.0    | 69 | 39 | 30 | Dark grayish brown clayey silt (MH)   |
|   |         |            |    |    |    |                                       |
|   |         |            |    |    |    |                                       |
|   |         |            |    |    |    |                                       |
|   |         |            |    |    |    |                                       |
|   |         |            |    |    |    |                                       |
|   |         |            |    |    |    |                                       |
|   |         |            |    |    |    |                                       |
|   |         |            |    |    |    |                                       |

G ATTERBERG 6782-00(A).GPJ GEOLABS.GDT 2/20/14

|                                                                                     |                                                  |                                                                                                               |                       |
|-------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------|
|  | <b>GEOLABS, INC.</b><br>GEOTECHNICAL ENGINEERING | <b>ATTERBERG LIMITS TEST RESULTS - ASTM D 4318</b>                                                            |                       |
|                                                                                     | W.O. 6782-00(A)                                  | REHABILITATION OF PALI HIGHWAY<br>WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY<br>HONOLULU TO KANEOHE, OAHU, HAWAII | Plate<br><b>C - 2</b> |



Sample: BULK-1  
 Depth: 5.0 - 8.0 feet  
 Description: Orangish brown sandy silt (ML)

|                  |      |
|------------------|------|
| Corr. CBR @ 0.1" | 13.2 |
| Corr. CBR @ 0.2" | 16.9 |
| Swell (%)        | 0.15 |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 98.7       | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 29.7       | Hammer Drop (inches) | 18 |
| Days Soaked               | 4          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |

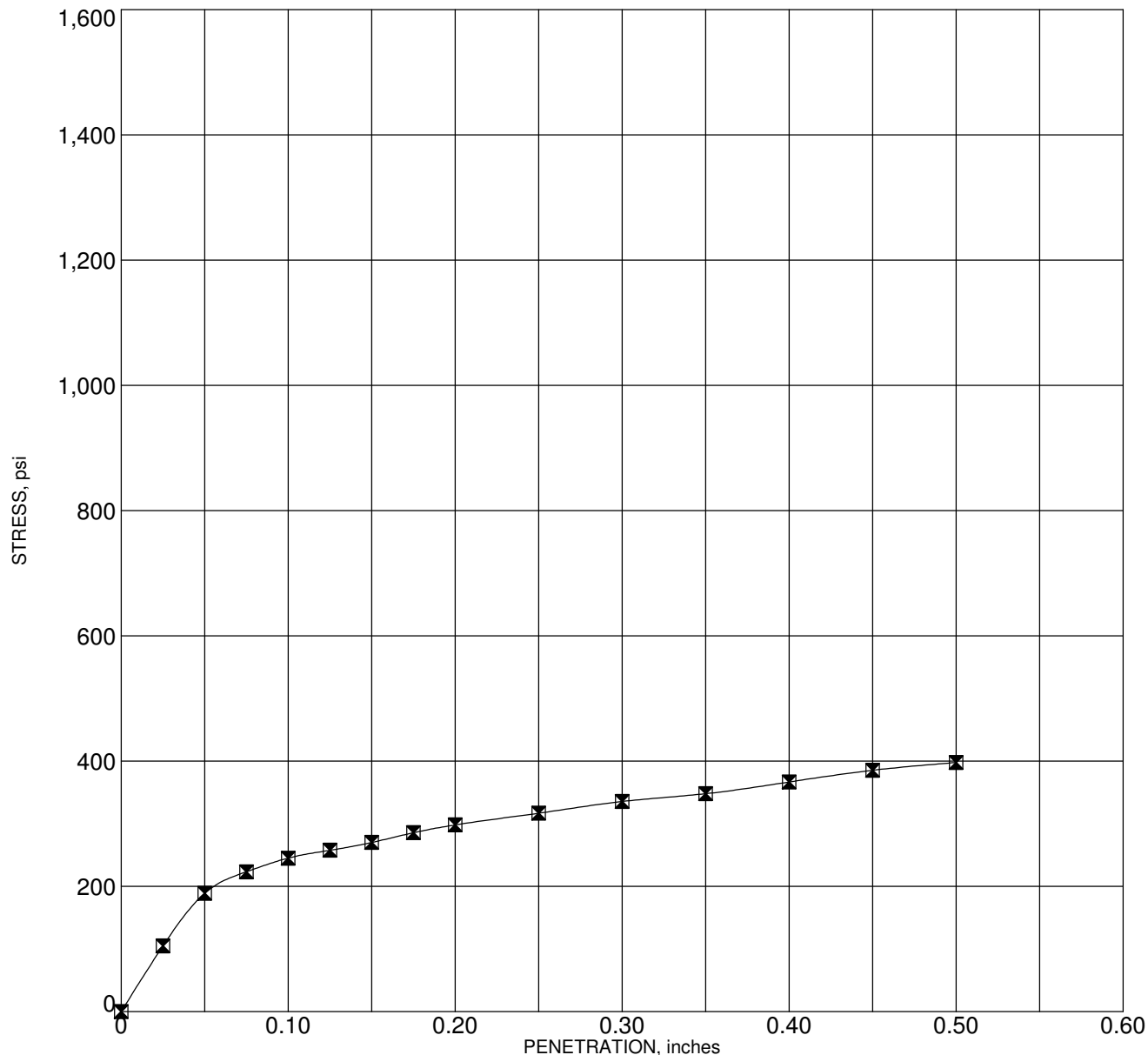


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**CALIFORNIA BEARING RATIO - ASTM D 1883**

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

Plate  
**C - 3**



Sample: BULK-2  
 Depth: 5.0 - 8.0 feet  
 Description: Brown with multi-color mottling silty clay (CH)

|                  |      |
|------------------|------|
| Corr. CBR @ 0.1" | 24.5 |
| Corr. CBR @ 0.2" | 19.9 |
| Swell (%)        | 0.39 |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 85.4       | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 38.4       | Hammer Drop (inches) | 18 |
| Days Soaked               | 5          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |

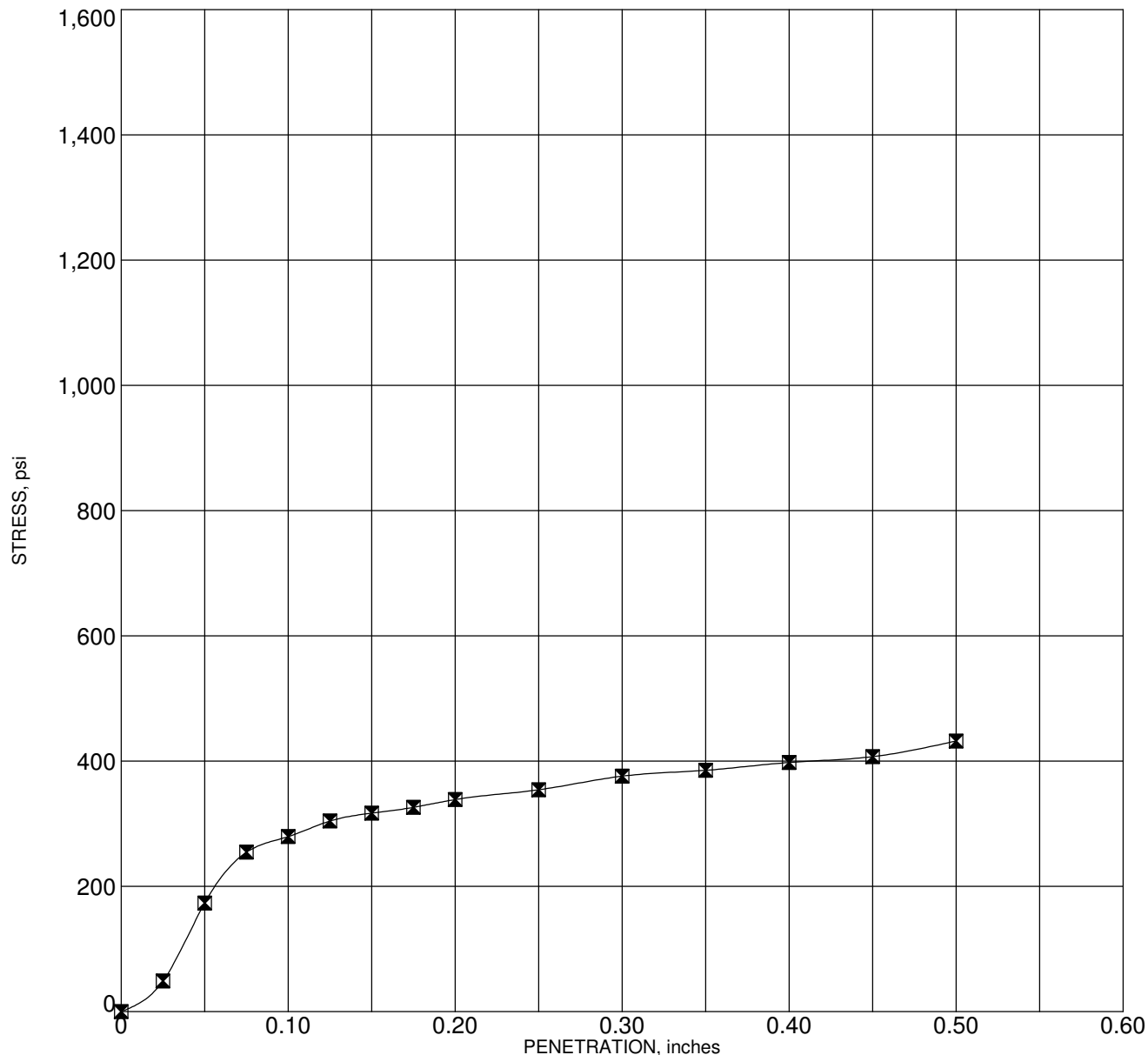


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**CALIFORNIA BEARING RATIO - ASTM D 1883**

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

Plate  
**C - 4**



Sample: BULK-3  
 Depth: 4.0 - 6.0 feet  
 Description: Dark grayish brown silty clay (CH)

|                  |      |
|------------------|------|
| Corr. CBR @ 0.1" | 29.4 |
| Corr. CBR @ 0.2" | 22.9 |
| Swell (%)        | 1.46 |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 97.9       | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 28.1       | Hammer Drop (inches) | 18 |
| Days Soaked               | 4          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |

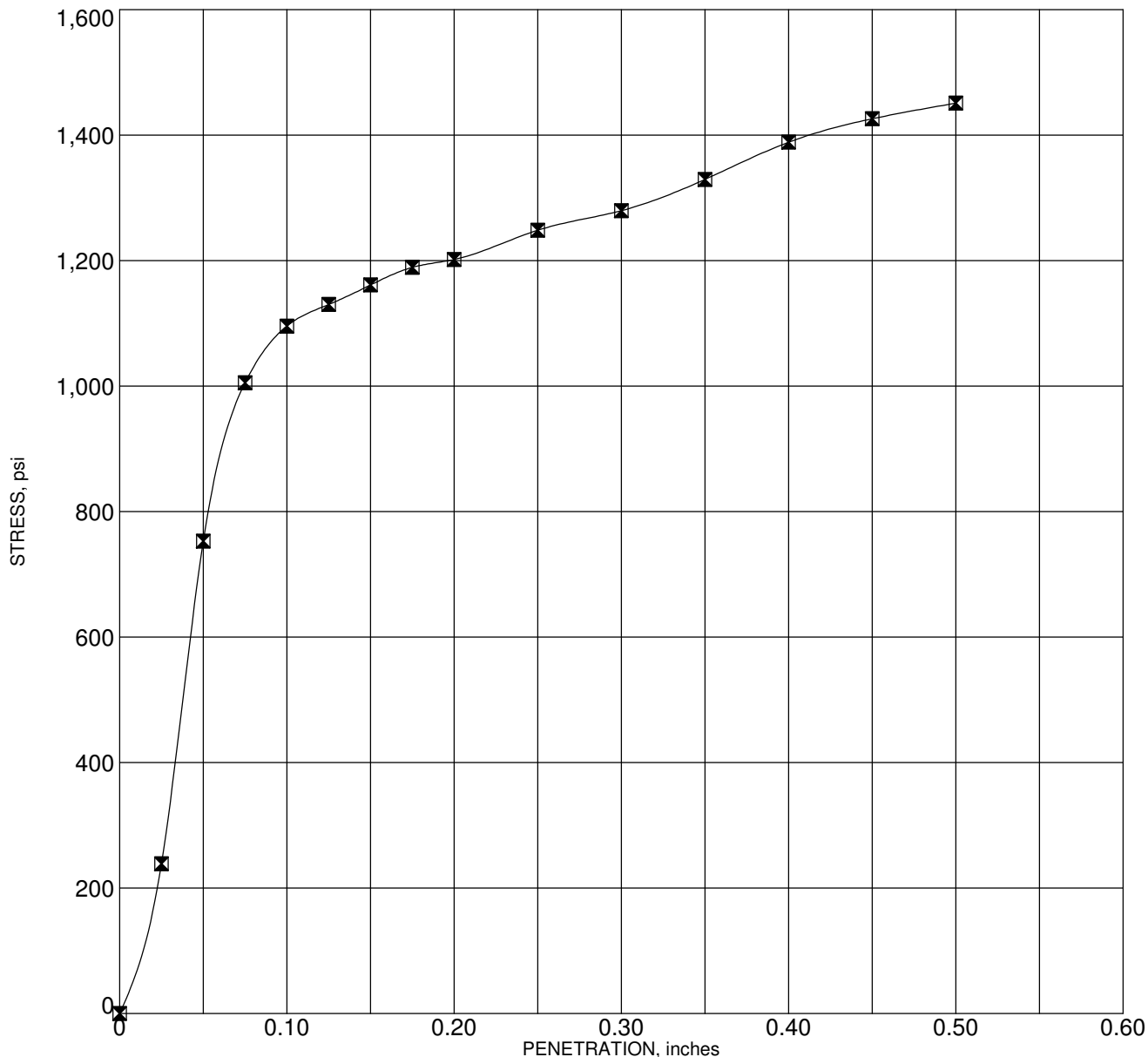


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### CALIFORNIA BEARING RATIO - ASTM D 1883

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

Plate  
**C - 5**



Sample: BULK-4  
 Depth: 2.0 - 6.0 feet  
 Description: Reddish brown clayey silt (MH)

|                  |       |
|------------------|-------|
| Corr. CBR @ 0.1" | 111.4 |
| Corr. CBR @ 0.2" | 80.9  |
| Swell (%)        | 0.24  |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 107.9      | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 24.1       | Hammer Drop (inches) | 18 |
| Days Soaked               | 5          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |

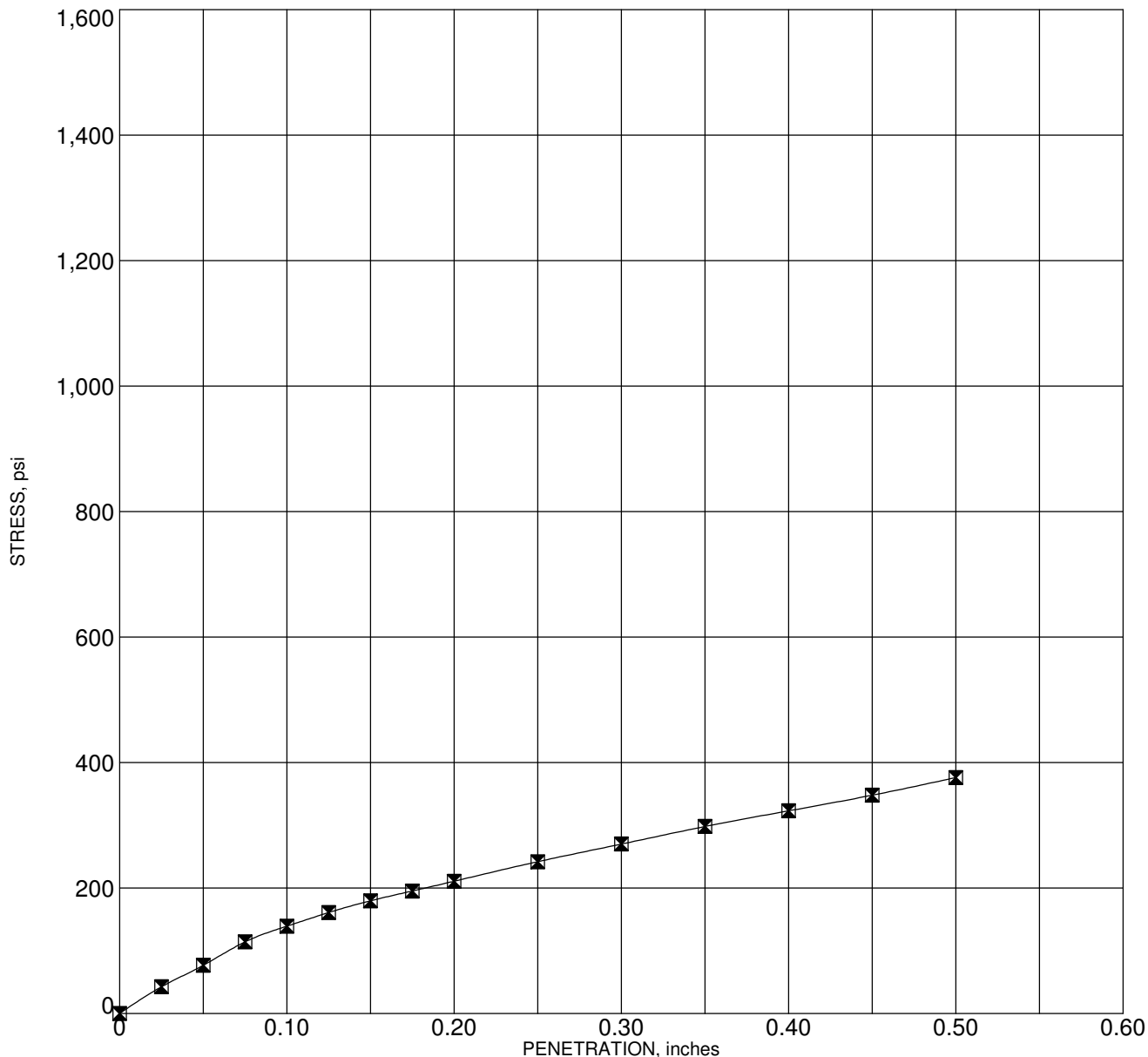


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**CALIFORNIA BEARING RATIO - ASTM D 1883**

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

Plate  
**C - 6**



Sample: BULK-5  
 Depth: 5.0 - 8.0 feet  
 Description: Reddish brown to grayish brown gravelly clay (CL)

|                  |      |
|------------------|------|
| Corr. CBR @ 0.1" | 13.8 |
| Corr. CBR @ 0.2" | 14.0 |
| Swell (%)        | 1.75 |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 120.3      | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 15.7       | Hammer Drop (inches) | 18 |
| Days Soaked               | 4          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |

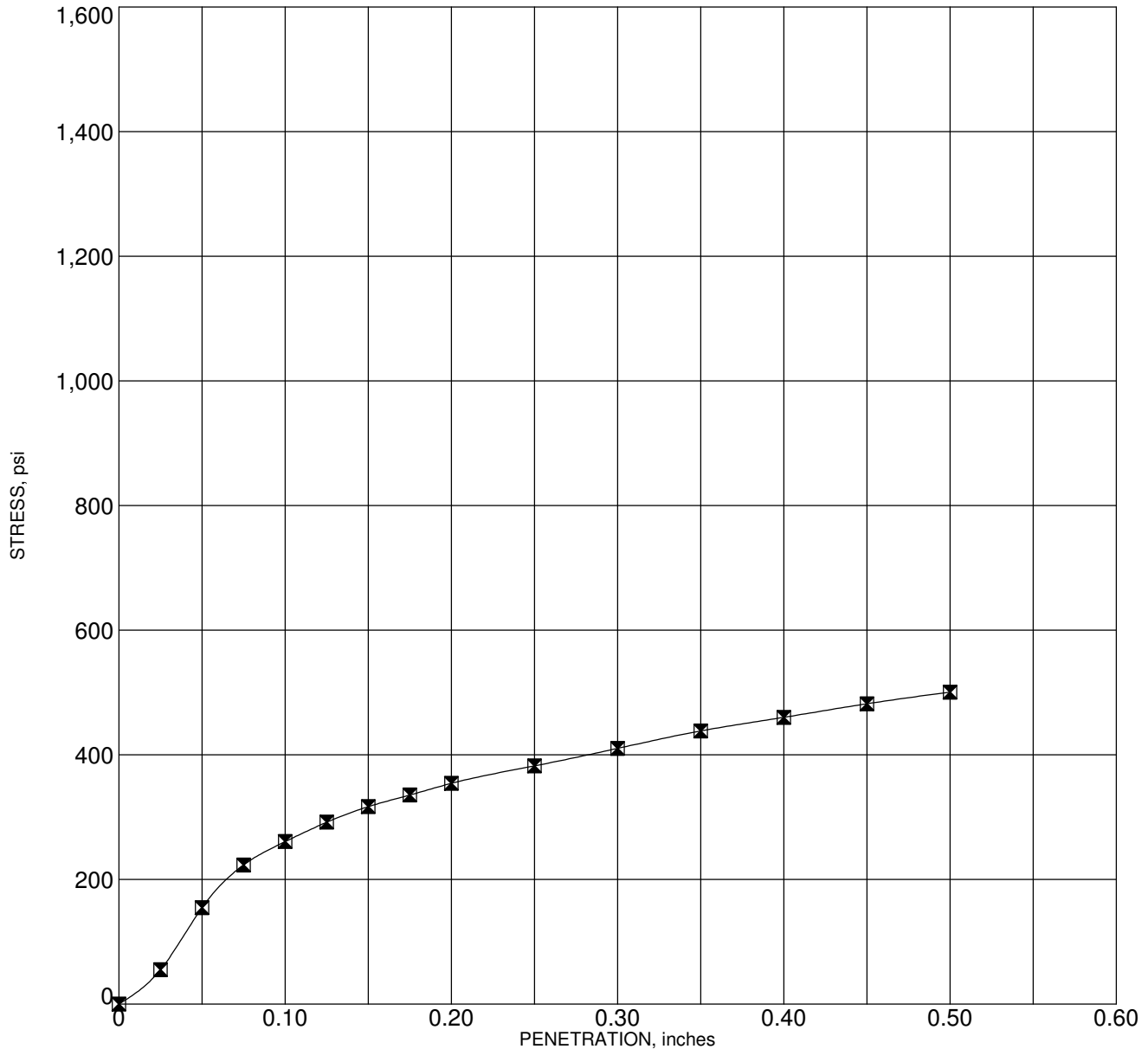


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### CALIFORNIA BEARING RATIO - ASTM D 1883

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

Plate  
**C - 7**



Sample: BULK-6  
 Depth: 2.0 - 5.0 feet  
 Description: Brown with orange mottling clayey silt (MH)

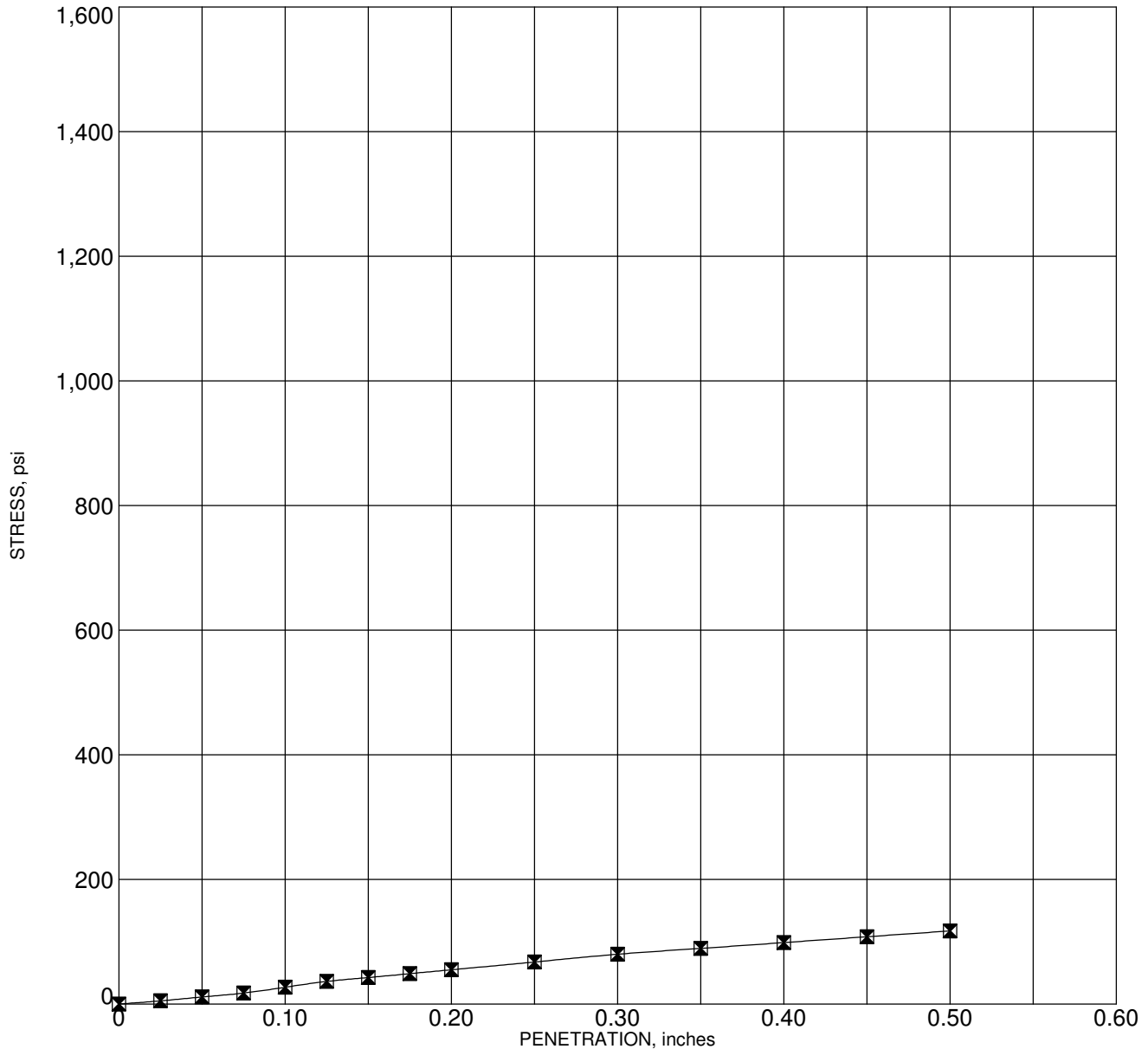
|                  |      |
|------------------|------|
| Corr. CBR @ 0.1" | 27.5 |
| Corr. CBR @ 0.2" | 24.0 |
| Swell (%)        | 0.44 |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 94.3       | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 30.4       | Hammer Drop (inches) | 18 |
| Days Soaked               | 4          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |



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| CALIFORNIA BEARING RATIO - ASTM D 1883                                                                        |                |
|---------------------------------------------------------------------------------------------------------------|----------------|
| REHABILITATION OF PALI HIGHWAY<br>WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY<br>HONOLULU TO KANEOHE, OAHU, HAWAII | Plate<br>C - 8 |



Sample: BULK-7  
 Depth: 2.0 - 5.0 feet  
 Description: Brown with red mottling silty clay (CH)

|                  |      |
|------------------|------|
| Corr. CBR @ 0.1" | 3.4  |
| Corr. CBR @ 0.2" | 4.1  |
| Swell (%)        | 5.32 |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 96.8       | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 27.6       | Hammer Drop (inches) | 18 |
| Days Soaked               | 4          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |

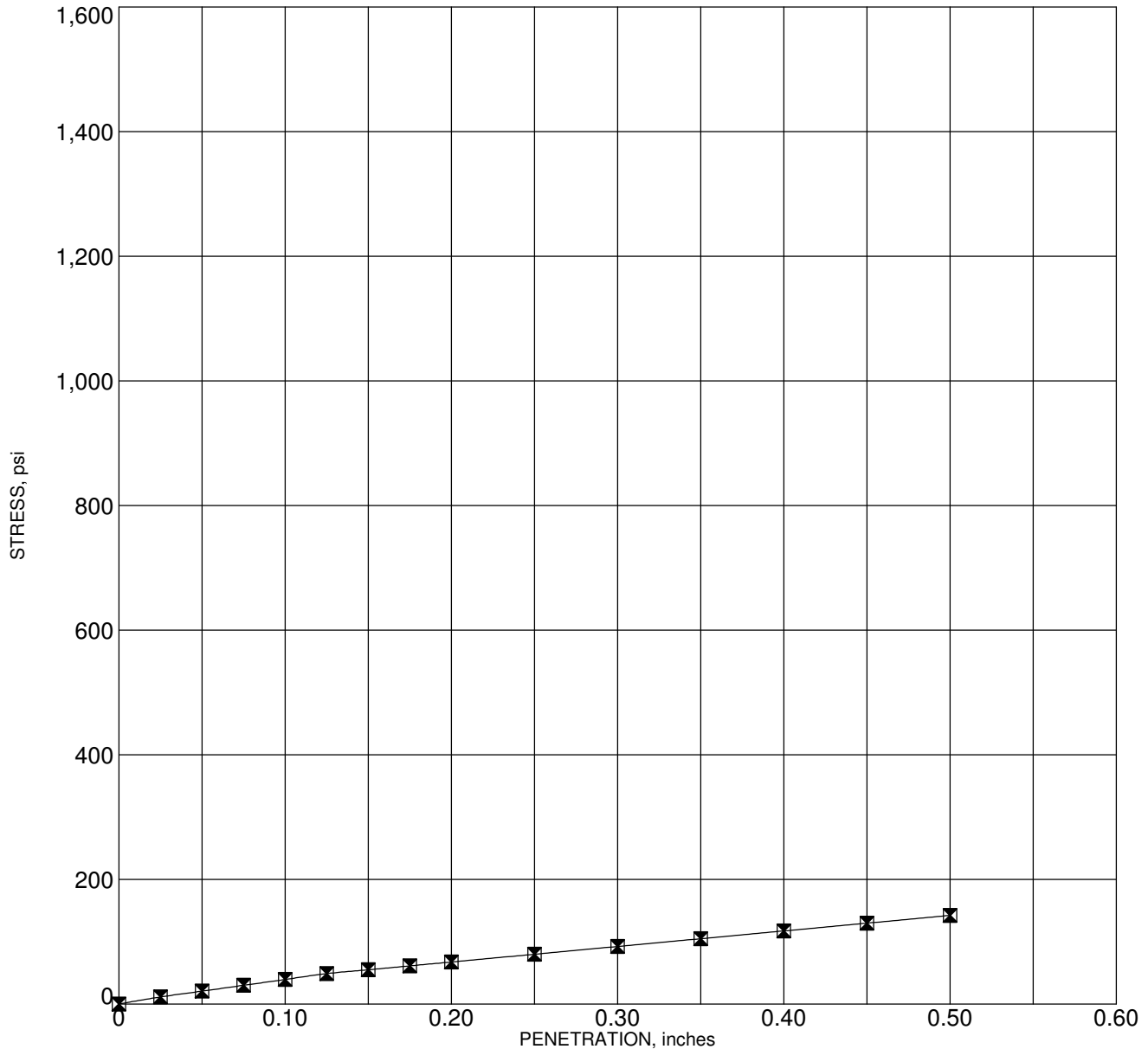


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**CALIFORNIA BEARING RATIO - ASTM D 1883**

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

Plate  
**C - 9**



Sample: BULK-8  
 Depth: 3.0 - 6.0 feet  
 Description: Brown with orange mottling silty clay (CH)

|                  |      |
|------------------|------|
| Corr. CBR @ 0.1" | 3.9  |
| Corr. CBR @ 0.2" | 4.5  |
| Swell (%)        | 4.38 |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 100.7      | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 25.8       | Hammer Drop (inches) | 18 |
| Days Soaked               | 5          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |

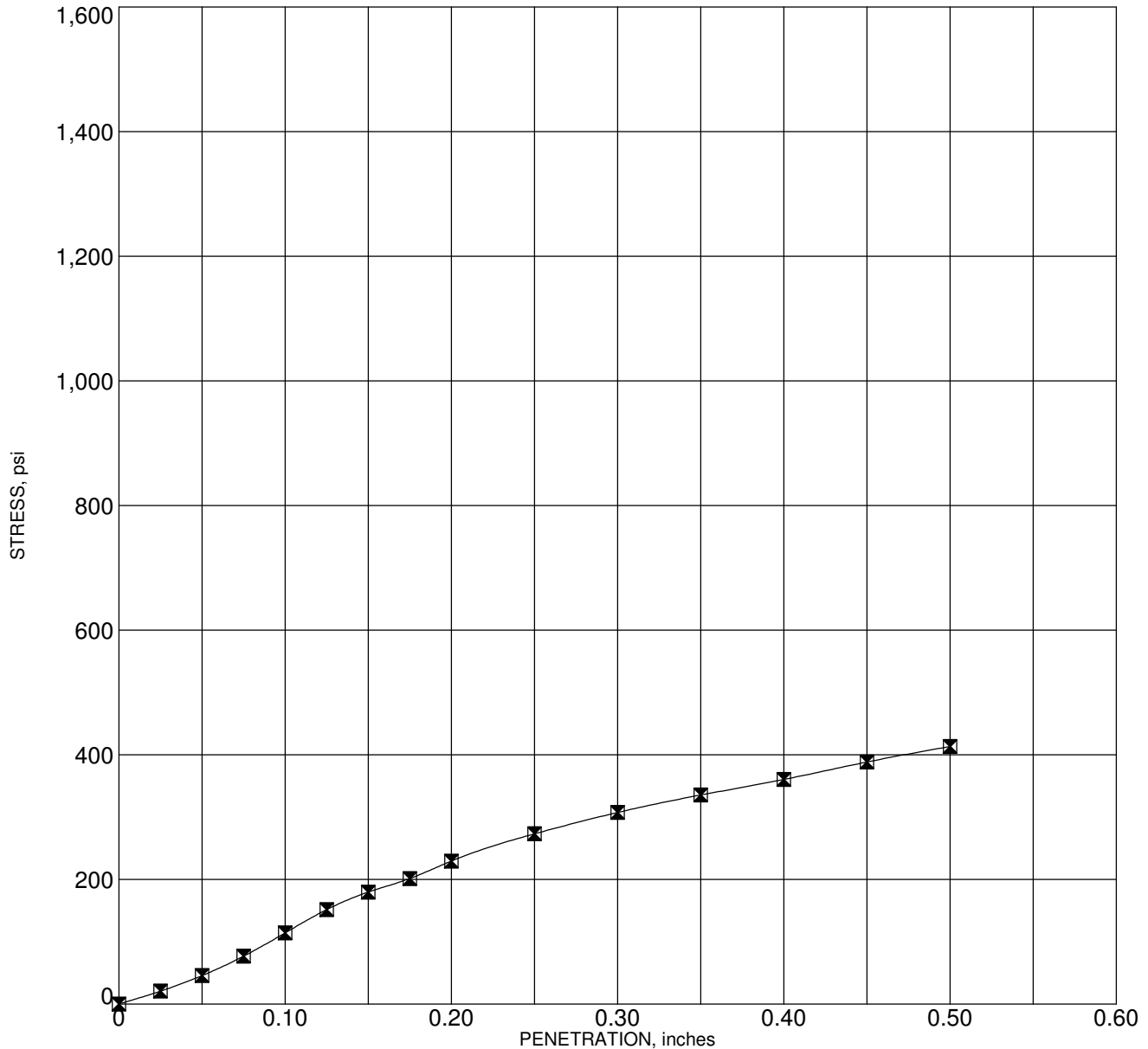


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**CALIFORNIA BEARING RATIO - ASTM D 1883**

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

Plate  
**C - 10**



Sample: BULK-9  
 Depth: 4.0 - 7.0 feet  
 Description: Brown with orange mottling clayey silt (MH)

|                  |      |
|------------------|------|
| Corr. CBR @ 0.1" | 15.0 |
| Corr. CBR @ 0.2" | 16.7 |
| Swell (%)        | 0.17 |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 78.0       | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 44.4       | Hammer Drop (inches) | 18 |
| Days Soaked               | 4          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |

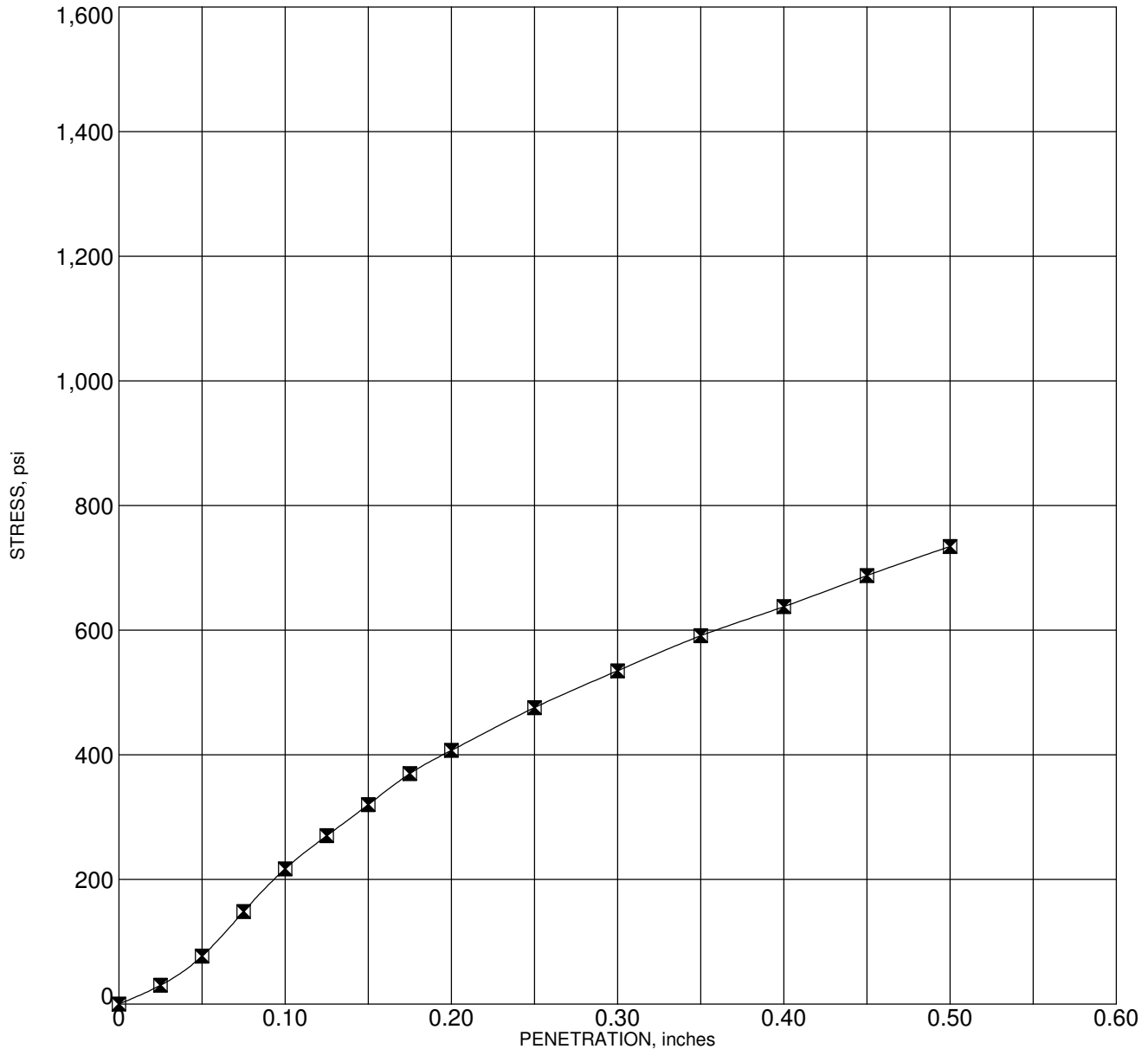


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### CALIFORNIA BEARING RATIO - ASTM D 1883

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

Plate  
**C - 11**



Sample: BULK-10  
 Depth: 6.0 - 9.0 feet  
 Description: Orangish brown clayey silt (MH)

|                  |      |
|------------------|------|
| Corr. CBR @ 0.1" | 26.6 |
| Corr. CBR @ 0.2" | 29.3 |
| Swell (%)        | 0.11 |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 94.0       | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 31.7       | Hammer Drop (inches) | 18 |
| Days Soaked               | 5          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |

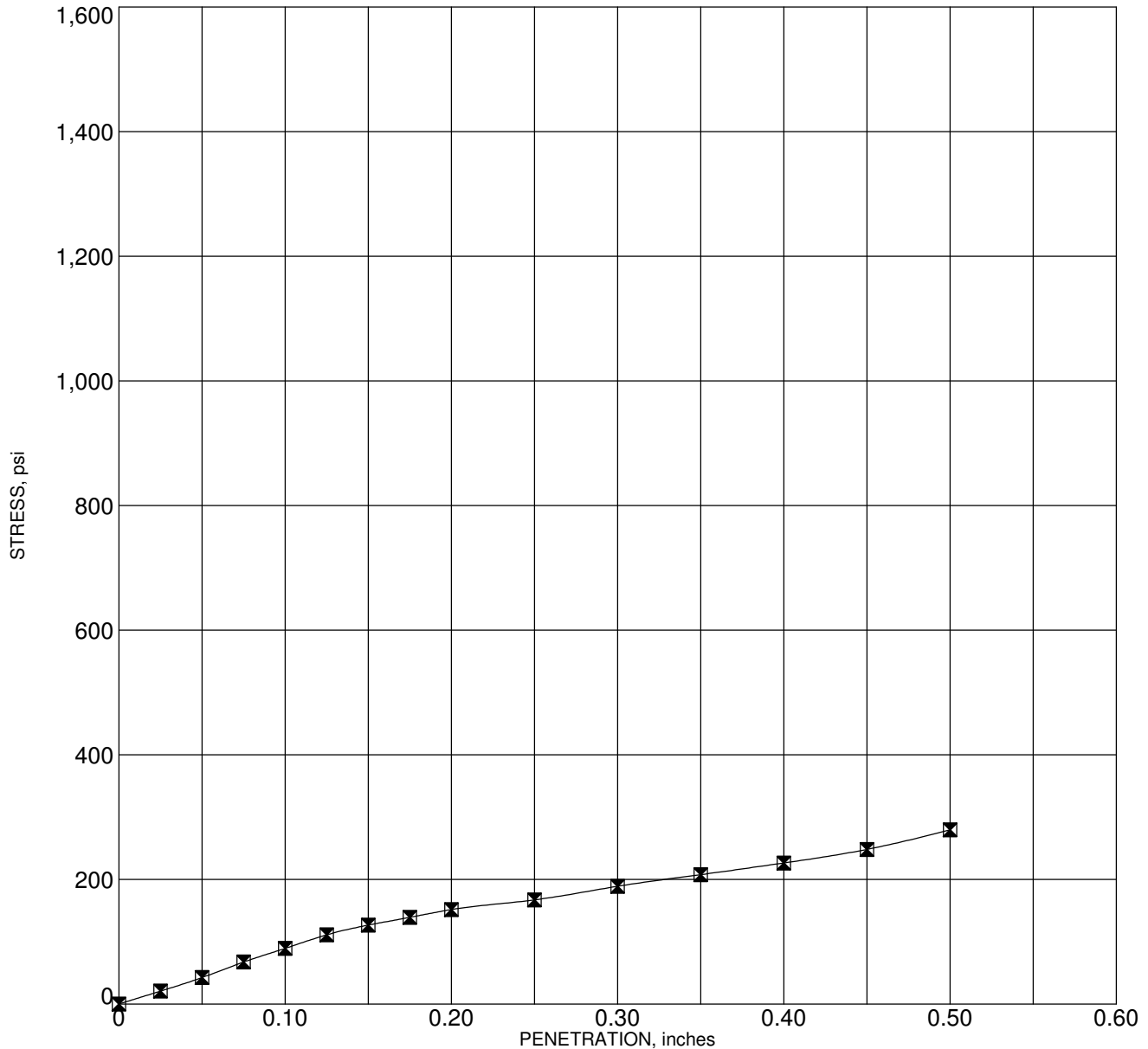


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**CALIFORNIA BEARING RATIO - ASTM D 1883**

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

Plate  
**C - 12**



Sample: BULK-11  
 Depth: 4.0 - 7.0 feet  
 Description: Grayish brown to gray silty clay (CH)

|                  |      |
|------------------|------|
| Corr. CBR @ 0.1" | 9.6  |
| Corr. CBR @ 0.2" | 10.3 |
| Swell (%)        | 2.97 |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 107.1      | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 21.9       | Hammer Drop (inches) | 18 |
| Days Soaked               | 4          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |

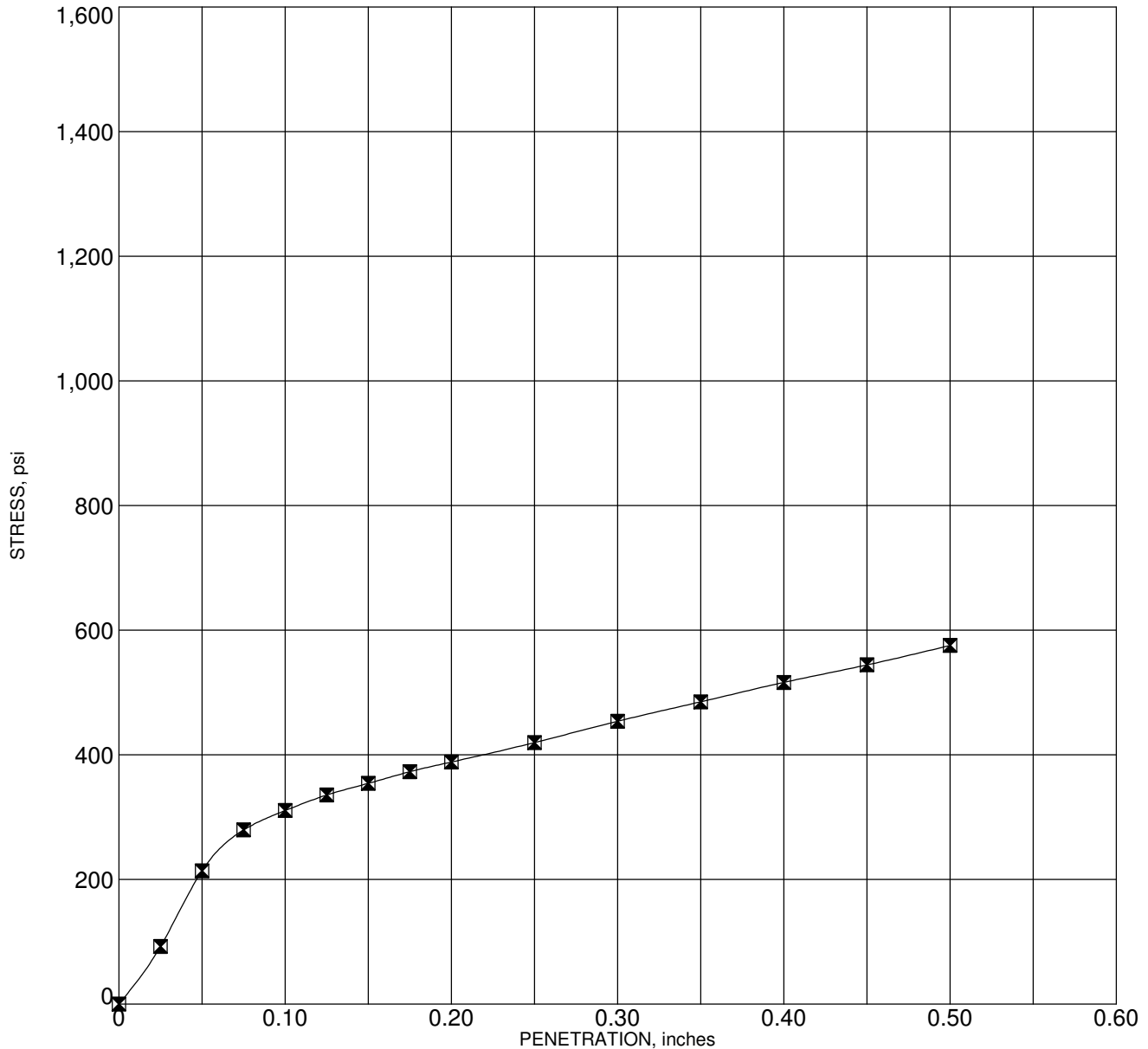


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**CALIFORNIA BEARING RATIO - ASTM D 1883**

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

Plate  
**C - 13**



Sample: BULK-12  
 Depth: 5.0 - 7.0 feet  
 Description: Dark grayish brown clayey silt (MH)

|                  |      |
|------------------|------|
| Corr. CBR @ 0.1" | 31.6 |
| Corr. CBR @ 0.2" | 26.1 |
| Swell (%)        | 0.85 |

|                           |            |                      |    |
|---------------------------|------------|----------------------|----|
| Molding Dry Density (pcf) | 94.2       | Hammer Wt. (lbs)     | 10 |
| Molding Moisture (%)      | 30.4       | Hammer Drop (inches) | 18 |
| Days Soaked               | 4          | No. of Blows         | 56 |
| Aggregate                 | inch minus | No. of Layers        | 5  |



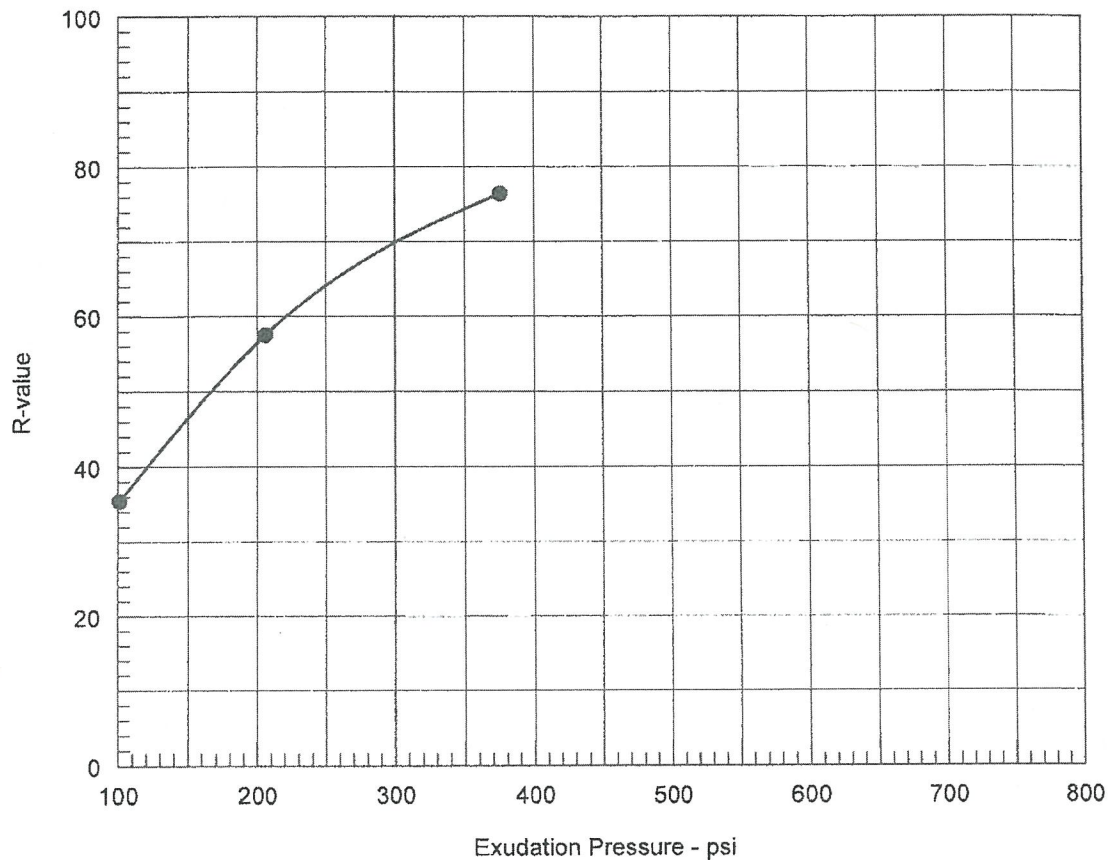
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**CALIFORNIA BEARING RATIO - ASTM D 1883**

REHABILITATION OF PALI HIGHWAY  
 WAOKANAKA STREET TO KAMEHAMEHA HIGHWAY  
 HONOLULU TO KANEOHE, OAHU, HAWAII

Plate  
**C - 14**

## R-VALUE TEST REPORT

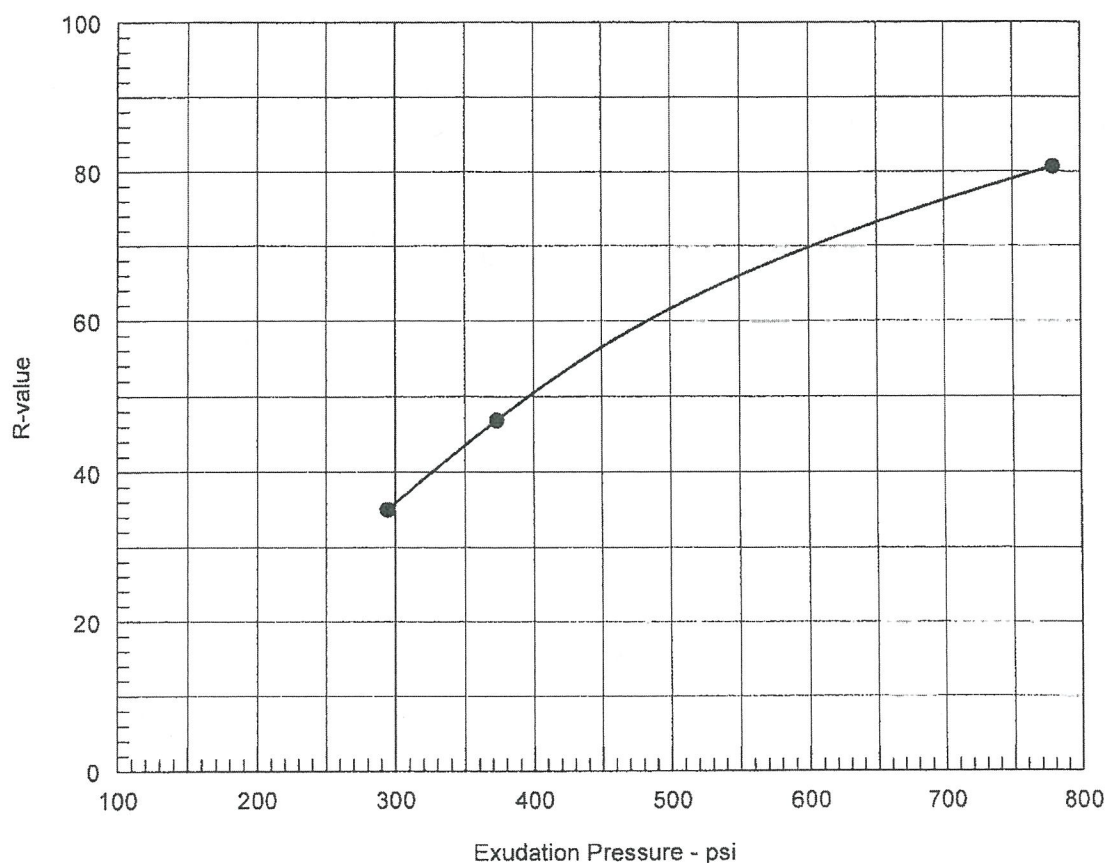


**Resistance R-Value and Expansion Pressure - ASTM D 2844**

| No. | Compact.<br>Pressure<br>psi | Density<br>pcf | Moist.<br>% | Expansion<br>Pressure<br>psi | Horizontal<br>Press. psi<br>@ 160 psi | Sample<br>Height<br>in. | Exud.<br>Pressure<br>psi | R<br>Value | R<br>Value<br>Corr. |
|-----|-----------------------------|----------------|-------------|------------------------------|---------------------------------------|-------------------------|--------------------------|------------|---------------------|
| 1   | 40                          | 84.4           | 37.7        | 0.00                         | 89                                    | 2.51                    | 101                      | 35         | 35                  |
| 2   | 350                         | 89.5           | 32.9        | 0.70                         | 27                                    | 2.48                    | 376                      | 76         | 76                  |
| 3   | 260                         | 87.8           | 34.9        | 0.36                         | 53                                    | 2.53                    | 206                      | 58         | 58                  |

| Test Results                                                                                                                                                             |  |  |  |  |  | Material Description                                                                  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|---------------------------------------------------------------------------------------|--|--|--|
| R-value at 300 psi exudation pressure = 70                                                                                                                               |  |  |  |  |  | Red Brown Silty Clay with Sand                                                        |  |  |  |
| <b>Project No.:</b> 46228077<br><b>Project:</b> Pali Highway Rehabilitation Project<br><b>Location:</b> Bulk-1<br><b>Sample Number:</b> 7241-1<br><b>Date:</b> 11/6/2013 |  |  |  |  |  | <b>Tested by:</b> D N<br><b>Checked by:</b> G H<br><b>Remarks:</b><br>W.O.6782-00 (A) |  |  |  |
| R-VALUE TEST REPORT<br><b>SIGNET TESTING LABS, INC.</b>                                                                                                                  |  |  |  |  |  | Figure _____                                                                          |  |  |  |

## R-VALUE TEST REPORT

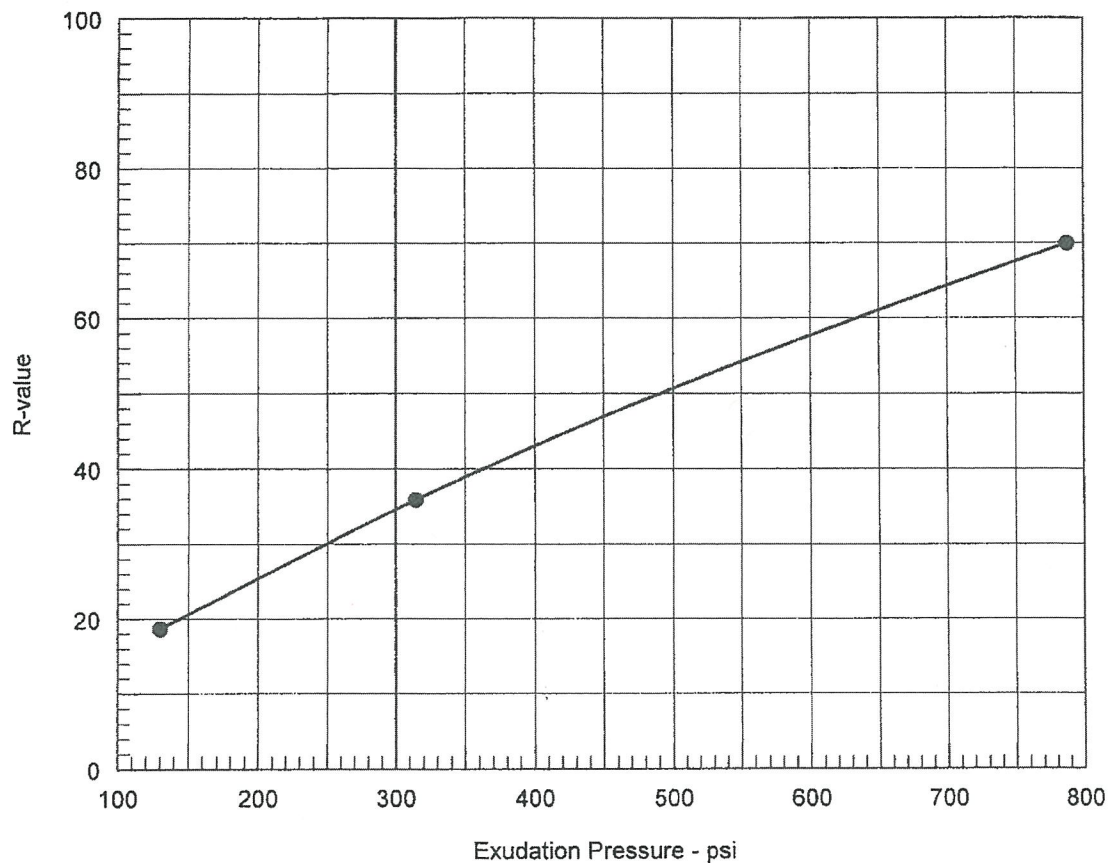


**Resistance R-Value and Expansion Pressure - ASTM D 2844**

| No. | Compact.<br>Pressure<br>psi | Density<br>pcf | Moist.<br>% | Expansion<br>Pressure<br>psi | Horizontal<br>Press. psi<br>@ 160 psi | Sample<br>Height<br>in. | Exud.<br>Pressure<br>psi | R<br>Value | R<br>Value<br>Corr. |
|-----|-----------------------------|----------------|-------------|------------------------------|---------------------------------------|-------------------------|--------------------------|------------|---------------------|
| 1   | 350                         | 93.1           | 32.0        | 3.46                         | 28                                    | 2.51                    | 780                      | 81         | 81                  |
| 2   | 160                         | 88.3           | 35.8        | 0.18                         | 88                                    | 2.59                    | 373                      | 45         | 47                  |
| 3   | 110                         | 86.2           | 37.4        | 0.00                         | 102                                   | 2.52                    | 294                      | 35         | 35                  |

| Test Results                                                                                                                          |  |  |  |  |  | Material Description                                            |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|-----------------------------------------------------------------|--|--|--|
| R-value at 300 psi exudation pressure = 36                                                                                            |  |  |  |  |  | Brown Sandy Clay                                                |  |  |  |
| Project No.: 46228077<br>Project: Pali Highway Rehabilitation Project<br>Location: Bulk-2<br>Sample Number: 7241-2<br>Date: 11/6/2013 |  |  |  |  |  | Tested by: D N<br>Checked by: G H<br>Remarks:<br>W.O.6782-00(A) |  |  |  |
| R-VALUE TEST REPORT<br><b>SIGNET TESTING LABS, INC.</b>                                                                               |  |  |  |  |  | Figure 2                                                        |  |  |  |

## R-VALUE TEST REPORT

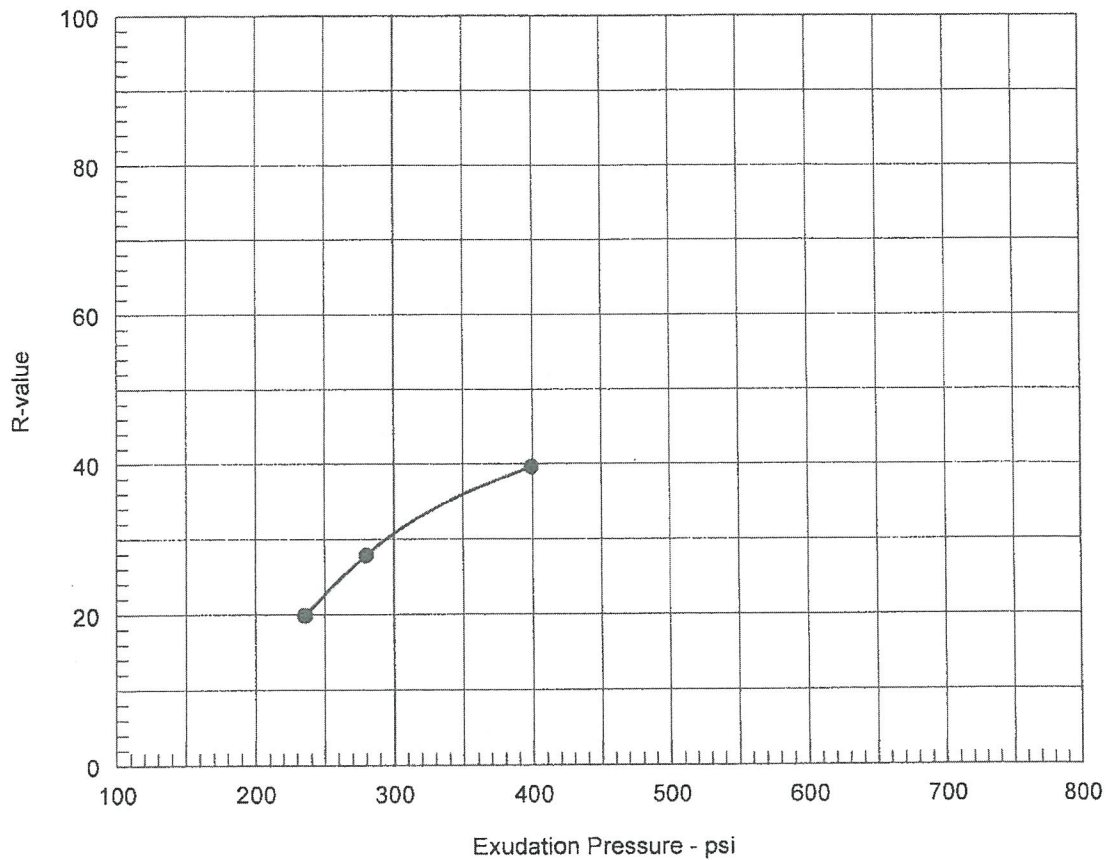


**Resistance R-Value and Expansion Pressure - ASTM D 2844**

| No. | Compact. Pressure psi | Density pcf | Moist. % | Expansion Pressure psi | Horizontal Press. psi @ 160 psi | Sample Height in. | Exud. Pressure psi | R Value | R Value Corr. |
|-----|-----------------------|-------------|----------|------------------------|---------------------------------|-------------------|--------------------|---------|---------------|
| 1   | 80                    | 92.5        | 30.8     | 0.00                   | 94                              | 2.50              | 314                | 36      | 36            |
| 2   | 30                    | 88.9        | 33.0     | 0.00                   | 119                             | 2.43              | 130                | 20      | 19            |
| 3   | 200                   | 98.2        | 28.1     | 0.76                   | 43                              | 2.43              | 788                | 71      | 70            |

| Test Results                                                                                                                                                     | Material Description                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| R-value at 300 psi exudation pressure = 35                                                                                                                       | Red Sandy Clay                                                                      |
| <b>Project No.:</b> 46228077<br><b>Project:</b> Pali Highway Rehab Project<br><b>Location:</b> Bulk-4<br><b>Sample Number:</b> 7249-1<br><b>Date:</b> 11/12/2013 | <b>Tested by:</b> DN<br><b>Checked by:</b> GH<br><b>Remarks:</b><br>W.O.6782-00 (A) |
| R-VALUE TEST REPORT<br><b>SIGNET TESTING LABS, INC.</b>                                                                                                          | Figure 1                                                                            |

## R-VALUE TEST REPORT

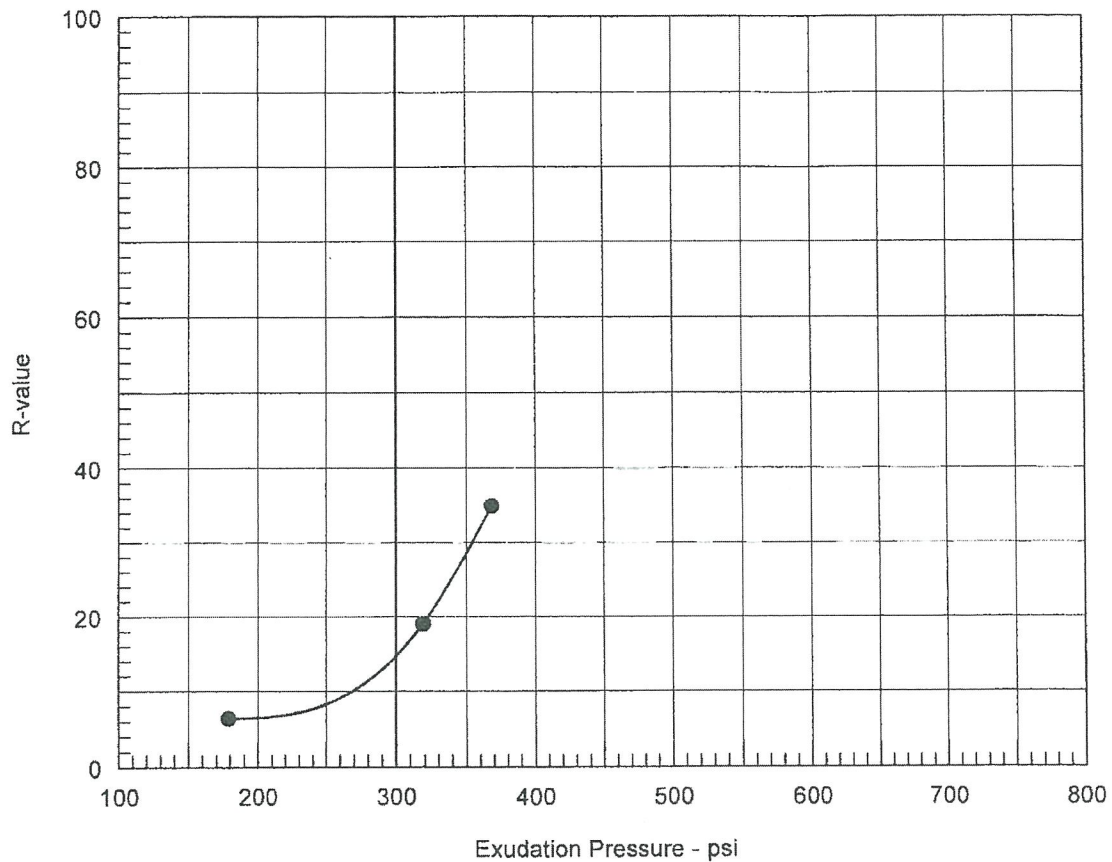


**Resistance R-Value and Expansion Pressure - ASTM D 2844**

| No. | Compact. Pressure<br>psi | Density<br>pcf | Moist.<br>% | Expansion Pressure<br>psi | Horizontal Press. psi<br>@ 160 psi | Sample Height<br>in. | Exud. Pressure<br>psi | R Value | R Value Corr. |
|-----|--------------------------|----------------|-------------|---------------------------|------------------------------------|----------------------|-----------------------|---------|---------------|
| 1   | 145                      | 85.9           | 36.7        | 0.21                      | 89                                 | 2.51                 | 399                   | 40      | 40            |
| 2   | 50                       | 82.4           | 39.6        | 0.00                      | 121                                | 2.48                 | 236                   | 20      | 20            |
| 3   | 100                      | 83.8           | 38.1        | 0.00                      | 110                                | 2.57                 | 280                   | 27      | 28            |

| Test Results                                                                                                                                                             |  |  |  |  |  | Material Description                                                                  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|---------------------------------------------------------------------------------------|--|--|--|
| R-value at 300 psi exudation pressure = 31                                                                                                                               |  |  |  |  |  | Brown Silty Lean Clay                                                                 |  |  |  |
| <b>Project No.:</b> 46228077<br><b>Project:</b> Pali Highway Rehabilitation Project<br><b>Location:</b> Bulk-6<br><b>Sample Number:</b> 7241-3<br><b>Date:</b> 11/6/2013 |  |  |  |  |  | <b>Tested by:</b> D N<br><b>Checked by:</b> G H<br><b>Remarks:</b><br>W.O. 6782-00(A) |  |  |  |
| R-VALUE TEST REPORT<br><b>SIGNET TESTING LABS, INC.</b>                                                                                                                  |  |  |  |  |  | Figure 3                                                                              |  |  |  |

## R-VALUE TEST REPORT

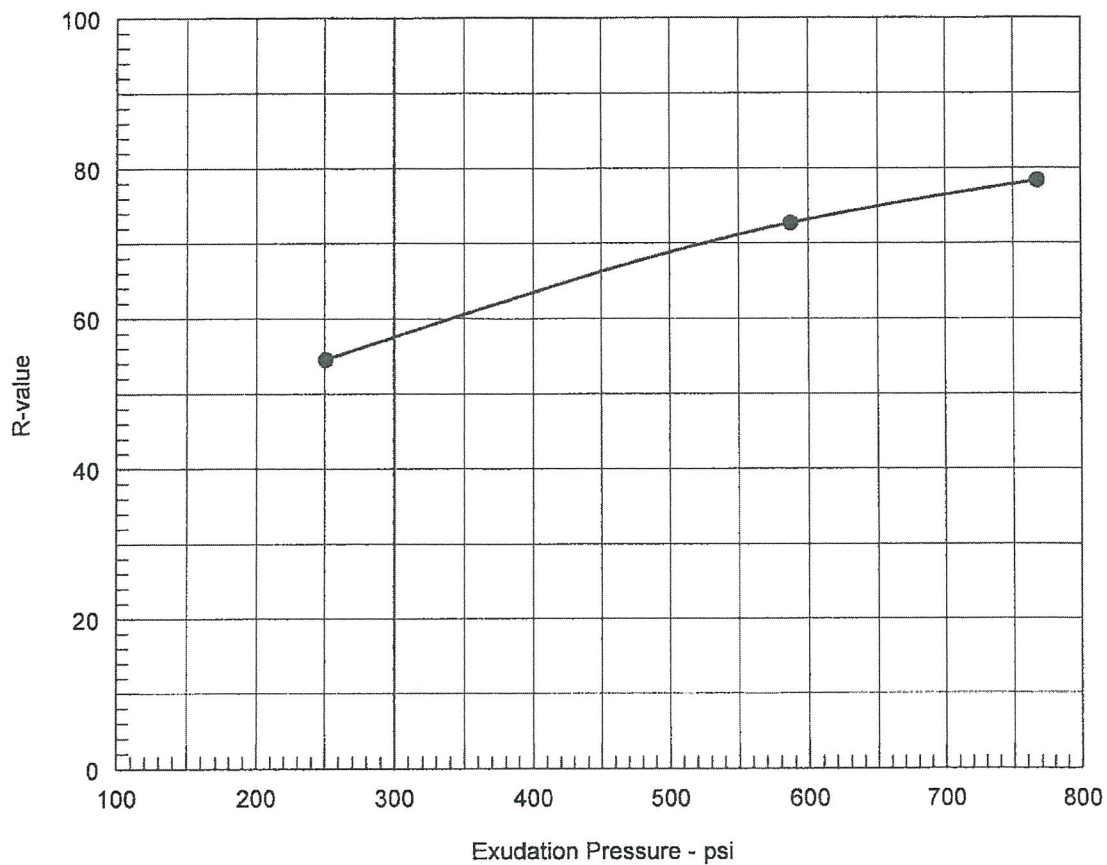


**Resistance R-Value and Expansion Pressure - ASTM D 2844**

| No. | Compact. Pressure<br>psi | Density<br>pcf | Moist.<br>% | Expansion Pressure<br>psi | Horizontal Press. psi<br>@ 160 psi | Sample Height<br>in. | Exud. Pressure<br>psi | R Value | R Value Corr. |
|-----|--------------------------|----------------|-------------|---------------------------|------------------------------------|----------------------|-----------------------|---------|---------------|
| 1   | 45                       | 80.4           | 39.6        | 0.09                      | 146                                | 2.48                 | 179                   | 6       | 6             |
| 2   | 80                       | 85.5           | 35.9        | 0.79                      | 124                                | 2.51                 | 319                   | 19      | 19            |
| 3   | 130                      | 89.5           | 33.0        | 2.03                      | 100                                | 2.49                 | 368                   | 35      | 35            |

| Test Results                                                                                                                          |  |  |  |  |  | Material Description                                             |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|------------------------------------------------------------------|--|--|--|
| R-value at 300 psi exudation pressure = 15                                                                                            |  |  |  |  |  | Red Clay                                                         |  |  |  |
| Project No.: 46228077<br>Project: Pali Highway Rehabilitation Project<br>Location: Bulk-7<br>Sample Number: 7241-4<br>Date: 11/6/2013 |  |  |  |  |  | Tested by: D N<br>Checked by: G H<br>Remarks:<br>W.O. 6782-00(A) |  |  |  |
| R-VALUE TEST REPORT<br><b>SIGNET TESTING LABS, INC.</b>                                                                               |  |  |  |  |  | Figure 4                                                         |  |  |  |

## R-VALUE TEST REPORT

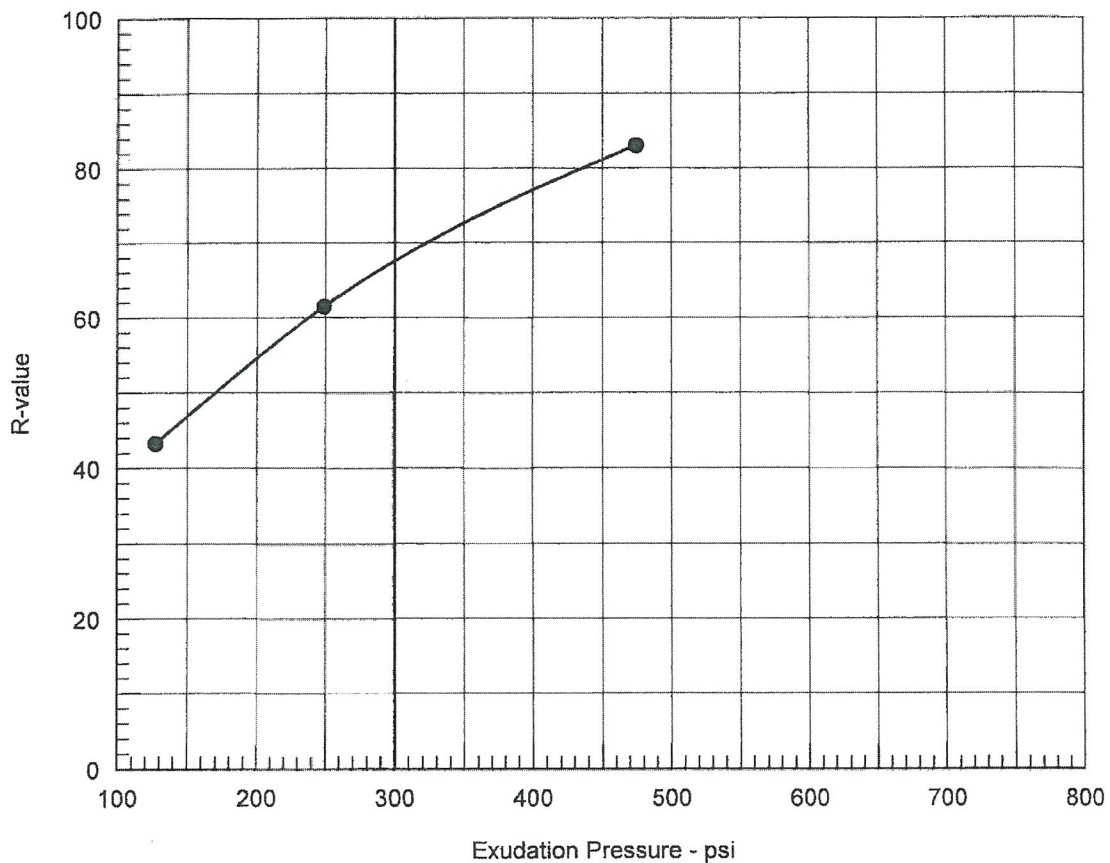


### Resistance R-Value and Expansion Pressure - ASTM D 2844

| No. | Compact.<br>Pressure<br>psi | Density<br>pcf | Moist.<br>% | Expansion<br>Pressure<br>psi | Horizontal<br>Press. psi<br>@ 160 psi | Sample<br>Height<br>in. | Exud.<br>Pressure<br>psi | R<br>Value | R<br>Value<br>Corr. |
|-----|-----------------------------|----------------|-------------|------------------------------|---------------------------------------|-------------------------|--------------------------|------------|---------------------|
| 1   | 200                         | 78.7           | 41.0        | 0.70                         | 56                                    | 2.53                    | 251                      | 55         | 55                  |
| 2   | 350                         | 79.5           | 39.1        | 1.09                         | 33                                    | 2.52                    | 587                      | 73         | 73                  |
| 3   | 350                         | 81.9           | 37.1        | 1.39                         | 25                                    | 2.44                    | 768                      | 79         | 78                  |

| Test Results                                                                                                                                                     | Material Description                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| R-value at 300 psi exudation pressure = 58                                                                                                                       | Red Brown Silty Clay                                                                |
| <b>Project No.:</b> 46228077<br><b>Project:</b> Pali Highway Rehab Project<br><b>Location:</b> Bulk-9<br><b>Sample Number:</b> 7249-2<br><b>Date:</b> 11/12/2013 | <b>Tested by:</b> DN<br><b>Checked by:</b> GH<br><b>Remarks:</b><br>W.O.6782-00 (A) |
| R-VALUE TEST REPORT<br><b>SIGNET TESTING LABS, INC.</b>                                                                                                          | Figure 1                                                                            |

## R-VALUE TEST REPORT

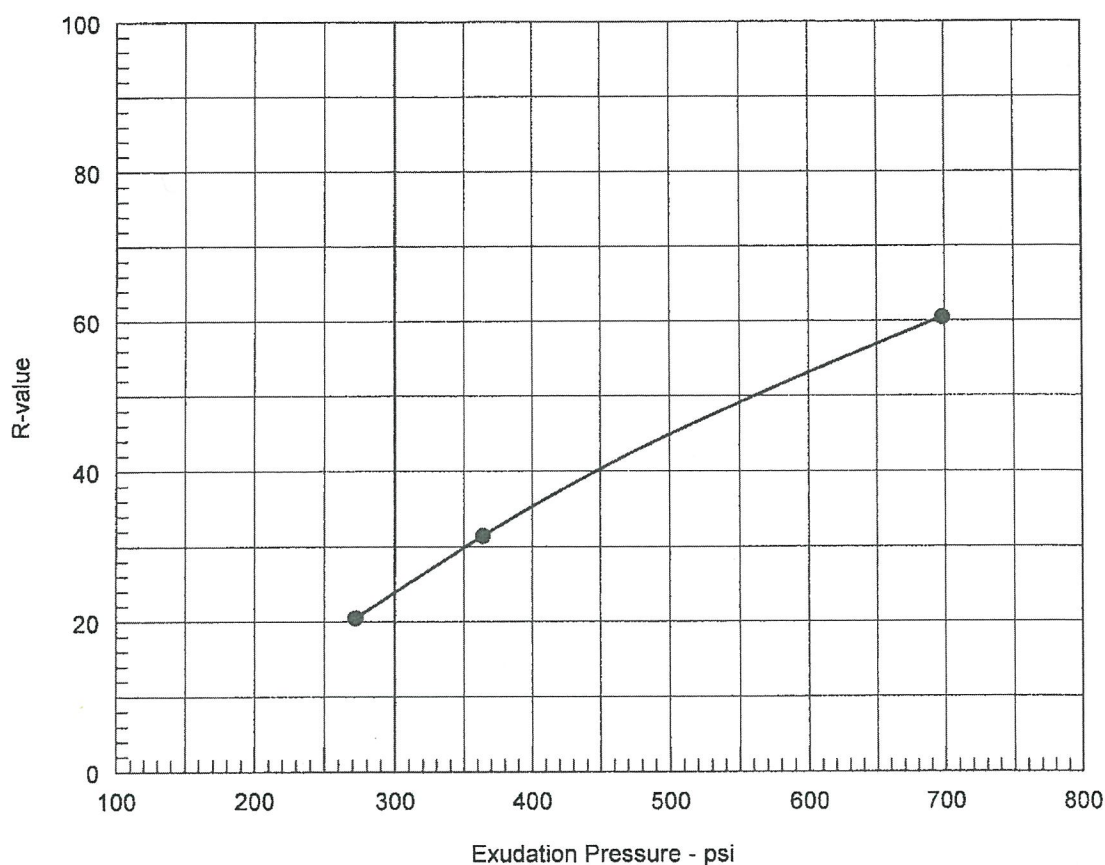


**Resistance R-Value and Expansion Pressure - ASTM D 2844**

| No. | Compact.<br>Pressure<br>psi | Density<br>pcf | Moist.<br>% | Expansion<br>Pressure<br>psi | Horizontal<br>Press. psi<br>@ 160 psi | Sample<br>Height<br>in. | Exud.<br>Pressure<br>psi | R<br>Value | R<br>Value<br>Corr. |
|-----|-----------------------------|----------------|-------------|------------------------------|---------------------------------------|-------------------------|--------------------------|------------|---------------------|
| 1   | 115                         | 88.0           | 33.9        | 0.00                         | 74                                    | 2.51                    | 127                      | 43         | 43                  |
| 2   | 350                         | 91.3           | 31.1        | 0.24                         | 47                                    | 2.50                    | 249                      | 61         | 61                  |
| 3   | 350                         | 91.6           | 30.1        | 0.00                         | 19                                    | 2.50                    | 475                      | 83         | 83                  |

| Test Results                                                                                                                                                      |  |  |  |  |  | Material Description                                                                |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|-------------------------------------------------------------------------------------|--|--|--|
| R-value at 300 psi exudation pressure = 68                                                                                                                        |  |  |  |  |  | Brown Sandy Clay with Gravel                                                        |  |  |  |
| <b>Project No.:</b> 46228077<br><b>Project:</b> Pali Highway Rehab Project<br><b>Location:</b> Bulk-10<br><b>Sample Number:</b> 7249-3<br><b>Date:</b> 11/12/2013 |  |  |  |  |  | <b>Tested by:</b> DN<br><b>Checked by:</b> GH<br><b>Remarks:</b><br>W.O.6782-00 (A) |  |  |  |
| R-VALUE TEST REPORT<br><b>SIGNET TESTING LABS, INC.</b>                                                                                                           |  |  |  |  |  | Figure 1                                                                            |  |  |  |

## R-VALUE TEST REPORT



**Resistance R-Value and Expansion Pressure - ASTM D 2844**

| No. | Compact. Pressure psi | Density pcf | Moist. % | Expansion Pressure psi | Horizontal Press. psi @ 160 psi | Sample Height in. | Exud. Pressure psi | R Value | R Value Corr. |
|-----|-----------------------|-------------|----------|------------------------|---------------------------------|-------------------|--------------------|---------|---------------|
| 1   | 65                    | 87.3        | 33.5     | 0.00                   | 121                             | 2.50              | 272                | 20      | 20            |
| 2   | 100                   | 90.8        | 31.6     | 0.27                   | 105                             | 2.50              | 364                | 31      | 31            |
| 3   | 250                   | 94.6        | 29.7     | 1.76                   | 63                              | 2.47              | 698                | 60      | 60            |

| Test Results                                                                                                                                                      |  |  |  |  |  | Material Description                                                                |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|-------------------------------------------------------------------------------------|--|--|--|
| R-value at 300 psi exudation pressure = 24                                                                                                                        |  |  |  |  |  | Brown Clay with Sand                                                                |  |  |  |
| <b>Project No.:</b> 46228077<br><b>Project:</b> Pali Highway Rehab Project<br><b>Location:</b> Bulk-11<br><b>Sample Number:</b> 7249-4<br><b>Date:</b> 11/12/2013 |  |  |  |  |  | <b>Tested by:</b> DN<br><b>Checked by:</b> GH<br><b>Remarks:</b><br>W/O.6782-00 (A) |  |  |  |
| R-VALUE TEST REPORT<br><b>SIGNET TESTING LABS, INC.</b>                                                                                                           |  |  |  |  |  | Figure 1                                                                            |  |  |  |