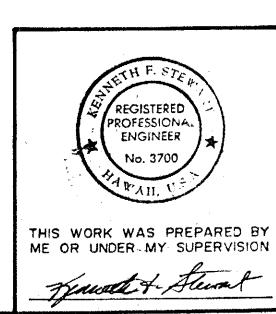
FISCAL SHEET TOTAL YEAR NO. SHEETS

| BORING I<br>FILE 43:<br>DATE 7-3 | 3-2    |                   | SURFA | CE E                  | LEY.                          | PRELIMINARY RECOMMENDATION  . 601'± ER NONE ENCOUNTERED  |
|----------------------------------|--------|-------------------|-------|-----------------------|-------------------------------|--|
| LAB<br>TEST<br>RESULTS           | MOIST. | DRY<br>WT.<br>PCF | PER   | S<br>A<br>M<br>P<br>L | D<br>E<br>P<br>T              | CLASSIFICATION   |
|                                  | 68     | 56                | 8     | . •                   | -                             |  |
|                                  | 60     | 61                | 16    | 2                     | -                             |  |
|                                  | 68     |                   | 12    | 3                     | 5<br>5                        |  |
|                                  | 61     | 61                | 5     | 4                     | -<br>-<br>-<br>- 10<br>-<br>- | DARK BROWN CLAYEY SILT (ML) WITH TRACE OF ORGANICS AND DECOMPOSED ROCK FRAGMENTS, MEDIUM STIFF TO STIFF, DAMP TO WET |
|                                  | 68     |                   | 7     | 5                     | -15<br>-15<br>                | (ASH)  |
|                                  | 58     |                   | 9     | 6                     |                               | DARK GRAY/BROWN SILT (ML), MEDIUM STIFF, WET   |
|                                  |        |                   | _     |                       | -<br>25                       | (DECOMPOSED CINDERS)   |
|                                  | 78     | 53                | 5     | 7                     |                               | REDDISH BROWN SILTY SAND (SM), WITH DECOMPOSED ROCK FRAGMENTS, MEDIUM DENSE, MOIST (RESIDUAL)                        |
| e.                               | 62     | 59                | 15    | 8                     | 30<br><br><br>                | DARK BROWN SANDY SILT (ML)   |
|                                  | 76     |                   | 7     | 9                     | - 35<br>                      | (RESIDUAL)  DARK BROWN SANDY SILT (ML)   |
|                                  |        |                   |       |                       | -<br>-40                      | STIFF, WET   |
|                                  | 69     | 56                | 14    | 10                    | 1.1.1.1                       | (RESIDUAL)   |
|                                  | 59     | 62                | 23    | 11                    | -<br>45<br>-<br>-             |  |
| C=1300 PSF<br>Ø=36°              | 59     | 62                | 20    | 12                    |                               | BROWN SANDY SILT (ML),   |
|                                  | 62     | 62                | 32    | 13                    | 55<br>                        | VERY STIFF TO HARD, MOIST<br>TO WET  |
|                                  | 54     | 66                | 41    | 14                    | -<br><br>                     |  |
| C=900 PSF                        | 49     | 69                | 52    | 15                    | -<br>-65<br>-                 |  |
| Ø=42°                            |        |                   |       |                       | <del>-</del>                  | (RESIDUAL)   |

| LAB<br>TEST | MOIST.   | DRY<br>WT.   | BLOWS<br>PER | ) A              |         | D<br>E                  |  |   |
|-------------|----------|--|--------------|------------------|---------|-------------------------|--|---|
| RESULTS     | <b>%</b> | PCF  | FT.          | M<br>P<br>L<br>E |         | P<br>T<br>H             |  | CLASSIFICATION  |
|             |          |  | 18           | 16               |         | 70                      |  |   |
|             |          |  | 14           | 17               | 1       |                         |  | BROWN SANDY SILT (ML)  VERY STIFF, MOIST                  |
|             |          |  | 30           | 18               |         | _<br>_80<br>_           | **************************************       | (RESIDUAL)  |
|             |          |  |              |                  |         | _<br>_<br>_85           | **************************************       |   |
|             |          |  | 73           | 19               |         |                         | **************************************       |   |
|             |          |  | 36           | 20               |         | _90<br><br>-            | **************************************       | GRAY BROWN DECOMPOSED                                     |
|             |          | To the second se | R            | 21               | Z       | -<br>-<br>-95<br>-<br>- | *****************                            | ROCK, SLIGHTLY VESICULAR, HARD, MOIST                     |
|             |          |  | 53           | 22               | 7       | -<br>100<br>-           | ***********                                  |   |
|             |          |  | 55           | 23               |         | 105                     | **************************************       | (DECOMPOSED ROCK) GRAY BROWN DECOMPOSED                   |
|             |          |  | R            | 24               |         | -                       | \$\$\$\$\$\$<br>\$\$\$\$\$\$<br>\$\$\$\$\$\$ | ROCK, SLIGHTLY VESICULAR,  HARD, MOIST  (DECOMPOSED ROCK) |
|             |          |  |              |                  | -       | 1.10<br>-<br>-          |  | GRAY BASALT, HARD, DAMP                                   |
|             |          |  |              |                  |         |                         |  | BOH @ 109.5°  |
|             |          |  |              |                  |         | -                       |  |   |
|             |          |  |              |                  |         | 120<br>-<br>-           |  |   |
|             |          |  |              |                  |         | -<br>  <u>2</u> 5<br>-  |  |   |
|             |          |  |              |                  |         | <u>3</u> 0              |  |   |
|             |          |  |              |                  | 1.1.1.1 | 35                      |  |   |

| BORING<br>FILE 43<br>DATE 7- | 3-2                  |  | SURFA | CE E        | LEY.<br>WATI                         | RELIMINARY RECOMMENDATION  . 619'± ER NONE ENCOUNTERED   |
|------------------------------|----------------------|--|-------|-------------|--------------------------------------|--|
| LAB<br>TEST<br>RESULTS       | MOIST.<br>CONT.<br>% | 1  |       | S A M P L E | D<br>E<br>P<br>T<br>H                | CLASSIFICATION   |
|                              | 71                   |  | 7     | 1           | -                                    | BROWN CLAYEY SILT (ML) W/DECOMPOSED ROCK FRAGMENTS, STIFF, MOIST   |
|                              |                      |  | 11    | 3           | 5<br>                                | BLACK AND BROWN SANDY SILT  (ML), VERY STIFF, MOIST  BOULDER AT 6' - 7'  |
| LL=74<br>PI=16               | 58                   | 62   | 10    | 4           | -10<br>                              | (DECOMPOSED CINDERS)   |
|                              |                      | لسورية والمراوزة | 11    | 5           | -<br>-<br>-<br>-<br>-<br>-<br>-<br>- | BROWN CLAYEY SILT (MH) WITH DECOMPOSED ROCK FRAGMENTS, VERY STIFF, WET   |
|                              | 50                   | 70   | 35    | 6           | -<br>20                              | (DECOMPOSED CINDERS)  RED/BLACK CLAYEY SILT (MH)   |
|                              |                      | AND THE RESIDENCE OF THE PROPERTY OF THE PROPE |       |             |                                      | with sand, <u>HARD</u> , MOIST (RESIDUAL)  |
|                              |                      |  | 47    | 7           |                                      | BROWN DECOMPOSED ROCK,  MEDIUM HARD, MOIST   |
|                              | 61                   | 62   | 36    | 8           | 1.1.1                                | \$\hat{\hat{\hat{\hat{\hat{\hat{\hat{  |
| , in waterman with           |                      |  | 31    | 9           | 35                                   | (DECOMPOSED ROCK)  BROWN DECOMPOSED ROCK,  MEDIUM HARD, MOIST  (DECOMPOSED ROCK)   |
|                              | 94                   | 42   | 14    | 10          |                                      | BROWN SILTY SAND (SM), MEDIUM DENSE, WET   |
|                              |                      |  |       |             | -<br>-<br>-45                        | (RESIDUAL)   |
|                              |                      |  | 35    | 11          |                                      | \(\hat{x} |
| ·                            | 51                   | 60   | 34    | 12          | _50<br>-<br>-<br>-                   | ******<br>*****<br>*****<br>****   |
| ,                            |                      |  | 34    | 13          | <br>55<br><br><br>                   | GRAY/BROWN DECOMPOSED ROCK, MEDIUM HARD, MOIST   |
| ·                            | 54                   | 68   | 51    | 14          | -<br>-<br>-<br>-<br>-<br>-           | *****<br>*****<br>****<br>****<br>****<br>****<br>****<br>***  |
|                              |                      | 1  | 85    | 15          | -<br>-<br>-65<br>-                   | የጀናሪያ<br>አንአንና<br>አንአንና<br>ኢንአንና<br>ኢንአንና<br>ኢንአንና<br>ኢንአንና  |
| •                            |                      |  |       |             | -<br>-<br>-<br>-<br>- 70             | BOH <b>@</b> 66.5°   |

| BORING OP<br>FILE 433-<br>DATE 11-2 |                      | S                 | URFAC  | E ELI                 | E <b>V</b> . 6   | 19'±   | D VIADUCT CONFIRMATION BORINGS E ENCOUNTERED  |
|-------------------------------------|----------------------|-------------------|--|-----------------------|--|--|---|
| LAB<br>TEST<br>RESULTS              | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT.                              | S<br>A<br>M<br>P<br>L | D<br>E<br>P<br>T   |  | CLASSIFICATION  |
| ·                                   |                      |                   |  |                       | 60<br>   |  | NOTE: DRILLED DOWN TO 66.5 FEET AT LOCATION ADJACENT TO PREVIOUS OP-7 BORING. BEGAN LOGGING THE BORING AT 66.5 FEET.  |
|                                     |                      |                   | 96<br>115<br>121<br>100%<br>RECOV.<br>62%<br>RQD | 1 2 NX CORE           | 70   | \(\frac{1}{2}\)\(\frac{1}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}\)\(\frac{1}\)\(\frac{1}\)\(\ | GRAY AND BROWN CLAYEY SILT (MH) WITH SOME SAND, VERY STIFF TO HARD, MOIST  (COMPLETELY WEATHERED ROCK)  DARK BROWN SILT (MH-ML) WITH SAND, VERY HARD, MOIST (COMPLETELY WEATHERED ROCK)  GRAY SLIGHTLY TO MODERATELY WEATHERED BASALT (WS-WM), HARD, OCCASIONALLY BROKEN  BROWN MODERATELY WEATHERED WELDED CINDERS (WM), MEDIUM HARD, BROKEN  CRAY SLIGHTLY WEATHERED BASALT |
|                                     |                      |                   | 83%<br>RECOV.<br>33%<br>RQD                      | NX<br>CORE            | 100  |  | GRAY SLIGHTLY WEATHERED BASALT (F-WS), <u>VERY HARD</u> , MASSIVE GRADES TO BROKEN AT 97.0°   |
|                                     |                      |                   | 100%<br>RECOY.<br>88%<br>RQD                     | NX<br>CORE            | -<br>  -<br>  -<br>  -<br>  -<br>  -<br>  -<br>  -<br>  -<br>  - |  | GRAY AND BROWN MODERATELY WEATHERED BASALT (WM), HARD, MASSIVE  BOH • 105.5*  |



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION BORING LOGS

INTERSTATE ROUTE H-3

F.A.I. PROJECT NO. I-H3-I (57)

F.A.I. PROJECT NO. I-H3-I (58)

ALE: NONE DATE: SEPT. 1988

SCALE · NONE SHEET NO. B8\_OF\_32 SHEETS REVISION

FISCAL SHEET TOTAL YEAR NO. SHEETS FED. ROAD STATE FED. AID PROJ. NO. HAWAII HAW.

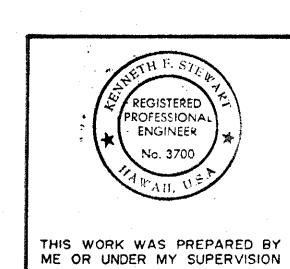
| BORING I<br>FILE 43:<br>DATE 8- | 3-2                  |                   | SURF   | ACE         | ELEY                    | . 50                     | IMINARY RECOMMENDATION<br>69'±<br>NONE ENCOUNTERED              |
|---------------------------------|----------------------|-------------------|--|-------------|-------------------------|--------------------------|---|
| LAB<br>TEST<br>RESULTS          | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | 1  | S A M P L E | D<br>E<br>P<br>T        |                          | CLASSIFICATION  |
|                                 | 57                   | 64                | 7<br>5   | 1 2         |                         |                          | BROWN SILT (ML) WITH SOME<br>GRAVEL, <u>MEDIUM STIFF</u> , WET  |
|                                 |                      |                   | 16   | 3           |                         |                          | (ALLUVIUM)  |
|                                 |                      |                   | 60%<br>RECOV.  | NX<br>CORE  | <u>-10</u>              |                          |   |
|                                 |                      |                   | 56   | 4           | :-<br>:-<br>:-15<br>T - |                          | COBBLES, BOULDERS, GRAVEL WITH SILTY SAND, <u>DENSE</u> , MOIST |
|                                 |                      |                   | 50%<br>RECOV.  | NX<br>CORE  | -<br> -<br> -<br> -20   |                          | /CTDFAM SJACU)  |
| NOV DI LOZIO                    |                      |                   | 7  | 5           |                         |                          | (STREAM WASH)   |
| NON-PLASTIC                     | 75                   | 54                | 10   | 6           | -<br>25<br>-<br>-       |                          | BROWN SANDY SILT (ML),  |
| NON-PLASTIC                     | 64                   | 62                | 20   | 7           | -<br>-<br>-<br>-<br>30  |                          | VERY STIFF, WET   |
|                                 | 60                   | 64                | 30   | 8           | -                       |                          |   |
|                                 | 61                   | 65                | 17   | 9           | -35<br><br>             |                          |   |
|                                 | 67                   | 58                | 16   | 10          |                         |                          |   |
|                                 |                      |                   |  |             |                         |                          | (DECOMPOSED CINDERS)  |
|                                 |                      |                   | 27   | 1.1         |                         |                          |   |
| ·                               |                      |                   | 59   | 12          |                         |                          | BROWN SANDY SILT (ML),  |
|                                 |                      |                   | 15   | 13          |                         |                          | VERY STIFF TO HARD, WET   |
|                                 |                      |                   | And the state of t |             |                         |                          |   |
|                                 |                      |                   | 37   | 16          | -                       | ***                      | (DECOMPOSED CINDERS)  |
|                                 |                      | F                 | 70%<br>RECOV.C   | NX<br>ORE   | 65<br> -                | +++<br>+++<br>+++<br>+++ | GRAY/BROWN TUFF, HARD  (TUFF)  BROWN SILTY SAND (SM),           |
| ·                               |                      |                   | 34   | 15          | - <sub>70</sub>         |                          | MEDIUM DENSE, WET (DECOMPOSED CINDERS)                          |

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | PER                     | S A M P L E | D<br>E<br>P<br>T<br>H  |              | CLASSIFICATION  |
|------------------------|----------------------|-------------------------|-------------|------------------------|--------------|---|
|                        |                      | 60%<br>RECOV.           | NX          | . 70<br><br><br><br>75 | XXXX<br>XXXX | BROWN SILTY SAND (SM),  MEDIUM DENSE, WET  (DECOMPOSED CINDERS) |
|                        |                      | 95%                     | NX          | 80                     |              | BROWN/GRAY WELDED CINDERS MEDIUM HARD TO HARD, MASSIV           |
|                        |                      | RECOV.<br>50%<br>RECOV. | NX          | . I . 85               |              | GRAY BASALT, HARD   |
| ·                      |                      |                         |             |                        |              | BOH <b>@</b> 85.0°  |
|                        |                      | ,                       |             | <br><br>95<br><br>     |              | •   |
|                        |                      |                         |             | -<br>-100<br><br>      |              |   |

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT. | i  | ì                     | S A M P L E | .   F                  |  | CLASSIFICATION  |
|------------------------|-----------------|----|-----------------------|-------------|------------------------|--|---|
|                        | 51              | 67 | 11                    | 1           |                        |  | DARK BROWN SILT (ML), VERY<br>STIFF TO HARD, MOIST    |
|                        | 34              | 78 | 26                    | 2           | 5<br>5                 |  | (ASH)   |
|                        |                 |    | 50%<br>RECOV          | NX<br>CORE  | -<br>-<br>-<br>-<br>10 |  |   |
|                        | ,               |    | 83%<br>RECOV          | NX<br>CORE  |                        |  | GRAY/BROWN BASALT COBBLE AND BOULDERS WITH SOIL SEAMS |
|                        |                 |    | 80%<br>RECOV          | NX<br>.CORE | -<br>  -<br>  -<br>  - |  |   |
|                        | ,               |    |                       |             | -<br> -<br> -20        |  | (STREAM WASH)   |
|                        | 67              | 61 | 6<br>6                | 4 5         |                        | (* (* (* (* (* (* (* (* (* (* (* (* (* ( |   |
|                        |                 |    |                       |             | 25<br><br><br>         |  | BROWN SILTY SAND (SM), LOOSE<br>TO MEDIUM DENSE, WET  |
|                        | 43              |    | 30                    | 6           | -<br>- 30              |  | (DECOMPOSED CINDERS)                                  |
|                        | 48              | 75 | R                     | 7           | -<br>-<br>-            |  | BROWN/BLACK SAND (SM), VERY DENSE, WET                |
|                        | 24              | ·  | 113<br>R              | 8<br>9      | 35                     | •••                                      |   |
|                        |                 |    | 100%<br>RECOV.        | NX<br>CORE  | -<br>-<br>-40          | +++                                      | (CINDERS)   |
|                        |                 |    | 95 <b>%</b><br>RECOV. | NX<br>CORE  | - 45                   | * * * * * * * * * * * * * * * * * * *    | GRAYISH BROWN TUFF, <u>HARD</u> ,<br>MASSIVE          |
|                        |                 |    | 100%<br>RECOV.        | NX<br>CORE  |                        | * * * * * * * * * * * * * * * * * * *    | (TUFF)  |
|                        |                 |    |                       |             | - +<br><br><br>- 55    | +++                                      | ВОН @ 51.0°   |
|                        |                 |    |                       |             |                        |  |   |
|                        |                 |    |                       | ٠           | -<br>-60<br>-          | -  | ·   |
|                        |                 | -  |                       |             | 65                     |  | •   |

DATE

REVISION



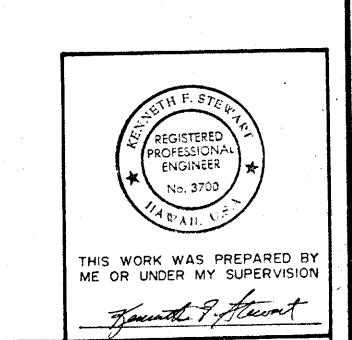
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-I (57)
F.A.I. PROJECT NO. I-H3-I (58)
SCALE: NONE DATE: SEPT. 198

DATE: SEPT. 1988 SHEET\_NO.\_B9\_OF\_32 SHEETS

| FED. ROAD<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------------|-------|-----------------------|----------------|--------------|-----------------|
| HAWAII                 | HAW.  | I-H3-I (57)           | 1988           | 233          | 274             |

| BORING II<br>FILE 433<br>DATE 8-1 | 5-2                  |                   | SURFA          | CE E           | LEY.                            | 56 | MINARY RECOMMENDATION 7'± NONE ENCOUNTERED                                   |
|-----------------------------------|----------------------|-------------------|----------------|----------------|---------------------------------|----|--|
| LAB<br>TEST<br>RESULTS            | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | i l            | S A M P L E    | D<br>E<br>P<br>T                |    | CLASSIFICATION   |
| LL=65<br>PI=15                    | 40<br>47             | 73                | 16<br>13<br>10 | 1 2 3          | 5                               |    | BROWN CLAYEY SILT (ML) WITH COBBLES, <u>STIFF TO VERY</u> STIFF, MOIST       |
|                                   | 0.0                  | 40                | 14             | 4              | -10                             |    | (ASH)  |
| LL=89<br>PI=27                    | 88                   | 49                | 10             | 6              | -<br>-<br>-<br>-<br>-<br>-<br>- |    |  |
| LL=85<br>PI=32                    | 84                   | 50                | 10             | 7              | -<br>-20<br>-<br>-              |    | DARK BROWN CLAYEY SILT (MH),<br>STIFE, WET                                   |
|                                   | 81                   | 53                | 9              | 8              | -<br>- 25<br><br><br>           |    |  |
| •                                 | 88                   | 47                | 12             | 9              | <br><br><br><br>                |    | (DECOMPOSED CINDERS)  BROWN SANDY SILT (ML)  WITH ROCK FRAGMENTS, HARD,  WET |
|                                   |                      |                   | 71<br>75<br>66 | 10<br>11<br>12 | . 35<br>                        |    |  |
|                                   |                      |                   | R              | 13             |                                 |    | (DECOMPOSED CINDERS)   |
|                                   |                      |                   | 80<br>134      | 14<br>15       |                                 |    | YELLOW BROWN WEATHERED<br>CEMENTED CINDERS, <u>HARD</u> ,<br>MOIST           |
|                                   |                      |                   | 95             | 16             |                                 |    | (CINDERS)  |
|                                   |                      |                   | 70%<br>RECOV.  | NX<br>CORE     | 60                              |    | BROWN WELDED CINDERS,<br>VERY HARD   |
|                                   |                      |                   |                |                | 65<br>65<br>                    |    | (WELDED CINDERS)   |
|                                   |                      |                   |                |                | -<br>  -<br>  -<br>  - 70       |    | вон @ 66.0'  |



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

INTERSTATE ROUTE H-3

F.A.I. PROJECT NO. I-H3-I (57)

F.A.I. PROJECT NO. I-H3-I (58)

SCALE: NONE DATE: SEPT. 1988

SHEET NO. BIO OF 32 SHEETS

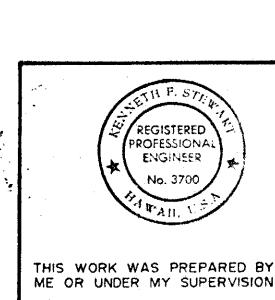
REVISION

FISCAL SHEET TOTAL YEAR NO. SHEETS FED. AID PROJ. NO. I-H3-I (57) 1988 234 274

| LAB             | 1     |     | BLOWS    | A      | D<br>E            |     |                             |
|-----------------|-------|-----|----------|--------|-------------------|-----|-----------------------------|
| TEST<br>RESULTS | CONT. | WT. | 1        | M<br>P | P                 |     |                             |
|                 |       |     |          | E      | Н                 | rrn | CLASSIFICATION              |
|                 | 49    |     | 6        | 1      | -                 |     |                             |
|                 |       |     |          |        |                   |     |                             |
|                 |       |     | 6        | 2      | 5                 |     | BROWN CLAYEY SILT (ML) WITH |
|                 |       |     | _        |        | _ :-              |     | GRAVEL, MEDIUM STIFF, MOIST |
|                 | 46    | 77  | 6        | 3      | <b>■</b> :-       |     |                             |
|                 |       |     |          |        |                   |     |                             |
|                 |       |     | 5        | 4      | -                 |     |                             |
|                 |       |     |          |        | :-                |     | (COLLUVIUM)                 |
|                 | 20    |     |          | -      |                   |     |                             |
|                 | 82    | 54  | 4        | 5      |                   |     |                             |
|                 |       |     |          |        | <u>.</u>          |     | •                           |
|                 |       |     | 3        | _      | 20                |     | REDDISH BROWN CLAYEY SILT   |
|                 |       |     | <b>3</b> | 6      | _                 |     | (ML), <u>SOFT</u> , WET     |
|                 |       |     |          |        | -                 |     |                             |
|                 | 85    | 54  | 3        | 7      | 25                |     |                             |
| ,               | 05    | 54  | 3        |        | -                 |     |                             |
|                 |       |     |          |        | <u>-</u>          |     | (ASH)                       |
|                 |       |     | 7        | 8      | <u>:_3</u> 0      |     | BROWN SANDY SILT (ML),      |
|                 |       |     | •        |        | -                 |     | MEDIUM STIFF, MOIST         |
|                 |       |     |          |        | -                 |     | •                           |
|                 |       |     | 8        | 9      | 35                |     |                             |
|                 |       |     |          |        | -                 |     |                             |
|                 |       |     |          |        | -<br>-<br>-<br>40 |     |                             |
|                 | 77    | 55  | 7        | 10     | 40<br>            |     |                             |
|                 |       |     |          |        | -                 |     |                             |
|                 |       |     |          |        | <u>-</u><br>_45   |     |                             |
| C=800 PSF       | 73    | 57  | 6        | 11     | -43               |     |                             |
| J=26°           |       |     |          |        |                   |     |                             |
|                 |       |     |          |        | -<br>_50          |     |                             |
|                 | 78    | 52  | 6        | 12     |                   |     |                             |
|                 |       |     |          |        | _                 |     |                             |
|                 |       | .   |          |        | -<br>55           |     |                             |
| =600 PSF        | 70    | 56  | 5        | 13     | _                 |     |                             |
| 7=38°           |       |     | ·        |        | _                 |     |                             |
| ·               |       |     |          |        | _<br>_60          |     |                             |
|                 | 60    | 66  | 11       | 14     |                   |     |                             |
|                 | j     |     |          |        | -                 |     |                             |
|                 | ,     |     |          |        | _<br>_65          |     |                             |
| =550 PSF        | 68    | 60  | 5        | 15     |                   |     |                             |
| J=31°           | . [   |     |          |        | —                 |     |                             |

| FILE 43<br>DATE 8-1    | 3-2<br>29-84         |                   | SURFA               | ACE E       | ELEY.<br>WATI                   | . 54 | MINARY RECOMMENDATION<br>44'±<br>NONE ENCOUNTERED            |
|------------------------|----------------------|-------------------|---------------------|-------------|---------------------------------|------|--|
| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT. | S A M P L E | D<br>E<br>P<br>T                |      | CLASSIFICATION   |
| C=425 PSF<br>Ø=35°     | 62                   | 63                | 4                   | 16          | - 70<br>-<br>-                  |      |  |
|                        | 71                   | 58                | 9                   | 17          |                                 |      |  |
|                        |                      | ,                 | 10                  | 18          | 80                              |      | BROWN SANDY SILT (ML),<br>MEDIUM STIFF, MOIST                |
|                        |                      |                   |                     |             | -<br>-<br>-85                   |      | (DECOMPOSED CINDER   |
| C=450 PSF<br>Ø=44°     | 68                   | 62                | 12                  | 19          | -<br>-<br>-                     |      |  |
|                        |                      |                   |                     |             |                                 |      |  |
|                        |                      |                   | 17                  | 20 🗴        | <br><br>95<br>                  |      | DARK BROWN SANDY <b>SILT</b> (M<br><u>STIFF</u> , WET        |
|                        |                      |                   |                     |             | -<br>-<br>-<br>-<br>-<br>-<br>- |      |  |
| 3                      |                      |                   |                     |             |                                 |      |  |
| •                      |                      |                   | 11                  | 21          | -105<br>-1<br>-1                |      |  |
|                        |                      |                   |                     |             | -<br>-<br>-                     |      | <b>:</b>   |
|                        |                      |                   |                     |             | _<br>_<br>_<br>                 |      |  |
|                        |                      |                   | -16                 | 22          | · — . — . — . — . — .           |      |  |
|                        |                      |                   |                     |             |                                 |      |  |
| ·                      | M                    |                   |                     |             | <u>-</u><br>125                 |      |  |
|                        |                      |                   |                     |             | -<br>-<br>-<br>-<br>130         |      | (DECOMPOSED CINDER   |
|                        |                      |                   |                     |             |                                 |      |  |
|                        |                      |                   | 17                  | 23          |                                 |      | DARK BROWN SILT (ML) WITH CINDERS, <u>VERY STIFF</u> , MOIST |
|                        |                      |                   |                     |             | -                               |      | (DECOMPOSED CINDERS  |

| LAB<br>TEST<br>RESULTS |   | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT. | M<br>P | D<br>E<br>P   |             |   |
|------------------------|---|-------------------|---------------------|--------|---|-------------|---|
|                        |   |                   |                     | L<br>E | Н   | <del></del> | CLASSIFICATION  |
|                        |   |                   |                     |        | 140<br>   |             | DARK BROWN SILT (ML) WITH<br>CINDERS, <u>VERY STIFF</u> , MOIST |
|                        |   |                   | 90                  | 24     | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-      |             | (DECOMPOSED CINDERS)  |
|                        |   |                   |                     |        | <br><br><br><br><br><br><br><br><br><br><br><br>  |             | DARK GRAY SILT (ML),<br><u>VERY STIFF TO HARD</u> , MOIST       |
|                        |   |                   | R                   | 25     | -<br>-<br>-<br>-<br>-<br>165<br>-<br>-  |             | (DECOMPOSED ROCK)   |
|                        | ) |                   |                     |        | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |             | BOH <b>⊕</b> 166.0°   |



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERSTATE ROUTE H-3

F.A.I. PROJECT NO. I-H3-I (57)

F.A.I. PROJECT NO. I-H3-I (58)

ALE: NONE DATE: SEPT. 1988

SCALE · NONE SHEET NO. BIL OF 32 SHEETS

DATE REVISION

DATE BORING NO. 9 HAWAII HAW. I-H3-I(57) 1988 235 274 BORING NO. 11 DATE BORING NO. 12 DATE DATE BORING NO. 13 ELEVATION ELEVATION WATER LEVEL
WATER ELEVATION

WATER ELEVATION ELEVATION
WATER LEVEL
WATER ELEVAT ELEVATION ELEVATION 일 WATER LEVEL WATER LEVEL

WATER ELEVATION DEP WATER ELEVATION WATER ELEVATION BORING NO. 14 DATE DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION ELEVATION WATER LEVEL
WATER ELEVATION STIFF, MOTTLED BROWN CLAYEY SILT WITH SOME ROOTS STIFF, MOTTLED BROWN CLAYEY SILT WITH GRAVEL SOFT, MOTTLED BROWN & GRAY CLAYEY SILT STIFF, BROWN CLAYEY SILT WITH TRACES OF ROOTS BLUE, ROCK (BOULDER?) STIFF, MOTTLED BROWN CLAYEY SILT MEDIUM REDDISH BROWN & BROWN CLAYEY SILT MOTTLED BROWN DECOMPOSED ROCK DESCRIPTION BROWN, SILTS WITH GRAVEL & BLUE ROCK (BOULDER?) STIFF, BROWN CLAYEY SILT STIFF, TAN BROWN CLAYEY SILT WITH DECOMPOSED ROCK MEDIUM, BROWN CLAYEY SILT WITH ROOTS & DECOMPOSED ROCK BLUE ROCK (BOULDERS & COBBLES) GRAY WITH TRACES OF BROWN DECOMPOSED ROCK STIFF, MOTTLED BROWN & GRAY CLAYEY SILT GRAY-BROWN DECOMPOSED ROCK MEDIUM, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK . [20] STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK STIFF, MOTTLED RED BROWN CLAYEY SILT WITH DECOMPOSED ROCK STIFF, BROWN CLAYEY SILT STIFF, MOTTLED BROWN & GRAY CLAYEY SILT WITH TRACES OF MEDIUM, TAN BROWN WITH BLACK CLAYEY SILT WITH DECOMPOSED DECOMPOSED ROCK STIFF, MOTTLED BROWN CLAYEY SILT WITH TRACES OF DECOMPOSED STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK GRAY-BROWN PUKA PUKA ROCK WITH FRACTURES STIFF, BROWN & GRAY CLAYEY SILT STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK 40 -MEDIUM TO STIFF REDDISH BROWN & GRAY CLAYEY SILT MOTTLED BROWN DECOMPOSED ROCK WITH CLAYEY SILT STIFF, MOTTLED BROWN & GRAY CLAYEY SILT STIFF, MOTTLED GRAY & BROWN CLAYEY SILT HARD, MOTTLED BROWN CLAYEY SILT STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK STIFF, MOTTLED BROWN CLAYEY SILT HARD, MOTTLED BROWN & GRAY CLAYEY SILT HARD, MOTTLED BROWN & GRAY CLAYEY SILT WITH DECOMPOSED ROCK MOTTLED RED BROWN DECOMPOSED ROCK WITH CLAYEY SILT GRAY BROWN PUKA PUKA ROCK HIGHLY WEATHERED STIFF, MOTTLED GRAY & BROWN CLAYEY SILT WITH TRACES OF 60 RED & BROWN PUKA PUKA ROCK BROWN, FRACTURED PUKA PUKA LAVA ROCK SLIGHTLY WEATHERED GRAY-BROWN PUKA PUKA ROCK CLINKERS WITH BROWN & GRAY PUKA PUKA LAVA ROCK SLIGHTLY CLINKERS GRAY BROWN PUKA PUKA ROCK WITH FRACTURES & TRACES OF BROWN FRACTURED BLUE ROCK SLIGHTLY WEATHERED FRACTURED BLUE ROCK GRAY-BROWN PUKA PUKA ROCK WITH FRACTURES BROWN & GRAY, FRACTURED PUKA PUKA LAVA ROCK SLIGHTLY WEATHERED REDDISH BROWN-GRAY PUKA PUKA ROCK WITH CINDERS GRAY BROWN PUKA PUKA ROCK WITH FRACTURES BROWN PUKA PUKA ROCK GRAY, FRACTURED PUKA PUKA LAVA ROCK SLIGHTLY WEATHERED END OF BORING @ 90.5' GRAY & BROWN PUKA PUKA ROCK WITH TAN CLAY IN FRACTURES END OF BORING @ 108' BLUE PUKA PUKA ROCK WITH FRACTURES GRAY, PUKA PUKA ROCK WITH FRACTURES BROWN & GRAY CLINKERS PUKA PUKA ROCK GRAY PUKA PUKA ROCK SLIGHTLY FRACTURED GRAY-BROWN PUKA PUKA ROCK WITH FRACTURES END OF BORING @ 136.5' GRAY-BROWN PUKA PUKA ROCK END OF BORING @ 145' END OF BORING @ 150' STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION **BORING LOGS** INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-1(57) F.A.I. PROJECT NO. 1-H3-1(58) SCALE: AS NOTED DATE: SEPT. 1988

42

SHEET NO. BIZ OF 32 SHEETS

FED. ROAD STATE

FED. AID

PROJ. NO.

FISCAL SHEET TOTAL

NO.

SHEETS

YEAR

FED. ROAD STATE FED. AID PROJ. NO. FISCAL SHEET TOTAL YEAR NO. SHEETS SHEETS I-H3-I (57) HAW. 1988 236 274 BORING OP-12 FILE 433-2 DATE 8-22-84 PROJECT H-3 PRELIMINARY RECOMMENDATION SURFACE ELEY. 566'±
DEPTH TO WATER NONE ENCOUNTERED BORING OP-12 CONT. PROJECT H-3 PRELIMINARY RECOMMENDATION FILE 433-2 SURFACE ELEY. 566'±
DATE 8-22-84 DEPTH TO WATER NONE ENCOUNTERED MOIST. DRY BLOWS CONT. WT. PER LAB MOIST. DRY BLOWS TEST TEST CONT. WT. PER % PCF FT. RESULTS RESULTS % PCF FT. CLASSIFICATION CLASSIFICATION BROWN SILT (ML), VERY STIFF, 39 10 MOIST (DECOMPOSED CINDERS) SPT | 17 | -DARK BROWN SILT (ML) WITH 56 49 65% NX ... COBBLES AND GRAVEL, VERY GRAY BASALT BOULDER, STIFF, MOIST RECOV.CORE 75 FRACTURED 10% NX (COLLUYIUM) RECOV. CORE BROWN SANDY SILT (ML), 70 | 55 | 5 59 24 VERY STIFF, MOIST 57 71 32 C=425 P.S.F. (DECOMPOSED CINDERS) Ø=36° 7 20 -BROWN SILT (ML), STIFF TO VERY STIFF, MOIST 55 | 66 | 55 | REDDISH BROWN SILT (ML), VERY STIFF TO HARD, MOIST 53 68 34 23 (RESIDUAL) 74 | 55 | 11 BROWN SILT (ML) WITH
DECOMPOSED ROCK FRAGMENTS,
VERY STIFF, MOIST 50 77 150 24 33 | 25 72 | 54 | 13 | 22 62 61 40 27 C=475 P.S.F. Ø=33° 48 (RESIDUAL) 76 | 52 | 14 | 12 BOH @ 120.0° 13 13 72 | 58 | 16 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION 23 C=550 P.S.F. Ø=33° STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION (DECOMPOSED CINDERS) BORING LOGS INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-I (57) F.A.I. PROJECT NO. I-H3-I (58) SCALE: NONE DATE: SEPT. 1988 DATE REVISION SHEET NO. BI3 OF 32 SHEETS

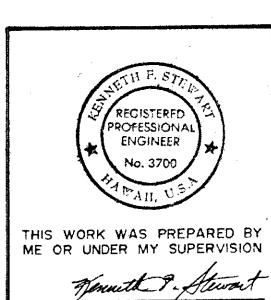
FED. ROAD STATE FISCAL SHEET TOTAL SHEETS FED. AID PROJ. NO. 1988 237 274

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | PER | S<br>A<br>M<br>P<br>L | D<br>E<br>P<br>T   | CLASSIFICATION                                    |
|------------------------|----------------------|-------------------|-----|-----------------------|--------------------|---|
|                        | 47                   | 69                | 22  | 1                     | -                  |   |
|                        | 47                   | 72                | 22  | 2                     | 1.1.               | DARK BROWN CLAYEY SILT (MH),                      |
| L=67                   | 45                   | 81                | 24  | 3                     | 5<br>              | VERY STIFE, MOIST                                 |
| P1=17                  | •                    |                   |     |                       |                    | (ASH)   |
|                        | 55                   | 59                | 17  | 4                     | <u>-1</u> 0<br>  - | BROWN SILT (ML), VERY STIFE,                      |
|                        |                      |                   |     |                       |                    | MOIST (DECOMPOSED CINDERS)                        |
|                        | 46                   | 58                | 23  | 5                     |                    |   |
|                        |                      |                   |     |                       |                    |   |
|                        | a.c                  | 2 4               | 20  | ے                     | - 20               |   |
|                        | 46                   | 64                | 29  | 6                     | -                  | GRAY BROWN SILT (ML),<br>VERY STIFE, DAMP         |
|                        | •                    |                   |     |                       |                    |   |
|                        | 40                   | 67                | 23  | 7                     | :_25<br>:_<br>:    |   |
|                        |                      | ,                 |     |                       | -                  |   |
| NON-PLASTIC            | 49                   | 76                | 24  | 8                     | 30                 |   |
|                        |                      |                   |     |                       | -                  |   |
|                        |                      |                   |     |                       | 35                 |   |
| ·                      | 61                   | 66                | 11  | 9                     | -                  |   |
|                        |                      |                   |     |                       |                    |   |
|                        | 54                   | 67                | 15  | 10                    |                    |   |
|                        |                      |                   |     |                       | <del>-</del>       |   |
|                        |                      |                   |     |                       | 45<br>             |   |
| ,                      |                      |                   |     |                       | -                  |   |
|                        | 48                   | 67                | 23  | 11                    | _<br>50            |   |
|                        |                      |                   |     |                       | -                  |   |
|                        |                      |                   |     |                       | -<br>-<br>-<br>55  | (RESIDUAL)  |
|                        |                      |                   |     |                       |                    |   |
|                        |                      |                   |     |                       |                    |   |
| NON-PLASTIC            | 51                   | 60                | 15  | 12                    |                    |   |
|                        |                      |                   |     |                       | -                  | DARK BROWN SILT (ML),<br><u>VERY STIFF</u> , DAMP |
|                        |                      |                   |     |                       | _<br>_65           |   |
|                        |                      |                   |     |                       | -                  |   |
|                        |                      |                   |     |                       | <del> </del>       | (RESIDUAL)  |

| LAB<br>FEST<br>RESULTS | MOIST. | 1 1 | BLOWS<br>PER<br>FT. | S A M P L E |   | CLASSIFICATION   |
|------------------------|--------|-----|---------------------|-------------|---|--|
|                        | 53     | 70  | 15                  | 13          | - 70<br>  |  |
|                        | 51     | 65  | 25                  | 14          | - 80<br>  | DARK BROWN SILT (ML),<br>VERY STIFF, DAMP  |
|                        | 41     | 70  | 22                  | 15          | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | (RESIDUAL)   |
|                        |        |     | 114                 | 16          | -95<br>-<br>-<br>-<br>-100<br>-<br>-  | BROWN CLAYEY SILT (ML) WITH SAND AND SOME DECOMPOSED ROCK, <u>HARD</u> , DAMP                        |
|                        |        |     | 17                  | 17          | <u>- 10</u> 5   | (RESIDUAL)  BROWN CLAYEY SILT (ML) WITH SAND AND SOME DECOMPOSED ROCK, MEDIUM HARD, DAMP  (RESIDUAL) |
| · .                    |        |     |                     |             | 1115  | BOH @ 111.0°   |
|                        |        |     | •                   |             | -<br>-<br>-<br>-<br>-<br>-<br>125   |  |
|                        |        |     |                     |             | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-                     |  |

| FILE 433<br>DATE 8-3   |                      |     |        | TO          |  | 71'±<br>NONE ENCOUNTERED                                  |
|--|----------------------|-----|--------|-------------|--|---|
| LAB<br>TEST<br>RESULTS   | MOIST.<br>CONT.<br>% | 1 . | PER    | S A M P L E | D<br>E<br>P<br>T                         | CLASSIFICATION  |
|  | 58                   | 58  | 9<br>7 | 1 2         | ·  | BROWN SILT (ML) WITH SOME<br>GRAVEL, <u>STIFF</u> , MOIST |
|  | 54                   | 69  | 5      | 3           | 5<br>-<br>-<br>-                         | (DECOMPOSED COLLUVIUM)                                    |
|  |                      |     | 14     | 4           | -<br>- 10<br>                            | RED/BLACK SILT (ML),<br><u>VERY STIFF</u> , MOIST         |
|  |                      |     |        |             |  | (DECOMPOSED CINDERS)                                      |
|  | 59                   | 62  | 11     | 5           | 15<br><br><br><br>20                     | BLACK/BROWN <b>SILT</b> (ML), <u>STIFF</u> ,<br>MOIST     |
| C=850 P.S.F.<br>Ø=50°  | 49                   | 67  | 13     | 6           | 1. | (RESIDUAL)  |
|  | 46                   | 63  | 10     | 7           |  |   |
|  | -                    |     | 19     | 8           |  | BROWN DECOMPOSED ROCK,  MEDIUM HARD, MOIST                |
|  | 50                   | 61  | 16     | 9           | - 35%                                    |   |
| C=1500 PSF<br>Ø=40°  |                      |     | 27     | 10          | 40 40 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4  | (DECOMPOSED ROCK)   |
| C=600 P.S.F.   | 52                   | 59  | 18     | 11          | -  |   |
| Ø=45°  |                      |     |        |             | 50                                       | DARK REDDISH BROWN DECOMPOSED ROCK, MEDIUM HARD, WET      |
|  |                      |     | 19     | 12          | - ******<br>- ******<br>*****            | (DECOMPOSED ROCK)   |
| a de la constantina del constantina de la constantina de la constantina de la constantina del constantina de la constant | 35                   | 81  | 58     | 13          | -  |   |
|  |                      |     | 14     | 14          | -  | BLACK DECOMPOSED ROCK,<br>VESICULAR, MEDIUM HARD          |
| C=1700 PSF<br>Ø=35°  | 46                   | 60  | 22     | 15          | - 44444                                  |   |
|  |                      |     | 21     | 16          | _65<br>******<br>- ****                  | (DECOMPOSED ROCK)  BROWN/BLACK DECOMPOSED                 |

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | ł   | PER   | S A M P L E | D<br>E<br>P<br>T   |  | CLASSIFICATION                            |
|------------------------|----------------------|-----|-------|-------------|--|--|---|
|                        | 21                   | 102 | 85    | 17          | 70<br><br><br><br><br>25   |  |   |
| C=2000 PSF<br>Ø=50°    | 25 .                 | 99  | 90    | 18          | <br>-<br>-<br>-<br>-<br>80   | \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\                  | BROWN/BLACK DECOMPOSED<br>ROCK,HARD, DAMP |
| :                      | 14                   |     | 42    | 19          |  | **************************************                   | (DECOMPOSED ROCK                          |
|                        |                      |     | 34    | 20          | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\                   | DARK GRAY DECOMPOSED ROCK<br>HARD, DAMP   |
|                        | 14                   |     | 71/6" | 21          |  | \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ | •   |
|                        |                      |     | 82/6" | 22          | _95<br>_   |  | (DECOMPOSED ROCK)                         |
|                        |                      |     |       |             | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-                               |  | BOH € 95.5°                               |



DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3

F.A.I. PROJECT NO. I-H3-I (57)

F.A.I. PROJECT NO. I-H3-I (58)

ALE: NONE DATE: SEPT. 1988

SHEET NO. BI4 OF 32 SHEETS SCALE: NONE

REVISION

FISCAL SHEET TOTAL FED. ROAD DIST. NO. YEAR NO. SHEETS I-H3-I (57) 1988 238 HAWAII HAW. PROJECT H-3 WINDWARD VIADUCT CONFIRMATION BORINGS BORING OP-12A BORING OP-12A CONT. PROJECT H-3 WINDWARD VIADUCT CONFIRMATION BORINGS PROJECT H-3 WINDWARD VIADUCT CONFIRMATION BORINGS BORING IP-13A CONT. PROJECT H-3 WINDWARD VIADUCT CONFIRMATION BORINGS BORING IP-13A FILE 433-6 SURFACE ELEV. 566'± SURFACE ELEV. 566'± FILE 433-6 FILE 433-6 FILE 433-6 SURFACE ELEV. 541'± SURFACE ELEV. 541'± DEPTH TO WATER NONE ENCOUNTERED DATE 12-29-88 DEPTH TO WATER NONE ENCOUNTERED DATE 12-29-88 DATE 12-20-88 DEPTH TO WATER NONE ENCOUNTERED DEPTH TO WATER NONE ENCOUNTERED DATE 12-20-88 MOIST, DRY BLOWS S MOIST. DRY BLOWS , A MOIST DRY BLOWS MOIST. DRY BLOWS CONT. WT. PER TEST CONT. WT. PER TEST CONT. WT. PER TEST CONT. WT. PER TEST RESULTS PCF FT. 98 % PCF FT. RESULTS % PCF FT. % PCF FT. RESULTS RESULTS CLASSIFICATION CLASSIFICATION CLASSIFICATION CLASSIFICATION 日本会会 BROWN CLAYEY SILT (MH) WITH SEAMS OF HIGHLY WEATHERED BASALT, VERY HARD, MOIST DRILLED DOWN TO 72.5 FEET AT LOCATION DRILLED DOWN TO 108.5 FEET AT ADJACENT TO PREVIOUS OP-12 BORING. LOCATION ADJACENT TO PREVIOUS IP-13 103 BROWN CLAYEY SILT (MH) WITH SEAMS BEGAN LOGGING BORING AT 72.5 FEET DUE BORING, BEGAN LOGGING BORING AT TO PRESENCE OF SIGNIFICANTLY THICKER BROWN SANDY SILT (ML) WITH SOME 108.5 FEET DUE TO PRESENCE OF HARD CLAY, <u>YERY STIFF</u>, MOIST ROCK LAYER THAN PREVIOUSLY BASALT NOT ENCOUNTERED IN PREYIOUS ENCOUNTERED. 145 COMPLETELY WEATHERED ROUK,

ARK GRAY/BROWN MODERATELY

WEATHERED CINDERS, SOME

CEMENTATION, VERY DENSE, MOIST

156/9" 5 150 BORING. GRAY BASALT (F-WS), YERY HARD, 93% NX GRAY BASALT (F-WS), YERY HARD, RECOY. CORE (RESIDUAL) 78% GRAY SLIGHT.

(WS), VERY HARD

GRAY SANDY SILT

SIZED ROCK FRAC

MOIST

(COMPLETE 57% GRAY SLIGHTLY WEATHERED BASALT NX RQD GRADES TO MODERATELY WEATHERED, RQD RECOV. CORE . BROKEN # 78' 13% GRAY SANDY SILT (ML) WITH GRAYEL-17% NX RQD RECOY. CORE 51 72 71 SIZED ROCK FRAGMENTS, YERY STIFF, 0% BROWN SANDY SILT (ML), YERY STIFF, (COMPLETELY WEATHERED ROCK) BOH e 150.0° 190 BOH € 187.0° 45 GRAY CLAYEY SILT (MH) WITH SOME SAND, <u>YERY STIFF TO HARD</u>, MOIST (DECOMPOSED CINDERS) ·\_ :200 \_90 REDDISH BROWN SILT (ML), YERY STIFF TO HARD, MOIST 26 (RESIDUAL) GRAY SLIGHTLY WEATHERED BASALT (WS), HARD NX 1 -135 78% RECOV. CORE 8% (RESIDUAL) GRAY CLAYEY SILT (MH), YERY STIFF, RQD (RESIDUAL) 79 39. GRAY BROWN SANDY SILT (ML), HARD, BROWN SILT (ML) WITH DECOMPOSED ROCK FRAGMENTS, <u>VERY STIFF</u>, MOIST 29 (RESIDUAL) GRAY SLIGHTLY WEATHERED BASALT 39% GRADES TO VERY HARD AT 120 FEET (WS), YERY HARD RECOY. CORE 92 13% RQD (RESIDUAL) 26 BROWN SANDY SILT (ML) WITH SOME CLAY, <u>YERY STIFF</u>, MOIST BROWN CLAYEY SILT (MH) WITH SEAMS OF HIGHLY WEATHERED BASALT, YERY 105 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION (COMPLETELY WEATHERED ROCK) (RESIDUAL) STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION BORING LOGS INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-I (57) F.A.I. PROJECT NO. 1-H3-1 (58) SCALE : NONE SHEET NO. BIS OF 32 SHEETS DATE REVISION

738

FED. ROAD DIST. NO. FISCAL SHEET TOTAL YEAR NO. SHEETS I-H3-I (57) 1988 2**39** 274

| FILE 433<br>DATE 9-1   |                      |    | SURFA<br>DEPTH |             |   | NONE ENCOUNTERED   |
|------------------------|----------------------|----|----------------|-------------|---|--|
| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | 1  | PER            | S A M P L E | D<br>E<br>P<br>T                          | CLASSIFICATION   |
|                        |                      |    | ·              |             | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>5 |  |
|                        | 16                   |    | 28<br>R        | 2           | -<br>-<br>-<br>-<br>10                    | DARK BROWN CLAYEY SILT (ML)<br>WITH COBBLES AND BOULDERS,<br>VERY STIFF, DAMP                    |
|                        |                      |    | 16             | 3           | -   | (COLLUYIUM)  |
| C=900 PSF<br>Ø=42°     | 63                   | 63 | 25             | 4           | 15<br><br><br>                            | DARK BROWN SANDY SILT (ML),<br>HARD, DAMP<br>(ASH WITH CINDERS)                                  |
|                        |                      |    | 25             | 5           | 20<br>                                    | VOID @ 20' TO 21'  BROWN SILTY SAND (SM) WITH  |
| C=1000 PSF             | 58                   | 62 | 26             | 6           |   | DECOMPOSED ROCK, MEDIUM  DENSE, MOIST  (CINDERS)   |
| Ø=44°                  |                      |    | 21             | 7           | -<br>-30<br>-<br>-                        | BROWN/GRAY ROCK, HARD, FRACTURED  (BOULDER)  BROWN SANDY SILT (ML) WITH DECOMPOSED CINDERS, VERY |
| C=780 PSF<br>Ø=36°     | 69 .                 | 56 | 14             | 8           |   | <u>STIFF</u> , MOIST   |
|                        |                      | -  | 31             | 9           | <br>40<br><br>                            | (DECOMPOSED CINDERS)   |
| C=800 PSF<br>Ø=38°     | 44                   | 74 | 35             | 10          | <br>_45<br>                               |  |
| •                      | 48                   | 75 | 27             | 11          |   | GRAY/BROWN SILT (ML) WITH<br>SOME DECOMPOSED ROCK, <u>HARD</u> ,<br>MOIST                        |
| •                      |                      |    |                |             | <br><br><br><br><br><br>                  |  |
|                        | 48                   |    | <b>4</b> 0     | 12          | 60<br>                                    |  |
|                        |                      |    |                |             | _65                                       | (RESIDUAL)  GRAY/BROWN DECOMPOSED  |
|                        |                      | ·  |                |             | -   | ROCK WITH SOME SILT POCKETS, MEDIUM HARD TO HARD, MOIST  |

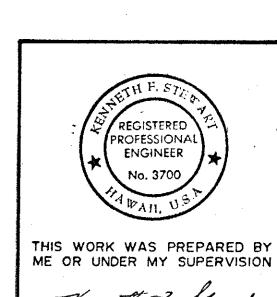
| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT. | DRY<br>WT.<br>PCF | PER | S<br>A<br>M<br>P<br>L<br>E | E<br>P<br>T                              | CLASSIFICATION   |
|------------------------|-----------------|-------------------|-----|----------------------------|--|--|
|                        | 22              | 82                | 31  | 13                         | 70 ************************************  | **************************************                                     |
|                        | 39              |                   | 27  | 15                         | - B5 B5                                  | GRAY/BROWN DECOMPOSED ROCK WITH SOME SILT POCKE MEDIUM HARD TO HARD, MOIST |
|                        | 36              |                   | R   | 16                         | 95 x x x x x x x x x x x x x x x x x x x | (DECOMPOSED ROCK)  |

| LAB<br>TEST<br>RESULTS | MOIST<br>CONT. | . DRY  | BLOWS<br>PER |         | D<br>E<br>p                  | EK | NONE ENCOUNTERED   |
|------------------------|----------------|--|--------------|---------|------------------------------|----|--|
| XC00210                |                | 101  | 11.          | L<br>E  | H                            |    | CLASSIFICATION   |
| ,                      | 41             | 61   | 23           | 1       | :-                           |    |  |
|                        | 36             | 71   | 31           | 2       | -<br>-<br>-                  |    |  |
|                        |                |  | R            | 3 ×     | 5<br>5                       |    |  |
|                        |                |  |              |         | <del>-</del>                 |    |  |
|                        |                | A STATE OF THE STA |              |         | -<br>-<br>-<br>10            |    |  |
| C=700 P.S.F.<br>Ø=45°  | 55             | 60   | 15           | 4       | -                            |    | BROWN SANDY SILT (MH) WIT  |
| 0=45°                  |                |  |              |         | - 1<br>- 1                   |    | SOME GRAVEL, <u>VERY STIFF</u> ,<br>MOIST  |
| LL=66                  | 50             | 70   | 29           | 5       |                              |    |  |
| PI=2                   |                |  |              |         | ·                            |    |  |
|                        | 64             | 64   | 25           | 6       | 20                           |    |  |
|                        |                |  |              |         | _                            |    |  |
| C=880 P.S.F.           | 65             |  | 16           | 7       |                              |    | (DECOMPOSED COLLUVIUM  |
| Ø=24°                  |                |  |              |         |                              |    | PROMINE OF AUGUS OF THE COMMENT OF T |
| •                      |                |  |              |         |                              |    | BROWN CLAYEY SILT (ML) WITH DECOMPOSED CINDERS, <u>HARD</u> , DAMP   |
|                        | 54             | 66   | 26           | 8       | <u>-30</u>                   |    | DATIF  |
|                        |                | •  |              |         | -   <del>-</del>  -          |    |  |
|                        |                |  |              |         | -35<br>-                     |    |  |
|                        |                |  |              |         | -                            |    |  |
| LL=47<br>PI=13         |                |  | 27           | 9       | _40                          |    |  |
|                        |                |  |              |         | -                            |    | /DECOMPOSED OUR TO   |
|                        |                |  | R            | 10 🛭    | -<br>-<br>45                 |    | (DECOMPOSED CINDERS  |
|                        |                | 1  |              | NX    : | -   + +<br>-   + +<br>+ +    | ++ | BROWNISH GRAY TUFF, HARD,<br>MASSIVE   |
|                        |                | ĮR   | ECOV.C       | UKE     | - + +<br>+ +<br>+ +<br>- + + | ++ | (TUFF)   |
|                        |                |  |              | -       | _50<br>-<br>-                |    | BROWN CEMENTED CINDERS,<br>HARD, MASSIVE   |
|                        | 50             |  | 45           | 11      | -<br>-                       |    | (CINDERS)  |
|                        |                |  |              | -       | -<br>_55                     |    |  |
|                        |                |  |              |         | -                            |    |  |
|                        |                |  |              |         | 60                           |    |  |
|                        | 37             |  | 25   1       | 2       | -                            |    | DARK BROWN SANDY SILT (ML)<br>WITH CINDERS, <u>STIFF</u> , MOIST   |
|                        |                |  |              |         |                              |    |  |
|                        |                |  | -            | -       | 65                           |    | •  |
|                        |                |  |              |         |                              |    |  |
|                        |                |  |              | 11-     | 70                           |    | (CINDERS)  |

DATE

REVISION

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT.         | S A M P L E | D<br>E<br>P<br>T<br>H       | CLASSIFICATION   |            |
|------------------------|----------------------|-------------------|-----------------------------|-------------|-----------------------------|--|------------|
|                        |                      |                   |                             |             |                             | NOTE: DRILLED DOWN TO 76.5 FEI<br>LOCATION ADJACENT TO PREVIOUS<br>BORING. BEGAN LOGGING THE BOR<br>76.5 FEET. | OP-14      |
|                        |                      |                   | 93%                         | NX I        | -<br>-<br>-<br>-<br>80      | DARK BROWN SANDY SILT (ML<br>CINDERS, <u>VERY STIFF</u> , MOIST<br>(CINDE                                      |            |
|                        |                      | . '               |                             | CORE        | -<br>-<br>-<br>-<br>-       | GRAY SLIGHTLY WEATHERED BAS  (WS), HARD, BROKEN TO OCCAS  BROKEN   |            |
|                        |                      |                   | 68%<br>RECOV<br>23%<br>RQD  | NX<br>CORE  | 85<br><br><br><br>          | DARK GRAY MODERATE TO HIGHLY WEATHERED BASALT (WM-WH MEDIUM HARD TO HARD                                       | ΄),        |
|                        |                      |                   | 82%<br>RECOV.<br>17%<br>RQD | NX<br>CORE  | _90<br> -<br> -<br> -<br> - | REDDISH BROWN COMPLETELY WEATHERED BASALT (WC), M HARD, BROKEN   | EDIUM      |
|                        |                      |                   | 89%<br>RECOY.<br>31%        | NX<br>CORE  | 95<br>                      | DARK GRAY MODERATELY WEATHER BASALT (WM), HARD, BROKEN GRADES TO VESICULAR AT 94"                              |            |
|                        |                      |                   | RQD                         |             | -<br>-<br>100               | GRAY AND BROWN HIGHLY TO COMP  |            |
|                        |                      |                   |                             |             |                             | BOH € 100.0°   |            |
|                        |                      |                   |                             |             | - 105                       | NOTE: HARD DRILLING ENCOUNTER<br>BETWEEN DEPTHS OF 34 AND 50 F   | ED<br>EET. |



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

F.A.I. PROJECT NO. I-H3-I (57)
F.A.I. PROJECT NO. I-H3-I (58) SCALE · NONE DATE: SEPT, 1988

SHEET NO. BIG OF 32 SHEETS

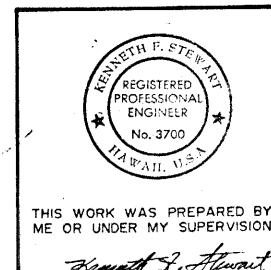
FISCAL SHEET TOTAL YEAR NO. SHEETS FED. ROAD STATE FED. AID PROJ. NO. 1988 240 274 I-H3-I (57)

| BORING IF<br>FILE 433<br>DATE 9-2  | -2                   |  | SURFA               | CEF                   | IFV              | 45                      | 1INARY RECOMMENDATION<br>2'±<br>NONE ENCOUNTERED                  |
|--|----------------------|--|---------------------|-----------------------|------------------|-------------------------|---|
| LAB<br>TEST<br>RESULTS   | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF  | BLOWS<br>PER<br>FT. | S<br>M<br>P<br>L<br>E | D<br>E<br>P<br>T |                         | CLASSIFICATION  |
|  | 59                   | 60   | 6                   | 1.                    | -                |                         | g   |
| ,  |                      |  | 20                  | 2                     | <u>-</u> 5       |                         |   |
| L=79   | 58                   | 64   | 20                  | 3                     | -                |                         |   |
| PI=27  |                      |  | ·                   |                       | -                |                         |   |
| Q <sub>U</sub> =4000 PSF   | 53                   | 67   | 11                  | 4                     | <u>10</u>        |                         | BROWN CLAYEY SILT (MH) WITH GRAVEL AND COBBLES, STIFF, MOIST      |
|  | 62                   | 61   | 15                  | 5                     | <br><br>15<br>   |                         |   |
|  |                      |  |                     |                       |                  |                         | (DECOMPOSED COLLUVIUM)  |
|  |                      |  |                     |                       |                  |                         | (DECOMPOSED COLLOTTON)  |
|  | 65                   | 59   | 10                  | 6                     | -                |                         |   |
|  |                      |  |                     |                       | <del>-</del>     |                         |   |
|  |                      |  |                     |                       |                  |                         |   |
| C=800 PSF<br>Ø=41°   | 65                   | 53   | 21                  | 7                     | -                |                         | BROWN CLAYEY SILT (ML) WITH TRACE OF SAND, <u>HARD</u> , MOIST    |
|  |                      |  |                     |                       | -                |                         |   |
|  | 52                   | 68   | 30                  | 8                     | ∐ <u>:</u> _30   |                         |   |
|  |                      | ]  |                     |                       |                  |                         |   |
| :  |                      |  |                     |                       | - 35             |                         |   |
|  | 63                   | 61   | 17                  | 9                     | -                |                         |   |
|  |                      |  |                     |                       |                  |                         |   |
| and the state of t |                      |  | 26                  | 10                    | 40               |                         |   |
|  |                      |  |                     |                       | -                |                         |   |
|  |                      |  |                     |                       | - A              |                         |   |
|  |                      |  |                     |                       | - 1              |                         | (DECOMPOSED CINDERS)  |
|  |                      |  |                     |                       |                  |                         |   |
|  |                      |  |                     |                       | 5                |                         |   |
|  | 61                   | 55   | 13                  | 11                    | -                | 161.1                   | BLACK/BROWN SILTY SAND (SM) WITH GRAVEL, LOOSE TO MEDIUM          |
|  |                      |  |                     |                       |                  |                         | DENSE, WET  |
|  |                      |  |                     |                       | 5                | 5 (1) 3<br>1917         |   |
|  |                      |  |                     |                       |                  | 101.1<br>131.1<br>131.1 | (DECOMPOSED CINDERS)  |
| C=600 PSF<br>Ø=38°   | 60                   | 62   | 2 25                | 12                    |                  | 0                       | BROWN CLAYEY SILT (ML-MH) WITH DECOMPOSED ROCK, VERY STIFF, MOIST |
|  |                      |  |                     |                       |                  |                         | (RESIDUAL)  |
|  |                      |  |                     |                       | _6<br> -<br> -   | 5                       | DARK BROWN SILT (ML) WITH DECOMPOSED ROCK, HARD,                  |
|  |                      | والمراجع وا |                     |                       |                  |                         | MOIST (RESIDUAL)  |

| LAB TEST | MOIST.   |   | DEPIH<br>BLOWS<br>PER        |             | D<br>E<br>P                       | :K | NONE ENCOUNTERED  |
|----------|----------|---|------------------------------|-------------|-----------------------------------|----|---|
| RESULTS  | <b>%</b> | PCF   | FT.                          | P<br>L<br>E | T                                 |    | CLASSIFICATION  |
|          | 45       |   | 57                           | 13          | . 70<br><br><br><br><br><br>      |    |   |
|          | 42       |   | 34                           | 14          | 80                                |    | DARK BROWN SILT (ML) WITH<br>DECOMPOSED ROCK, <u>HARD</u> ,<br>MOIST  |
|          | 35       |   | 62/5"                        | 15          | 85<br><br><br><br><br>90<br>      |    | NOTE: DRILLED DOWN TO 91.0 FEET AT LOCATION ADJACENT TO PREVIOUS IP-1! BORING. BEGAN LOGGING THE BORING AT 91.0 FEET.         |
|          |          | rian i de la companio | 80%<br>RECOV.<br>7%<br>RQD   | NX<br>CORE  | -<br>-<br>-<br>-<br>-<br>-<br>100 |    | DARK BROWN HIGHLY WEATHERED BASALT (WH), HARD GRAY MODERATELY WEATHERED BASAL' (WM), YERY HARD, BROKEN TO OCCASIONALLY BROKEN |
|          |          |   | 100%<br>RECOV.<br>7%<br>RQD  | NX<br>CORE  | . 1 . 1 . 1 .                     |    | DARK GRAY SANDY SILT (ML) WITH GRAYEL, COBBLES, DENSE (CLINKER)   |
|          |          |   | 100%<br>RECOV.<br>44%<br>RQD | NX<br>CORE  |                                   |    | GRAY MODERATELY WEATHERED BASAL<br>(WM), MEDIUM TO VERY HARD, BROKE<br>TO OCCASIONALLY BROKEN                                 |
|          |          |   | 100%<br>RECOV.<br>70%<br>RQD | NX<br>CORE  |                                   |    | GRAY SLIGHTLY WEATHERED BASALT (WS), <u>VERY HARD</u> , OCCASIONALLY BROKEN TO MASSIVE  |
|          |          |   |                              |             |                                   | 5  | BOH € 113.0'  |

| DATE 9-1               |                      | <del></del>       |                     |        |                                 | NONE ENCOUNTERED   |
|------------------------|----------------------|-------------------|---------------------|--------|---------------------------------|--|
| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT. | SAMPLE | D<br>E<br>P<br>T                | CLASSIFICATION   |
|                        | 60                   | 62                | 18                  | 1      | ·-                              | BROWN SILT (ML) WITH   |
|                        | 55                   | 68                | 20                  | 2      | -<br>-<br>-<br>-<br>-<br>-<br>- | DECOMPOSED BOULDERS AND COBBLES, <u>VERY STIFF</u> , MOIST                 |
|                        | 57                   | 64                | 28                  | 3      | - 4                             | (DECOMPOSED COLLUVIUM)   |
|                        |                      |                   | 10                  | 4      |                                 |  |
| C=700 P.S.F.<br>Ø=36°  |                      |                   | 12                  | 5      | -<br>-15<br>-<br>-<br>-         | ·  |
|                        |                      |                   | 16                  | 6      | -<br>-20<br>-<br>-<br>-<br>-    | REDDISH BROWN SILT (ML) WITH TRACE OF SAND, <u>VERY</u> STIFE, DAMP        |
|                        | 71                   | 54                | 17                  | 7      |                                 | <u> </u>   |
| C=800 P.S.F.<br>Ø=40°  |                      |                   | 16                  | 8      | 30<br>                          |  |
| ·                      |                      |                   | 16                  | 9      | -<br>-<br>-                     |  |
|                        |                      |                   | 13                  | 10     |                                 | (ASH AND CINDERS)  |
|                        | 50                   | 65                | 26                  | 11     |                                 | ORANGE BROWN SILT (ML),  VERY STIFF, MOIST  (RESIDUAL)                     |
|                        |                      |                   |                     |        |                                 | (RESIDUAL)   |
| •                      | 46                   | 76                | 34                  | 12     |                                 |  |
| C=950 P.S.F.<br>Ø=39°  | 33                   | 88                | 57                  | 13     | -55<br>                         | DARK BROWN SANDY SILT (ML)<br>WITH DECOMPOSED ROCK, <u>HARD</u> ,<br>MOIST |

| FILE 433               | 5-2                  |                   | SURFA               | ICE E      | LEY.                  | 474 | IINARY RECOMMENDATION  1'±  NONE ENCOUNTERED   |
|------------------------|----------------------|-------------------|---------------------|------------|-----------------------|-----|--|
| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT. | SAMPLE     | D<br>E<br>P<br>T<br>H |     | CLASSIFICATION   |
|                        | 51                   | 72                | 77<br>67/5"         |            | - 70<br>              |     | DARK BROWN SANDY SILT (ML) WITH DECOMPOSED ROCK, HARD, MOIST  (RESIDUAL)             |
|                        |                      |                   | 90%<br>RECOV.       | NX<br>CORE |                       |     | BROWN GRAY BASALT WITH INTERBEDDED CLINKER LAYERS, BROKEN, HARD (BASALT)  BOH @ 92.5 |



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-I (57)
F.A.I. PROJECT NO. I-H3-I (58)
SCALE: NONE DATE: SEPT. 1988
SHEET NO. BI7 OF 32 SHEETS

REVISION

FED. ROAD STATE FISCAL SHEET TOTAL YEAR NO. SHEETS FED. AID PROJ. NO. 1988 | 241

| • |                          |        |            | <u> </u>   | ناشه دور داده شد |                    |    |   |
|---|--------------------------|--------|------------|--|------------------|--------------------|----|---|
|   | BORING  <br>FILE 433     |        |            | PROJE<br>SURF  |                  |                    |    | MINARY RECOMMENDATION<br>81'±                               |
|   | DATE 9-2                 | 22-84  |            | DEPTH  | I TO '           | TAW                | ER | NONE ENCOUNTERED  |
|   | LAB<br>TEST              | MOIST. | DRY<br>WT. | i .  | S<br>A<br>M      | D<br>E<br>P        |    |   |
|   | RESULTS                  | 98     | PCF        | FT.  | P<br>L<br>E      | T                  |    | CLASSIFICATION  |
|   |                          | 1      |            |  |                  | <u>:</u>           |    |   |
|   |                          | 55     | 68         | 23   |                  |                    |    | BROWN SILT (MH) WITH  |
|   | LL=61<br>PI=NP           | 52     | 68         | 26   | 2                | s                  |    | DECOMPOSED ROCK FRAGMENTS, VERY STIFF, DAMP                 |
|   |                          | 47     | 73         | 42   | 3                | -                  |    |   |
|   |                          |        |            |  |                  |                    |    | (RESIDUAL)  |
|   | LL=73                    | 60     | 60         | 27   | 4                | <u>- 1</u> 0<br> - |    |   |
|   | Pl=11                    |        |            |  |                  | ]=                 |    |   |
|   |                          | ÷.     |            |  |                  |                    |    |   |
|   |                          | 67     | 58         | 24   | 5                | -                  |    | REDDISH BROWN CLAYEY SILT                                   |
|   |                          |        |            |  |                  | -                  |    | (MH) WITH DECOMPOSED ROCK<br>FRAGMENTS, <u>HARD</u> , MOIST |
|   | Q <sub>U</sub> =4900 PSF | . 47   | 72         | 27   | 6                |                    |    |   |
|   |                          |        |            | The state of the s |                  | _                  |    |   |
|   |                          |        |            |  |                  |                    |    |   |
|   |                          |        |            |  |                  | <u>:</u>           |    | (RESIDUAL)  |
|   |                          |        |            |  | ٠                | -                  |    | DARK BROWN SILT (ML) WITH                                   |
|   |                          | 45     | 73         | 41   | 7                | 30<br>             |    | DECOMPOSED ROCK, <u>HARD</u> ,                              |
|   |                          |        |            |  |                  | ·-<br>             |    | DAMP  |
|   |                          |        |            |  |                  | 35                 |    |   |
|   |                          |        |            |  |                  | -                  |    |   |
|   |                          |        |            |  |                  |                    |    | ·   |
|   |                          |        |            | 54   | 8                | 40<br>             |    |   |
|   | ·                        |        | :          |  |                  | -                  |    |   |
|   |                          |        |            |  |                  | <br>45             |    |   |
|   |                          |        |            |  | #<br>#<br>#      | ·                  |    |   |
|   |                          | ·      |            |  | <br>             |                    |    | (RESIDUAL)  |
|   |                          |        |            | 99%<br>RECOV.  | NX               | 50<br>             |    |   |
|   |                          |        | ,          | 174CU V .  | CORE             | -<br>-             |    |   |
|   |                          |        |            | 98%  | NX               | _<br>              |    | GRAY VESICULAR BASALT                                       |
|   |                          |        |            | RECOV.   |                  | -                  |    | MASSIVE, OCCASIONALLY BROKEN, <u>HARD</u>                   |
|   |                          |        | . !        |  | ļ.               | -                  |    | DISTILLI, <u>HAND</u>                                       |
|   | ·                        |        |            | 99 <b>%</b><br>RECOV.  | NX               | 60<br>             |    |   |
|   | -                        |        |            | NEGUV.   |                  | <u>-</u>           |    | (BASALT)  |
|   |                          |        |            |  |                  | <br>65             |    | (DM3ALI)  |
|   |                          | j      |            | -  |                  | _                  |    | BOH <b>@</b> 64.0'  |
|   |                          |        |            |  |                  | <br>               |    |   |
|   |                          |        |            |  |                  | . 70               |    |   |

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | PER           | SAMPLE     | D<br>E<br>P<br>T<br>H                            |   | CLASSIFICATION  |
|------------------------|----------------------|-------------------|---------------|------------|--|---|---|
|                        | 69                   | 58                | 19            | 1          | -  |   | REDDISH BROWN CLAYEY SILT (MH), <u>VERY STIFF</u> , MOIST                   |
| _L=80<br>PI=9          | 60                   | 55                | 17            | 2          |  |   | (RESIDUAL)  |
|                        | 66                   | 61                | 28            | 3          |  |   |   |
| C=1775 P.S.F.<br>Ø=15* |                      | 65                | 31            | 4          | <u>- 10</u><br><br>                              |   |   |
| L=70<br>PI=8           | 49                   | 71                | 39            | 5          | -<br>-<br>-<br>-<br>-                            |   | DARK BROWN CLAYEY SILT (MH)   |
|                        | 54                   | 67                | 45            | 6          | -<br>-20<br>-<br>-<br>-                          |   | WITH DECOMPOSED ROCK, <u>HARD</u> , MOIST                                   |
|                        | 48                   | 71                | 38            | 7          |  |   |   |
|                        | 54                   | 58                | 31            | 8          | 30<br>:-30                                       |   | (RESIDUAL)  |
|                        |                      |                   | 88            | 9          |  | **************************************  | DARK BROWN DECOMPOSED ROCK WITH INTERBEDDED SILT POCKETS, <u>HARD</u> , WET |
|                        |                      |                   | 43            | 10         | <br><br><br><br><br><br><br><br><br><br><br><br> | \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | (DECOMPOSED ROCK)   |
|                        | с                    |                   | 63            | 11         | _<br>_50   | <u> </u>                                |   |
|                        |                      |                   | 95%<br>RECOV. | NX<br>CORE | -<br>-<br>-<br>-<br>-<br>-55                     |   | BROWN WEATHERED BASALT<br>OCCASIONALLY BROKEN, HARD,<br>MASSIVE             |
|                        |                      |                   | 96%<br>RECOV. | NX<br>CORE | -<br>-<br>-<br>-<br>-<br>-<br>-<br>60            |   | (BASALT)  |
|                        |                      |                   |               |            | -<br>-<br>-<br>-<br>-<br>-65                     |   | вон ⊛ 60.0°   |

DATE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

F.A.I. PROJECT NO. I-H3-I (57)
F.A.I. PROJECT NO. I-H3-I (58) DATE: SEPT. 1988 SCALE : NONE SHEET NO. BIB OF 32 SHEETS

REVISION

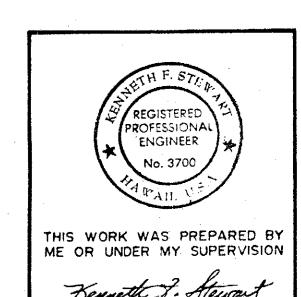
FED. ROAD STATE FISCAL SHEET TOTAL YEAR NO. SHEETS FED. AID PROJ. NO. 1988 242 274 I-H3-I (57)

| LAB TEST      | MOIST.   | DRY<br>WT. | BLOWS |             | D E                        | NONE ENCOUNTERED  |
|---------------|----------|------------|-------|-------------|----------------------------|---|
| RESULTS       | <b>%</b> | PCF        | i l   | P<br>L<br>E | P<br>T<br>H                | CLASSIFICATION  |
|               | 47       |            | 20    | 1           | <u>-</u>                   | BROWN SILT (ML), VERY STIFF   |
|               | 49       | 73         | 19    | 2           | -                          | (DECOMPOSED COLLUVIUM)  |
| LL=64<br>P1=3 | 48       |            | 16    | 3           | 5<br>                      |   |
|               | 70       | 56         | 18    | 4           | -<br>-<br>-<br>-<br>-      |   |
|               | 63       | 61         | 15    | 5           | - 15                       | DEDDICU BROWN CLAVEY SILT   |
|               | 54       | 64         | 19    | б           | -<br>-20<br>-<br>-         | REDDISH BROWN CLAYEY SILT<br>(MH), <u>VERY STIFF TO HARD</u> ,<br>DAMP      |
|               |          |            |       |             | -<br>-25<br>-<br>-         |   |
|               | 59       | 66         | 25    | 7           |                            |   |
|               |          |            |       |             | -<br>-<br>-<br>-<br>35     | (RESIDUAL)  |
|               | 50       | 70         | 50    | 8           |                            | REDDISH BROWN CLAYEY SILT<br>(ML), <u>HARD</u> , DAMP                       |
|               |          | ·          |       |             | -<br>-45<br>-<br>-         | (RESIDUAL)  |
| •             | 42       | 81         | 117   | 9           | -<br>-<br>-<br>-<br>-<br>- | GRAY/BROWN SILT (ML) WITH<br>DECOMPOSED ROCK, <u>HARD</u> ,<br>MOIST        |
|               | 38       |            | 40    | 10          |                            | (RESIDUAL)  |
|               | 56       |            | 20    | ***         |                            | DARK BROWN SILT (ML) WITH<br>DECOMPOSED ROCK FRAGMENTS,<br>VERY STIFF, DAMP |
|               |          |            |       |             |                            |   |

| FILE 43                | 3-2                  |                   | SURFA   | TO '                     | LEY.             | 53  | 1INARY RECOMMENDATION 2'± NONE ENCOUNTERED   |
|------------------------|----------------------|-------------------|---|--------------------------|------------------|---|--|
| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT.                           | S A M P L E              | D<br>E<br>P<br>T |   | CLASSIFICATION   |
|                        | 58<br>32<br>50       |                   | 17<br>R<br>29                                 | 13                       | . 70<br>         |   | DARK BROWN SILT (ML) WITH DECOMPOSED ROCK FRAGMENTS, VERY STIFF, DAMP  (RESIDUAL)  DARK BROWN SILT (ML) WITH DECOMPOSED ROCK FRAGMENTS, VERY STIFF TO HARD, DAMP  NOTE: DRILLED DOWN TO 95.0 FEET AT       |
|                        |                      |                   | 119<br>837.6                                  | 1                        |                  |   | LOCATION ADJACENT TO PREVIOUS IP-17 BORING. BEGAN LOGGING THE BORING AT 95.0 FEET.  DARK GRAY/BROWN SILT (ML), ROCK- LIKE STRUCTURE AND TEXTURE, SOME HIGHLY WEATHERED FRAGMENTS, HARD TO YERY HARD, MOIST |
|                        |                      |                   |   |                          | 105<br>-<br>-    | *****<br>*****<br>*****<br>*****<br>*****<br>**** | GRAY/BROWN MODERATELY TO HIGHLY<br>WEATHERED BASALT (WM-WH), <u>HARD</u>   |
|                        |                      |                   | 100%<br>RECOV.<br>47%<br>RQD<br>78%<br>RECOV. | NX<br>CORE<br>NX<br>CORE | 110              |   | GRAY SLIGHTLY WEATHERED VESICULAR BASALT (WS), HARD, OCCASIONALLY BROKEN GRADES TO HIGHLY VESICULAR  |
|                        |                      |                   | 41%<br>RQD<br>100%<br>RECOY.<br>23%<br>RQD    | NX<br>CORE               | 120              |   | GRAY SLIGHTLY TO MODERATELY WEATHERED BASALT (WS-WM), HARD, BROKEN   |
|                        |                      |                   |   |                          | -<br>-<br>-125   |   | BOH e 122.5'   |

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT. | S<br>A<br>M<br>P<br>L | D<br>E<br>P<br>T           | CLASSIFICATION  |
|------------------------|----------------------|-------------------|---------------------|-----------------------|----------------------------|---|
|                        | 52                   | 70                | 16                  | 1                     |                            | BROWN CLAYEY SILT (ML) WITH<br>GRAVEL, <u>VERY STIFF</u> , DAMP |
|                        | 53                   | 66                | 18                  | 2                     | - 5                        |   |
|                        | 48                   | 68                | 18                  | 3                     | -                          | (DECOMPOSED COLLUVIUM)  |
|                        | 53                   | 69                | 20                  | 4                     | -                          |   |
|                        | 40                   | 76                | 30                  | 5                     | <u>- 1</u> 0               |   |
| AND COME.              | 53                   | 67                | 19                  | 6                     |                            |   |
|                        | 51                   | 67                | 33                  | 7                     |                            | REDDISH BROWN CLAYEY SILT (ML), VERY STIFF TO HARD, DAMP        |
|                        | 69                   | 57                | 13                  | 8                     |                            |   |
| •••                    | 54                   | 56                | 20                  | 9                     |                            |   |
|                        |                      |                   |                     |                       | -                          | (RESIDUAL)  |
|                        | 58                   | 64                | 37                  | 10                    | -<br>-<br>-<br>-<br>-<br>- |   |
|                        |                      |                   |                     |                       | -55                        |   |
|                        | 50                   | 65                | 35                  | 11                    | -60                        | DARK BROWN CLAYEY SILT (ML),<br>HARD, MOIST                     |
|                        |                      |                   |                     |                       | 65                         | (RESIDUAL)  |

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT. | DRY<br>WT.<br>PCF | I             | SAMPLE     | D<br>E<br>P<br>T<br>H   | CLASSIFICATION  |
|------------------------|-----------------|-------------------|---------------|------------|---|---|
|                        | 46              | 70                | 46            | 12         | . 70<br><br><br><br><br>  | DARK BROWN CLAYEY <b>SILT</b> (M<br><u>HARD</u> , MOIST |
|                        | 1               |                   |               |            | -75   | (RESIDUAL)  |
|                        |                 |                   | 80%<br>RECOV. | NX<br>CORE |   |   |
|                        |                 | · ·               | 80%<br>RECOV. | NX<br>CORE | .  <br> -<br> - | GRAY MODERATELY WEATHERED BASALT WITH SILT AND          |
|                        |                 |                   | 50/6"         | 13         |   | CLINKER SEAMS   |
|                        |                 |                   | 70%<br>RECOV. | NX<br>CORE | - 90<br>  | (BASALT)  |
|                        |                 |                   |               |            | - 25  |   |
|                        |                 |                   |               |            | -   | BOH <b>@ 94.0</b> °                                     |
|                        |                 |                   |               |            | 100   |   |



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

INTERSTATE ROUTE H-3

F.A.I. PROJECT NO. I-H3-I (57)

F.A.I. PROJECT NO. I-H3-I (58)

SCALE NONE DATE SEPT. 1988

SHEET NO. BI9 OF 32 SHEETS REVISION

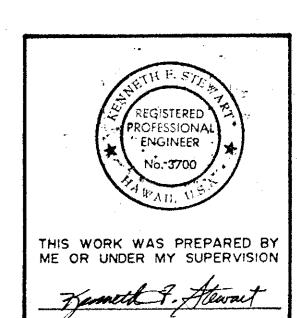
FISCAL SHEET TOTAL YEAR NO. SHEETS FED. AID PROJ. NO. 1988 243 HAWAII HAW. I-H3-I (57)

| BORING II<br>FILE 433<br>DATE 10-     |                      |                   | SURFA | CE E        | LEY.               | 48 | MINARY RECOMMENDATION 5'± NONE ENCOUNTERED           |
|---------------------------------------|----------------------|-------------------|-------|-------------|--------------------|----|--|
| LAB<br>TEST<br>RESULTS                | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | PER   | S A M P L E | D<br>E<br>P<br>T   | ·  | CLASSIFICATION                                       |
| C=850                                 |                      |                   | 31    | 1           | . 1 . 1 .          |    | BROWN CLAYEY SILT (MH), <u>VERY</u>                  |
| Ø=30°<br>LL=95                        | 57                   | 63                | 29    | 2           | -<br>-<br>-<br>5   |    | STIFF, DAMP  |
| PI=28                                 | 52                   | 71                | 19    | 3           | -                  |    | (DECOMPOSED COLLUVIUM)                               |
|                                       |                      |                   |       | ·           | -<br>-<br>- 10     |    |  |
|                                       | 57                   | 65                | 30    | 4           | ·-<br>-            |    |  |
|                                       |                      |                   |       |             | -<br>-<br>15       |    |  |
|                                       | 60                   | 58                | 20    | 5           | <u>-</u> 13<br>  - |    |  |
|                                       |                      |                   | 2.    | .*          | <del>-</del>       |    |  |
| C=700                                 | 63                   | 56                | 13    | 6           | 20                 |    | •  |
| Ø=29°                                 |                      |                   |       |             | -<br>-             |    | REDDISH BROWN CLAYEY SILT (ML-MH), VERY STIFF, MOIST |
|                                       |                      |                   |       |             | <br>25             |    | (IL 1817, <u>VERT STRT</u> , 11013)                  |
|                                       | 69                   | 59                | 15    | 7           |                    |    |  |
|                                       |                      |                   | ·     | ·           | - 30               |    |  |
|                                       | 70                   | 52                | 16    | 8           |                    |    |  |
|                                       |                      |                   |       |             | <del>-</del>       |    |  |
|                                       |                      |                   |       |             | 35                 |    |  |
|                                       |                      |                   |       |             | -                  |    |  |
|                                       |                      |                   |       |             | 40                 |    |  |
| C=700<br>Ø=31°                        | 69                   | 52                | 17    | 9           | -                  |    |  |
|                                       |                      |                   |       |             | _<br>_<br>45       |    | (RESIDUAL)   |
| *                                     |                      |                   |       |             |                    |    |  |
|                                       |                      |                   |       |             | -                  |    | •  |
| · · · · · · · · · · · · · · · · · · · | 60                   | 61                | 24    | 10          | 50<br>             |    | BROWN SILT (ML) WITH                                 |
|                                       |                      |                   |       |             | ] <del>-</del>     |    | DECOMPOSED ROCK, <u>VERY STIFF</u> , MOIST           |
|                                       |                      |                   |       |             | <u>-</u> 55        |    |  |
|                                       |                      |                   |       |             | <del>-</del>       |    |  |
|                                       |                      |                   |       |             |                    |    | (RESIDUAL)   |
|                                       | - 57                 | 69                | 44    | 11          | -                  |    |  |
|                                       |                      |                   |       |             | <del>-</del>       |    | GRAY/BROWN SILT (ML) WITH                            |
|                                       |                      |                   |       |             | <u>-</u> 65        |    | DECOMPOSED ROCK, <u>HARD,</u><br>DAMP                |
|                                       |                      |                   |       |             | -<br> -<br> -      |    |  |
|                                       |                      |                   |       |             | 70                 |    | (RESIDUAL)   |

|                       |        | المسادر الأشدون | · · · · · ·   |            |              | · · · · · · · · · · · · · · · · · · · |  |
|-----------------------|--------|-----------------|---------------|------------|--------------|---------------------------------------|--|
| BORING II<br>FILE 433 |        |                 |               |            |              |                                       | MINARY RECOMMENDATION  .5'±  |
| DATE 10-              |        |                 | DEPTH         | TO         | <b>VATE</b>  | ER                                    | NONE ENCOUNTERED   |
| LAB                   | MOIST. | DRY             | BLOWS         | S<br>A     | D            |                                       |  |
| TEST                  | CONT.  | WT.             | PER           | M<br>P     | E<br>P       |                                       |  |
| RESULTS               | %      | PCF             | FT.           | E          | H            |                                       | CLASSIFICATION   |
| C=1200 PSF            | 43     | 80              | - 88          | 12         | . 70         |                                       |  |
| Ø=40°                 |        |                 |               |            | -            |                                       | ,  |
|                       |        |                 |               |            | -            |                                       | GRAY/BROWN SILT (ML) WITH  |
|                       |        |                 | ·             |            | 75           |                                       | DECOMPOSED ROCK, <u>HARD,</u><br>DAMP                                |
|                       |        |                 |               |            | <del>-</del> |                                       | DANF   |
|                       |        |                 |               |            | -            |                                       | (RESIDUAL)   |
|                       |        |                 |               |            | <br>         |                                       |  |
|                       | 48     |                 | 26            | 13         | ] -          |                                       |  |
|                       |        |                 |               |            | -  <br>-     |                                       |  |
|                       |        |                 |               |            | -            |                                       |  |
|                       |        |                 |               |            | 85<br>       |                                       |  |
|                       |        |                 |               |            | -            |                                       | ·  |
|                       |        |                 |               |            | =            |                                       |  |
|                       |        |                 | <b>57</b>     | 1.4        | - 90         |                                       |  |
|                       | 44     |                 | 57            | 14         | =            |                                       | DARK GRAY SILT (ML) WITH   |
|                       |        |                 |               |            | -            |                                       | DECOMPOSED ROCK FRAGMENTS,   |
|                       |        | :               |               |            |              |                                       | HARD, DAMP   |
| :                     |        |                 |               |            | -            |                                       |  |
|                       |        |                 |               |            | -<br>-       |                                       | ·  |
|                       |        |                 |               |            | -            |                                       | . •  |
|                       | 39     |                 | 57            | 15         | 100          |                                       |  |
|                       |        |                 |               | F          |              |                                       |  |
|                       |        |                 |               |            | - ,          |                                       |  |
|                       |        |                 |               |            | 105          |                                       |  |
|                       |        |                 |               |            | <del>-</del> |                                       | NOTE: DRILLED DOWN TO 111.5 FEET AT                                  |
|                       |        |                 |               |            | <u> -</u>    |                                       | LOCATION ADJACENT TO PREVIOUS IP-18                                  |
|                       |        |                 |               |            | 110          |                                       | BORING. BEGAN LOGGING THE BORING AT 111.5 FEET.                      |
|                       |        |                 |               |            | <u> </u> -   |                                       |  |
|                       |        |                 | 133           | F          | <del>-</del> |                                       | DARK GRAY SILT (MH) WITH ROCK FRAGMENTS, HARD, MOIST                 |
|                       |        |                 | 57%           | NX         | _<br>        |                                       | (RESIDUAL)   |
|                       |        |                 | RECOY.        | CORE       | -            |                                       | GRAY SLIGHTLY WEATHERED BASALT (WS) HARD, VERY BROKEN TO BROKEN      |
|                       |        |                 | RQD           |            |              |                                       | GRAY/BROWN HIGHLY WEATHERED  |
|                       |        |                 | 92%           | NX         | _<br>120     |                                       | BASALT (WH) WITH SEAMS OF HARD SILT,                                 |
|                       | ,      |                 | RECOV.        | CORE       |              |                                       | MEDIUM HARD, BROKEN  |
|                       |        |                 | RQD           |            | :-           |                                       | GRAY SLIGHTLY WEATHERED BASALT (WS) MEDIUM HARD, BROKEN              |
|                       |        |                 | 90%           | NX         | <u> </u>     |                                       |  |
|                       |        |                 | RECOY.        | CORE       | 125          |                                       | GRAY/BROWN SILT (MH) WITH HIGHLY WEATHERED ROCK FRAGMENTS, HARD,     |
|                       |        |                 | 7%<br>RQD     |            | <del>-</del> | Ш                                     | MOIST (DECOMPOSED CLINKER)   |
|                       |        | <u> </u>        |               |            | -            |                                       |  |
|                       | 1      |                 | 90%<br>RECOY. | NX<br>CORE | 130          |                                       | GRAY MODERATELY WEATHERED BASALT                                     |
|                       |        |                 | 65%           |            | <del>-</del> |                                       | (WM), <u>MEDIUM HARD TO HARD</u> ,<br>OCCASIONALLY BROKEN TO MASSIVE |
| ·                     |        |                 | RQD           |            | 4=,          |                                       |  |
|                       |        |                 |               |            | 135          |                                       | 50U A 177 01   |
|                       |        |                 |               |            | -            |                                       | BOH € 133.0*   |
|                       |        |                 |               |            | -            |                                       |  |
|                       |        | ,               |               |            | 140          |                                       |  |

| FILE 433               | 3-2             |    | SURFA               | CE          | ELEY.                        | . 50   | MINARY RECOMMENDATION 09'± NONE ENCOUNTERED                                    |
|------------------------|-----------------|----|---------------------|-------------|------------------------------|--------|--|
| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT. | 1  | BLOWS<br>PER<br>FT. | S A M P L E | D<br>E<br>P<br>T<br>H        |        | CLASSIFICATION   |
|                        | 56              | 59 | 27                  | 1           | <u>-</u>                     |        |  |
| LL=64                  | 50              | 69 | 31                  | 2           | -<br>-                       |        |  |
| PI=14<br>C=1000 P.S.F. | 55              | 66 | 36                  | 3           |                              |        |  |
| Ø=32°                  | 57              | 62 | 25                  | 4           | 1.1.19                       |        | BROWN CLAYEY SILT (MH), VERY STIFF, DAMP                                       |
|                        | 65              |    | 33                  | 5           | -<br>-15<br>-1<br>-1<br>-1   |        | (DECOMPOSED COLLUVIUM)   |
|                        | 63              | 60 | 18                  | 6           | -<br>-20<br><br><br><br>     |        |  |
| C=650<br>Ø=32°         | 70              | 55 | 13                  | 7           | 25                           |        | REDDISH BROWN CLAYEY SILT (ML), <u>VERY STIFF</u> , MOIST                      |
|                        | 75              | 54 | 12                  | 8.          | - 35                         | KARAKA | -  |
| C=150<br>Ø=39°         | 56              |    | 22                  | 9           |                              |        |  |
|                        | 80              | 54 | 13                  | 10          | - 50<br>- 1 1 1 1 55<br>- 55 |        | /promital \  |
|                        | 56              | 54 | 37                  | 11          | . 1. 1. 1. 60                |        | (RESIDUAL)  BROWN SILT (ML) WITH SOME DECOMPOSED ROCK, HARD, MOIST  (RESIDUAL) |

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT. | S<br>A<br>M<br>P<br>L | D<br>E<br>P<br>T                        | CLASSIFICATION   |
|------------------------|----------------------|-------------------|---------------------|-----------------------|---|--|
|                        | 67                   | 60                | 35                  | 12                    | . 70<br>                                | BROWN SILT (ML) WITH SOME<br>DECOMPOSED ROCK, <u>HARD</u> ,<br>MOIST       |
| C=900<br>Ø=34°         | 59                   | 64                | 38                  | 13                    | 8 1 1 1 8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | (RESIDUAL)   |
|                        | 43                   |                   | 96                  | 14                    | .   .   .   .   .   .   .   .   .   .   | GRAY BROWN DECOMPOSED ROCK WITH SOME INTERBEDDED SILT, <u>HARD</u> , MOIST |
|                        | 45                   |                   | 87                  | 15                    | - *****<br>- 100 ****<br>               | (DECOMPOSED ROCK)  BOH @ 100.0   |



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION BORING LOGS

INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-I (57) F.A.I. PROJECT NO. I-H3-I (58) SCALE : NONE DATE: SEPT. 1988

DATE

REVISION

SHEET NO. B20 OF 32 SHEETS

FED. ROAD DIST. NO. STATE FISCAL SHEET TOTAL YEAR NO. SHEETS FED. AID PROJ. NO. 244 274 I-H3-I (57) 1988 PROJECT H-3 WINDWARD VIADUCT CONFIRMATION BORINGS BORING OP-19A CONT. PROJECT H-3 WINDWARD VIADUCT CONFIRMATION BORINGS BORING OP-19A FILE 433-6 FILE 433-6 SURFACE ELEV. 485'± SURFACE ELEV. 485'± DEPTH TO WATER NONE ENCOUNTERED DATE 1-5-89 DEPTH TO WATER NONE ENCOUNTERED DATE 1-5-89 MOIST DRY BLOWS
CONT. WT. PER
% PCF FT. CONT. WT. PER TEST TEST RESULTS % PCF FT. RESULTS CLASSIFICATION CLASSIFICATION DRILLED DOWN TO 100.0 FEET AT LOCATION ADJACENT TO PREVIOUS OP-19 GRAY BROWN HIGHLY WEATHERED BORING. BEGAN LOGGING BORING AT 100.0 BASALT (WH) WITH SEAMS OF SANDY SILT, HARD, VERY BROKEN TO BROKEN RQD 29 BOH # 171.0° 28 BROWN CLAYEY SILT (MH), STIFF TO VERY STIFF, MOIST GRADES TO YERY STIFF TO HARD @ 136' (RESIDUAL) GRAY MODERATELY TO HIGHLY WEATHERE BASALT (WM-WH), MEDIUM HARD, 0% BROWN CLAYEY SILT (MH), VERY
STIFF, MOIST (RESIDUAL) 85% NX CORE CORE STORE OF THE PROPERTY OF THE RQD BROWN CLAYEY SILT (MH) WITH SOME HIGHLY WEATHERED ROCK FRAGMENTS, 47 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION GRAY BROWN HIGHLY WEATHERED

BASALT (WH) WITH SEAMS OF SANDY

SILT, HARD, VERY BROKEN TO BROKEN STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION BORING LOGS

| LAB<br>TEST              | MOIST.   | DRY<br>WT. | BLOWS<br>PER | M           | D<br>E<br>P      | LAB<br>TES   |      |
|--------------------------|----------|------------|--------------|-------------|------------------|--|------|
| RESULTS                  | <b>%</b> | PCF        | FT.          | p<br>L<br>E | T<br>H           | CLASSIFICATION   | ULTS |
|                          | 46       | 71         | 36<br>36     | 1           |                  | DARK BROWN CLAYEY SILT (MH), VERY STIFF, DAMP          |      |
|                          |          |            | . 30         | 2           | 5                | (ASH) C=570  |      |
|                          | 57       | 63         | 33           | 3           | -                | Ø=33°  | ı    |
|                          | 55       | 65         | 43           | 4           | 1-10             |  |      |
|                          |          | ·          |              |             | -                |  |      |
|                          | 53       | 67         | 52           | 5           | -<br>-<br>-<br>- | REDDISH BROWN CLAYEY SILT                              |      |
|                          |          |            |              |             | -                | (MH) WITH TRACE OF SAID AND DECOMPOSED ROCK FRAGMENTS, |      |
|                          | 60       | 62         | 31           | 6           |                  | HARD, DAMP   |      |
|                          |          |            |              |             | 1 -<br>-<br>-    |  |      |
|                          | 66       | 59         | 17           | 7           |                  | GRADES TO STIFF TO VERY STIFF                          |      |
|                          |          |            |              | A           | -                | (RESIDUAL)   |      |
| Q <sub>U</sub> =2020 PSF | 68       | 59         | 22           | 8           | _30<br>_         | BROWN TO REDDISH BROWN SANDY SILT (ML) WITH DECOMPOSED |      |
|                          |          |            |              |             | -                | ROCK FRAGMENTS, STIFF TO VERY STIFF, MOIST             |      |
|                          | 67       | 56         | 19           | 9           | - 35<br>-        |  |      |
|                          |          |            |              |             | -                |  |      |
|                          |          |            | 28           | 10          | _40<br>          |  |      |
|                          |          |            |              |             | -<br>-           |  |      |
|                          | 74       | 54         | 16           | 11          | 45<br>           |  |      |
|                          |          |            | , ·          |             | -                |  |      |
|                          |          |            | 33           | 12          | _50<br>          |  |      |
|                          |          |            |              |             | -                |  |      |
|                          | 65       | 60         | 29           | 13          |                  |  |      |
|                          |          |            | 1            |             | -<br>-<br>60     |  |      |
|                          |          |            | 48           | 14          | -                |  |      |
|                          |          |            |              |             | _<br>65          |  |      |
|                          |          |            | 42           | 15          | -                |  |      |

(RESIDUAL)

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT. | SAMPLE | D<br>E<br>P<br>T                 | CLASSIFICATION   |
|------------------------|----------------------|-------------------|---------------------|--------|----------------------------------|--|
|                        | 72                   |                   | 39                  | 16     | 70<br><br><br><br><br>75         |  |
| C=570 PSF<br>Ø=33*     | 72                   | 54                | 46                  | 17     | -<br>-<br>-<br>-<br>-<br>-<br>80 |  |
|                        | 67                   |                   | 43                  | 18     |                                  |  |
|                        | 65                   | 62                | 44                  | 19     | - 85<br>                         | BROWN TO REDDISH BROWN SANDY SILT (ML) WITH DECOMPOSED ROCK FRAGMENTS, VERY STIFF TO HARD, MOIST |
|                        | 65                   | 60                | 54                  | 20     | . 의<br><br>의<br>의<br>의           |  |
|                        | 68                   | 58                | 44                  | 21     | <br>                             | (RESIDUAL)   |
|                        |                      |                   |                     |        | <br><br><br>                     | BOH @ 100.0°   |

DATE

INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-I (57) F.A.I. PROJECT NO. I-H3-I (58) SCALE : NONE DATE: SHEET NO. BZI OF 32 SHEETS

REVISION

FED. ROAD<br/>DIST. NO.STATEFED. AID<br/>PROJ. NO.FISCAL<br/>YEARSHEET<br/>NO.TOTAL<br/>SHEETSHAWAIIHAW.I-H3-I (57)1988245274

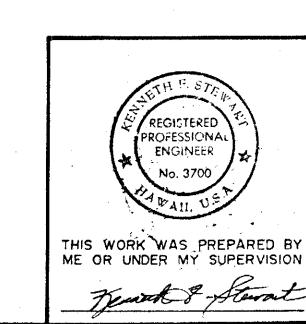
| BORING II<br>FILE 43<br>DATE 6- | 33-2                 |    | SURFA | ACE E                 | LEY.                             | 470      | 1INARY RECOMMENDATION<br>D'±<br>NONE ENCOUNTERED             |
|---------------------------------|----------------------|----|-------|-----------------------|----------------------------------|----------|--|
| LAB<br>TEST<br>RESULTS          | MOIST.<br>CONT.<br>% |    | PER   | S<br>A<br>M<br>P<br>L | D<br>E<br>P<br>T                 |          | CLASSIFICATION   |
|                                 | 64                   | 54 | 18    | 1                     | . 1 . 1 .                        |          |  |
| • •                             | 43                   | 69 | 52    | 2                     | -<br>-<br>-<br>5                 |          | ,  |
| LL=67<br>PI=8                   |                      |    | 47    | 3                     | :<br>:                           |          |  |
| 1 120                           | 52                   | 64 | 49    | 4                     | -<br>-<br>-<br>10<br>-<br>-<br>- |          | DARK BROWN CLAYEY SILT (MH),<br>VERY STIFF TO HARD, DAMP     |
|                                 | 56                   | 66 | 52    | 5                     | -<br>-<br>-<br>-<br>-            |          | (ACII)   |
|                                 |                      |    |       |                       | <u>.</u>                         |          | (ASH)  |
|                                 |                      |    | 22    | 6                     | 20<br><br>                       |          | •  |
|                                 | 60                   |    | 40    | 7                     | <br><br>25<br><br>               |          | REDDISH BROWN SILT (ML),<br>VERY STIFF, MOIST                |
| NON-PLASTIC                     |                      |    | 24    | 8                     |                                  |          |  |
|                                 |                      |    |       |                       | -<br>-<br>- 35                   | <i>{</i> | (RESIDUAL)   |
|                                 |                      |    | 26    | 9                     |                                  |          |  |
| C=550<br>Ø=30°                  | 70                   | 60 | 24    | 10                    | 40<br>                           |          | •  |
|                                 |                      |    |       |                       | _<br>_<br>_45                    |          |  |
|                                 | 66                   | 58 | 25    | <b>4</b>              |                                  |          |  |
| LL=85<br>PI=21                  |                      |    | 24    | 12                    | _50<br><br><br><br>              |          | REDDISH BROWN CLAYEY SILT<br>(MH), <u>VERY STIFF</u> , MOIST |
|                                 | 71                   | 58 | 30    | 13                    | <br>_55<br><br><br>              |          |  |
|                                 |                      |    | 40    | 14                    | <br><br><br><br>                 |          |  |
| C=550<br>Ø=31°                  | 68                   | 60 | ` 34  | 15                    |                                  |          |  |
|                                 |                      |    |       |                       | -<br>- 70                        |          | (RESIDUAL)   |

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT. | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT. | SAMPLE | D<br>E<br>P<br>T        | CLASSIFICATION   |
|------------------------|-----------------|-------------------|---------------------|--------|-------------------------|--|
|                        | 58              | 61                | 63                  | 16     | . 70<br>                | REDDISH BROWN CLAYEY SILT (ML), <u>VERY STIFF</u> , MOIST (RESIDUAL) |
|                        | 61              | 62                | 39                  | 17     | :_75<br>:<br>:          | BROWN SILTY SAND (SM),  DENSE, MOIST                                 |
|                        |                 |                   | 41                  | 18     | <br><br><br><br><br>    | (RESIDUAL)   |
| •                      | 79              | 52                | 47                  | 19     | -<br>-85<br>-<br>-<br>- |  |
|                        | 65              | 65                | 57                  | 20     | - 90<br>                | BROWN CLAYEY SILT, (ML), VERY STIFF TO HARD, MOIST                   |
|                        |                 |                   |                     |        | -95<br><br>             |  |
|                        | 70              | 60                | 39                  | 21     | <u> 10</u> 0            | (RESIDUAL)   |

| FILE 433<br>DATE 10- | 27-88          |     |                  | OF Y                          |   | NOI       | NE ENCOUNTERED  |
|----------------------|----------------|-----|------------------|-------------------------------|---|-----------|---|
| TEST<br>RESULTS      | MOIST<br>CONT. | I   | . PER            |                               | E P   |           | CLASSIFICATION  |
|                      | 65             | 62  | 22               |                               | 100   |           | NOTE: DRILLED DOWN TO 100 FEET AT LOCATION ADJACENT TO PREVIOUS IP-1 BORING. BEGAN LOGGING THE BORING AT 100 FEET.  |
|                      |                |     |                  |                               | -<br>-<br>-<br>-<br>-<br>105  |           | BROWN CLAYEY SILT (MH),   |
|                      | 68             | 60  | 39               | 2                             | -<br>  -<br>  -<br>  -<br>  -<br>  -<br>  -<br>  -<br>  -<br>  -                            |           | VERY STIFF, MOIST   |
|                      | 69             | 60  | 40               | 3                             | 120   |           | GRADES <u>YERY STIFF TO HARD</u>  |
|                      | 57             | 77  | 41               | 4                             | 125   |           | (RESIDUAL)  DARK GRAY/BROWN CLAYEY SILT (MH) WITH HIGHLY WEATHERED ROCK FRAGMENTS, HARD, MOIST  DARK GRAY/BROWN CLAYEY SILT (MH) WITH HIGHLY WEATHERED ROCK |
|                      | 54             | 69  | 73               | 5                             | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |           | FRAGMENTS, <u>HARD</u> , MOIST  GRADES TO <u>VERY HARD</u>  |
|                      |                |     |                  |                               | -<br>-145<br>-<br>-<br>-  | ********* | (RESIDUAL)  |
|                      |                | eri | 0%<br>RQD<br>82% | 6<br>NX<br>CORE<br>NX<br>CORE | 150   |           | GRAY BROWN HIGHLY WEATHERED  BASALT (WH), MEDIUM HARD,  BROKEN  |
|                      |                |     |                  |                               |   |           | BOH e 161.5°  |

DATE

REVISION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-I (57)
F.A.I. PROJECT NO. I-H3-I (58)
SCALE NONE DATE: SEPT. 191

SHEET NO. B22OF 32 SHEETS

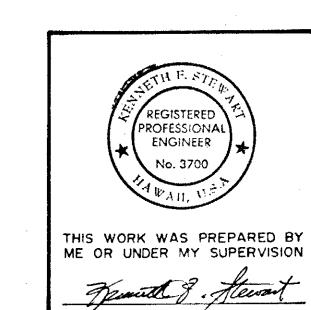
245

| FED. ROAD<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | FISCAL<br>YEAR |     | TOTAL<br>SHEETS |
|------------------------|-------|-----------------------|----------------|-----|-----------------|
| HAWAII                 | HAW.  | I-H3-I (57)           | 1988           | 246 | 274             |

| ļ | BORING II<br>FILE 43<br>DATE 6- | 33-2                 |  | SURFA      | ACE E                 | LEY.                                      | ELIMINARY RECO<br>470'±<br>R NONE ENCOU |                                      |
|---|---------------------------------|----------------------|--|------------|-----------------------|---|---|--------------------------------------|
|   | LAB<br>TEST<br>RESULTS          | MOIST.<br>CONT.<br>% | 1  | PER        | S<br>A<br>M<br>P<br>L | E<br>P<br>T                               | CLA                                     | SSIFICATION                          |
|   |                                 | 42                   | 74   | 70         | 1                     | <u> </u>                                  |   |                                      |
|   | LL=66<br>PI=24                  |                      |  | 48         | 2                     | 5   | BROWN CLAY                              | YEY SILT (MH)                        |
|   |                                 | 22                   |  | 80         | 3                     | -   | <i>Y Y Y</i>                            | HARD, DAMP                           |
|   |                                 | ·                    |  | 39         | 4                     | - <u>1</u> 0                              |   | (COLLUVIUM)                          |
|   |                                 | F-7                  |  | 7.         | ٠                     | -<br>-<br>-<br>-15                        |   |                                      |
|   |                                 | 53                   | 65   | 31         | 5                     | 1.1.1.1                                   |   |                                      |
|   |                                 | 50                   | 66   | 51         | 6                     | 20<br><br><br>                            | ( Y Y )                                 | OWN CLAYEY SILT                      |
| , | C=250 PSF<br>Ø=42°              | 52                   | 67   | 43         | 7                     | 25<br>                                    | <i></i> .                               | ECOMPOSED ROCK<br><u>HARD</u> , DAMP |
|   | LL=69                           |                      |  | 37         | 8                     | -<br>-<br>-<br>-30                        |   |                                      |
|   | PI=24                           |                      |  | <b>3</b> ' |                       | -<br>-<br>-<br>-<br>-<br>-<br>-<br>35     |   |                                      |
|   |                                 | 58                   | 64   | 59         | 9                     | .1.1.1.                                   |   |                                      |
|   |                                 | 64                   | 61   | 63         | 10                    | 40<br>                                    |   |                                      |
|   |                                 | 38                   | 81   | 92         | 11                    | 45<br>                                    |   |                                      |
|   |                                 |                      | and the second s | 45         | 12                    | 1.1.50                                    |   |                                      |
|   |                                 | 56                   | 66   | 36         | 13                    | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |   |                                      |
|   |                                 | 52                   | 65   | .47        | 14                    |   |   |                                      |
|   | LL=69<br>PI=21                  |                      |  | 28         | 15                    | 65<br>                                    |   | icen collinairs                      |
| L |                                 |                      |  |            |                       | . 70                                      | M (DECOMPO                              | SED COLLUVIUM)                       |

| LAB<br>TEST<br>RESULTS   | MOIST.<br>CONT.<br>% | 1  | 1    | S A M P L E | E<br>P<br>T                 | CLASSIFICATION  |
|--------------------------|----------------------|----|------|-------------|-----------------------------|---|
|                          | 52                   | 67 | 49   | 16          | - 70<br>                    |   |
| C=900 PSF<br>Ø=41°       | 59                   | 63 | 82   | 17          |                             | REDDISH BROWN CLAYEY SILT                               |
|                          | 54                   | 64 | 43   | 18          | -80<br><br><br>             | (MH) WITH DECOMPOSED ROCK FRAGMENTS, <u>HARD</u> , DAMP |
|                          |                      |    | 90   | 19          | -<br>85<br>-<br>-<br>-<br>- | (DECOMPOSED COLLUYIUM)                                  |
| Q <sub>U</sub> =2700 PSF | 47                   | 66 | ,102 | 20          | -<br>-<br>-<br>-<br>-       | BROWN SILT (ML) WITH                                    |
|                          | 47                   | 70 | 103  | 21          | 95<br>                      | DECOMPOSED ROCK FRAGMENTS,<br>VERY HARD, MOIST          |
|                          |                      |    | 52   | 22          | 100                         | (RESIDUAL)  |

DATE



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

INTERSTATE ROUTE H-3

F.A.I. PROJECT NO. I-H3-I (57)

F.A.I. PROJECT NO. I-H3-I (58)

SALE: NONE DATE: SEPT. 1988

SCALE : NONE REVISION

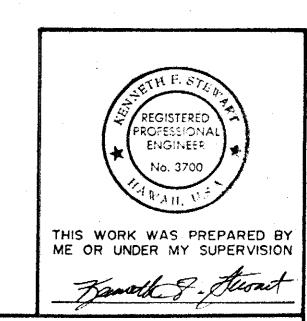
SHEET NO. B23 OF 32 SHEETS

FED. ROAD STATE FED. AID PROJ. NO. FISCAL SHEET TOTAL YEAR NO. SHEETS HAWAII HAW. I-H3-I (57) 1988 247

| LAB<br>TEST<br>RESULTS | MOIST<br>CONT.<br>% |    |     | S A M P L E | D<br>E<br>P<br>T                         | CLASSIFICATION  |
|------------------------|---------------------|----|-----|-------------|--|---|
|                        | 40                  | 71 | 84  | 1           | ·- ·                                     |   |
|                        | 51                  | 68 | 68  | 2           | _<br>5                                   |   |
|                        | 47                  | 67 | 46  | 3           |  |   |
| LL=73<br>PI=14         | 60                  | 61 | 25  | 4           | - <u> </u>                               | BROWN CLAYEY SILT (MH),<br>HARD, DAMP                                       |
|                        | 60                  | 61 | 28  | 5           | - 15                                     |   |
|                        |                     |    |     |             | -<br> -<br> -                            | (ASH)   |
| LL=63<br>Pl=10         |                     |    | 39  | 6           | -20<br>-<br>-                            | BROWN CLAYEY SILT (MH),<br>HARD, DAMP                                       |
|                        | 24                  |    | 110 | 7           | -<br>-<br>25<br>-<br>-                   | (DECOMPOSED CINDERS)  |
|                        | 40                  |    | 68  | 8           | - 30 - 30 - 30 - 30 - 30 - 30 - 30 - 30  | BROWN DECOMPOSED ROCK, HARD, MOIST  |
|                        |                     |    | R   | 9           | - 35 % % % % % % % % % % % % % % % % % % |   |
|                        |                     |    |     |             |  | ्रे<br>इ.स. १<br>१  |
|                        | 26                  | 88 | 152 | 10          | 40                                       | <del>દ</del> ેજું જું જું જું જું જું જું જું જું જું                       |
|                        |                     |    | 55  | 11          | 45                                       | **************************************                                      |
|                        | 34                  |    | 115 | 12          |  | **<br>***<br>***<br>**<br>**<br>**<br>**<br>**<br>**<br>**<br>**<br>**<br>* |
|                        | 55                  | 65 | 16  | 13          | _<br>_<br>_55                            | (DECOMPOSED ROCK)   |
|                        |                     |    | -   |             | -<br>-<br>-<br>-                         |   |
| L=72<br>PI=23          |                     |    | 16  | 14          | _60<br>_                                 | BROWN CLAYEY SILT (MH) WITH   |
|                        | 57                  | 66 | 27  | 15          | _<br>_<br>65                             | SOME SAND, <u>VERY STIFF TO HARD,</u><br>WET                                |

| FILE<br>DATE           | 433-2<br>7-23-8   | 4  | DEP.  | FACE<br>TH TC | ELEY.                 | 456'±<br>R NONE ENCOUNTERED        |
|------------------------|-------------------|----|-------|---------------|-----------------------|------------------------------------|
| LAB<br>TEST<br>RESULTS | MOIS<br>CONT<br>% | i  | . PER | l A           | E P                   | CLASSIFICATION                     |
|                        |                   |    | 33    |               | -                     |                                    |
|                        |                   |    |       |               |                       |                                    |
|                        |                   |    |       |               |                       | BROWN CLAYEY SILT (MH),            |
|                        | 62                | 58 | 36    | 17            | <b> </b> -            | HARD, MOIST                        |
|                        |                   |    |       |               |                       |                                    |
| C=300 PSF              |                   |    | 30    | 18            | -80                   |                                    |
| Ø=37°                  |                   |    |       |               | -                     | (DECOMPOSED CINDERS)               |
|                        |                   |    |       |               |                       |                                    |
| C=600 PSF              | 67                |    | 32    | 19            | 857                   |                                    |
| Ø=26°                  |                   |    |       |               |                       |                                    |
|                        |                   |    |       |               | -   f<br> -   00   f  |                                    |
| LL=75<br>PI=29         |                   |    | 32    | 20            | - 1                   | BROWN SILTY CLAY (CH), <u>VERY</u> |
|                        |                   |    |       |               | -<br> -               | STIFF, MOIST                       |
|                        | 60                | 56 | 32    | 21            | 95                    |                                    |
| •                      |                   |    |       |               |                       |                                    |
|                        |                   |    |       |               | - 190                 |                                    |
|                        |                   |    | 39    | 22            | -                     |                                    |
| . <i>'</i>             |                   |    |       |               | -<br> -               |                                    |
|                        | 67                | 50 | 49    | 23            | 105                   |                                    |
|                        |                   |    |       |               | -                     |                                    |
|                        |                   |    |       |               | -<br>-<br>-<br>-<br>- |                                    |
| LL=68<br>PI=22         |                   |    | 64    | 24            | -                     |                                    |
|                        |                   |    |       |               | <del>-</del>          |                                    |
|                        |                   |    | 5.0   |               | 112                   |                                    |
|                        | 66                | 58 | 50    | 25            | -                     |                                    |
| •                      |                   |    |       |               | -                     |                                    |
|                        |                   |    | 62    | 26            | 120                   |                                    |
|                        |                   |    |       |               | -                     |                                    |
|                        |                   |    | _     |               | -<br>-125             |                                    |
| =970 PSF<br>3=27*      | 58                |    | 58    | 27            | <br>-                 | (DECOMPOSED CIMPERO)               |
|                        |                   |    |       |               | ·                     | (DECOMPOSED CINDERS)               |
|                        |                   |    | 109   | 28            | 130%%%                | BROWN DECOMPOSED ROCK, HARD, MOIST |
|                        |                   |    |       |               | - ***                 | (DECOMPOSED ROCK)                  |
|                        |                   |    |       |               | 135                   |                                    |
| ·                      | 62                |    | 71    | 29            | -                     | BROWN CLAYEY SILT (MH),            |

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT. | · <del>, · · · · · · · · · · · · · · · · · · </del> | BLOWS<br>PER | <del>,</del> | D<br>E<br>P<br>T                            | NONE ENCOUNTERED  CLASSIFICATION  |
|------------------------|-----------------|---|--------------|--------------|---|-----------------------------------|
|                        | 61              |   | 75           | 30           | 11<br>-140<br>-                             |                                   |
|                        | 61              | 61  | 63           | 31           | . — . — . — . — . — . — . — . — . — . —     |                                   |
| LL=72<br>PI=23         |                 |   | 70           | 32           | -<br>-150<br>-<br>-<br>-                    | BROWN CLAYEY SILT (MH), HARD, WET |
| -                      |                 |   | 82           | 33           | -155<br>-<br>-<br>-<br>-                    |                                   |
| C=900<br>Ø=23°         |                 |   | 57           | 34           | _<br>                                       | (DECOMPOSED CINDERS)              |
|                        |                 |   |              |              | -<br>-<br>-<br>165<br>-<br>-<br>-<br>-<br>- | BOH @ 161.5°                      |



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-I (57) F.A.I. PROJECT NO. I-H3-I (58) DATE: SEPT. 1988 SCALE: NONE

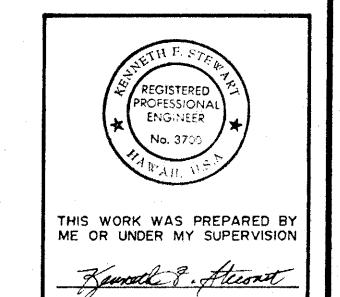
DATE REVISION

SHEET No. 824 OF 32 SHEETS

| FED. ROAD | STATE | FED. AID    | FISCAL | SHEET | TOTAL  |
|-----------|-------|-------------|--------|-------|--------|
| DIST. NO. |       | PROJ. NO.   | YEAR   | NO.   | SHEETS |
| HAWAII    | HAW.  | I-H3-I (57) | 1988   | 248   | 274    |

| BORING<br>FILE 43<br>DATE 10 | OP-22<br>3-2<br>-5-84  |   | SURF | ACE:        | ELEY.                              | · 43 | MINARY RECOMMENDATION<br>56'±<br>NONE ENCOUNTERED   |
|------------------------------|--|---|------|-------------|------------------------------------|------|---|
| LAB<br>TEST<br>RESULTS       | MOIST.   | DRY<br>WT.<br>PCF   | PER  | S A M P L E | D<br>E<br>P<br>T                   |      | CLASSIFICATION  |
|                              | 44   | 60  | 23   | 1           |                                    |      |   |
|                              | 50   | 71  | 31   | 2           |                                    |      |   |
|                              | 49   | 66  | 38   | 3           | 5                                  |      |   |
|                              | 55   | 61  | 28   | 4           | <u> </u>                           |      |   |
| LL=73<br>PI=15               | 61   | 52  | 24   | 5           | 10                                 |      | BROWN CLAYEY SILT (MH), VERY<br>STIFF TO HARD, MOIST  |
|                              | 50   | 67  | 22   | 6           | 1.1.1.                             |      |   |
|                              | 62   | 62  | 29   | 7           | 20                                 |      | (DECOMPOSED COLLUVIUM)  |
| C=500 PSF<br>Ø=38°           | 53   | 64  | 31   | 8           |                                    |      | REDDISH BROWN CLAYEY SILT<br>(MH), <u>HARD</u> , MOIST                                      |
| LL=77<br>PI=13               | 46   |   | 40   | 9           | -<br>-<br>30<br>-<br>-             |      |   |
|                              |  |   |      |             | 35                                 |      |   |
| C=900 PSF                    | 51   |   | 65   | 10          | <br>40                             |      | (RESIDUAL)  |
| Ø=38°                        |  |   |      |             | -<br>-<br>-<br>-<br>-<br>45        |      |   |
| LL=72<br>PI=2                | 57   | 62  | 35   | 1 1         | -<br>-<br>-<br>-<br>50<br>-        |      | DARK BROWN SILT (MH) WITH<br>SOME WEATHERED ROCK, <u>HARD</u> ,<br>MOIST                    |
|                              |  | A series of the |      |             | . 55                               |      | (preinital)   |
| •                            | 43   | 73  | 120  | 12          | -60<br>                            |      | (RESIDUAL)  DARK GRAY SANDY SILT (ML) WITH WEATHERED ROCK AND OLIVINE CRYSTALS, HARD, MOIST |
|                              | The second secon |   |      |             | _65<br>-<br>-<br>-<br>-<br>-<br>70 |      | (DECOMPOSED ROCK)  GREENISH BROWN SANDY SILT (ML), HARD, DAMP (DECOMPOSED ROCK)             |

| TEST<br>RESULTS | CONT. | WT.<br>PCF | 1                      | S A M P L E | E<br>P<br>T<br>H                 | CLASSIFICATION   |
|-----------------|-------|------------|------------------------|-------------|----------------------------------|--|
|                 | 48    | 77         | 66                     | 13          | 70<br><br><br><br><br><br>75     | GREENISH BROWN SANDY SILT (ML), <u>HARD</u> , DAMP  (DECOMPOSED ROCK)              |
|                 | 18    |            | 60/5"<br>70%<br>RECOV. | NX<br>CORE  |                                  | BROWNISH GRAY WEATHERED BASALT WITH SOIL SEAMS, FRACTURED, HARD (WEATHERED BASALT) |
|                 | 49    |            | 24                     | 15          | -<br>-<br>-<br>-<br>85<br>-<br>- | DARK BROWN SILT (ML),<br><u>VERY STIFF</u> , MOIST                                 |
|                 |       |            |                        |             | - 90                             | 80Н € 83.5*  |



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

. INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-I (57)
F.A.I. PROJECT NO. I-H3-I (58)
SCALE · NONE DATE · SEPT. 1988

REVISION

DATE

SHEET NO. B25 OF 32 SHEETS

SHEET No.B2

248

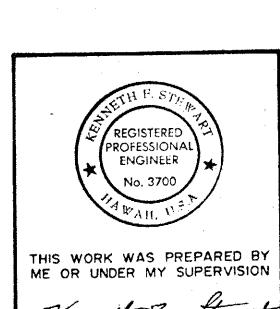
FISCAL SHEET TOTAL YEAR NO. SHEETS FED. ROAD DIST. NO. STATE FED. AID PROJ. NO.

| BORING IP-<br>FILE 433<br>DATE 4-20 |                      |                   | SURFAC                | TO W                       | EV.<br>ATER                                  | 464'±                                  | D VIADUCT-PHASE II KANEOHE,<br>OAHU, HAWA<br>IE ENCOUNTERED                                |
|-------------------------------------|----------------------|-------------------|-----------------------|----------------------------|--|--|--|
| LAB<br>TEST<br>RESULTS              | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT.   | S<br>A<br>M<br>P<br>L<br>E | D<br>E<br>P<br>T<br>H                        |  | CLASSIFICATION   |
|                                     | 51                   | 71                | 10                    | 1                          | -  |  |  |
| LL=74                               | 55                   | 70                | 25                    | 2                          | -  |  |  |
| Pl=10                               | 56                   | 64                | 34                    | 3                          | 5  |  | BROWN CLAYEY SILT (ML), <u>VER</u><br>STIFF TO HARD; MOIST                                 |
| ,                                   | 50                   | 69                | 36                    | 4                          | 10<br>10                                     |  |  |
|                                     |                      |                   |                       |                            | _  |  | (COLLUVIUM)  |
|                                     |                      |                   | 26                    | 5                          | -<br>-<br>-<br>-                             |  |  |
|                                     | 50                   | 74                | 31                    | 6                          | -<br>-20<br>-                                |  | BROWN AND ORANGE CLAYEY SILT (ML) W/TRACE SAND,  |
|                                     |                      |                   |                       |                            | -  |  | HARD, DAMP   |
|                                     | 65                   | 65                | 25                    | 7                          |  |  |  |
| ·                                   | ·<br>·               |                   |                       |                            | •  |  | (RESIDUAL)   |
|                                     | 59                   | 65                | 42                    | 8                          | -30<br><br>                                  |  | BLACK AND BROWN CLAYEY SILT<br>(ML), <u>HARD</u> , MOIST                                   |
| C= 950 PSF<br>Ø= 40°                | 57                   | 67                | 91                    | 9                          | - 35<br>                                     |  |  |
|                                     | -                    |                   |                       |                            | ] :_   |  |  |
|                                     | 59                   | 67                | 70                    | 10                         | _40<br>_<br>_                                |  | (RESIDUAL)   |
| LL=63<br>NON-PLASTIC                | 53                   | 67                | 161                   | 11                         | - 45<br>                                     | ************************************** | BROWN DECOMPOSED ROCK,<br>HARD, MOIST  |
|                                     | 46                   | 78                | 154/4"                | 12                         |  | ************************************** | (DECOMPOSED ROCK)  |
|                                     |                      |                   | 55 <b>%</b><br>RECOV. | NX<br>CORE                 | -<br>-<br>-<br>-<br>-<br>-<br>55             |  |  |
| ·                                   |                      |                   | 37%<br>RECOV.         | NX<br>CORE                 |  |  | GRAY BASALT W/SEAMS OF<br>BROWN SILT, VERY BROKEN TO<br>BROKEN, <u>SOFT TO MEDIUM HARD</u> |
|                                     |                      |                   | 53%<br>RECOV.         | NX<br>CORE                 | <br> <br> <br> <br> <br> <br> <br> <br> <br> |  | (BASALT)   |
|                                     |                      |                   | 47%<br>RECOV          | NX<br>CORE                 | -  |  | GRAY BASALT BROKEN TO<br>OCCASIONALLY BROKEN, <u>HARD</u>                                  |

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | BLOWS<br>PER<br>FT. | S<br>M<br>P<br>L<br>E | D<br>E<br>P<br>T |             | CLASSIFICATION   |
|------------------------|----------------------|-------------------|---------------------|-----------------------|------------------|-------------|--|
|                        |                      |                   | 87%<br>RECOV.       | NX<br>CORE            | . 70<br>         | <del></del> | ASALT BROKEN TO<br>NALLY BROKEN, <u>HARD</u><br>(BASALT) |
|                        |                      |                   |                     |                       | 75               |             | BOH € 73.5°  |

|                       | <b>%</b> | WT.<br>PCF | ļ                     | S A M P L E  | E<br>P<br>T   | CLASSIFICATION  |
|-----------------------|----------|------------|-----------------------|--------------|---|---|
|                       |          |            |                       |              |   | BROWN SANDY SILT (MH), STIFF                              |
|                       | 53       | 50         | 23                    | 1            |   | MOIST (COLLUVIUM)   |
|                       | 44       | 69         | 16                    | 2            | -<br>5  |   |
| C=850 P.S.F.<br>Ø=41° | 52       | 63         | 17                    | 3            | -   |   |
|                       | 62       | 60         | 22                    | 4            | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |   |
|                       | 46       | 75         | 18                    | 5            | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-   | GRAY/BROWN SANDY SILT (ML),<br>HARD, MOIST                |
|                       | 62<br>43 | 61<br>75   | 40                    | 6-2<br>6-1   | - <u>2</u> 0  |   |
|                       | 53       | 60         | 20                    | 7            |   |   |
|                       | 56       | 64         | 25                    | 8            | -<br>- <u>3</u> 0<br>-<br>-   | (RESIDUAL)  |
|                       | 59       | 62         | 76                    | 9            | 35  | GRAY/BROWN SILTY SAND (SM),  MEDIUM DENSE TO DENSE, MOIST |
| C=950 P.S.F.<br>Ø=39° |          |            | 46                    | 10           | 40  |   |
|                       |          |            |                       |              | -45<br>-1<br>-1<br>-1<br>-1<br>-1<br>-50  |   |
|                       | 42<br>47 | 70<br>79   |                       | 11-2<br>11-1 |   | (RESIDUAL)  |
|                       |          |            | 40%<br>RECOV.         | NX<br>CORE   |   | GRAY BASALT WITH SEAMS OF<br>STIFF SILT, VERY BROKEN,     |
|                       |          |            | 40%<br>RECOV.         | NX<br>CORE   | 60  | MEDIUM HARD   |
|                       |          |            | 60 <b>%</b><br>RECOV. | NX<br>CORE   | 65  | (BASALT)  |

| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | 1              | S<br>A<br>M<br>P<br>L<br>E | D<br>E<br>P<br>T<br>H             | CLASSIFICATION  |
|------------------------|----------------------|-------------------|----------------|----------------------------|-----------------------------------|---|
|                        |                      |                   | 100%<br>RECOV. | NX<br>CORE                 | · 70<br>                          | GRAY BASALT OCCASIONALL' BROKEN TO MASSIVE, HARD (BASALT) |
|                        |                      |                   |                |                            | .1.85.1.1.9.1.1.195.1.1.1.100     | BOH @ 77.0°   |
|                        |                      |                   |                |                            | -<br>-<br>-<br>-<br>-<br>-<br>105 |   |



DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

INTERSTATE ROUTE H-3

F.A.I. PROJECT NO. I-H3-I (57)

F.A.I. PROJECT NO. I-H3-I (58)

ALE: NONE DATE: SEPT. 1988

SHEET NO. B26 OF 32 SHEETS

REVISION

DATE

SCALE : NONE

STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK MODERATE TO WEATHERED ROCK MOTTLED GRAY BROWN DECOMPOSED ROCK WITH BROWN SILTY CLAY STIFF, MOTTLED BROWN CLAYEY SILT & DECOMPOSED ROCK BOULDER STIFF, BROWN SILTY CLAY WITH DECOMPOSED ROCK TAN BROWN WITH BLACK DECOMPOSED ROCK MOTTLED BROWN CLAYEY SILT & DECOMPOSED ROCK GRAY WITH BROWN DECOMPOSED ROCK STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK STIFF, MOTTLED BROWN, RED & WHITE CLAYEY SILT WITH BOULDER, MOTTLED DARK BROWN CLAYEY SILT & DECOMPOSED ROCK DECOMPOSED ROCK MOTTLED BROWN DECOMPOSED ROCK TAN BROWN & BROWN WITH BLACK DECOMPOSED ROCK MOTTLED BROWN WITH GRAY DECOMPOSED ROCK WITH CLAYEY SILT HARD DRILLING BOULDER? STIFF, MOTTLED BROWN, ORANGE & GRAY CLAYEY SILT & DECOMPOSED ROCK MOTTLED GRAY-BROWN DECOMPOSED ROCK WITH CLAYEY SILT STIFF, MOTTLED BROWN CLAYEY SILT WITH TRACES OF DECOMPOSED GRAY-BROWN DECOMPOSED ROCK ---MOTTLED BROWN, TAN & ORANGE, CLAYEY SILT MOTTLED BROWN WITH BLACK DECOMPOSED ROCK STIFF, MOTTLED LAVENDER CLAYEY SILT STIFF, TAN BROWN & BROWN CLAYEY SILT WITH DECOMPOSED ROCK WEATHERED ROCK WITH CLAYEY SILT MOTTLED LIGHT BROWN CLAYEY SILT STIFF, MOTTLED BROWN WITH GRAY CLAYEY SILT WITH DECOMPOSED STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK MOTTLED BROWN WITH GRAY DECOMPOSED ROCK WITH TRACES OF MOTTLED DARK BROWN CLAYEY SILT & DECOMPOSED ROCK STIFF, MOTTLED BROWN & GRAY CLAYEY SILT & DECOMPOSED ROCK MOTTLED BROWN DECOMPOSED ROCK WITH CLAYEY SILT MOTTLED BROWN-GRAY CLAYEY SILT & DECOMPOSED ROCK STIFF, MOTTLED BROWN & GRAY CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK MEDIUM, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK STIFF, MOTTLED TAN BROWN CLAYEY SILT WITH DECOMPOSED ROCK MOTTLED BROWN CLAYEY SILT & SOFT PUKA PUKA ROCK DECOMPOSED ROCK SOFT, GRAY-BROWN PUKA PUKA ROCK STIFF, MOTTLED BROWN SILTY CLAY WITH DECOMPOSED ROCK SAND SIZE MATERIAL STIFF, MOTTLED BROWN CLAYEY WITH SAND & SOME DECOMPOSED GRAY-BROWN WEATHERED BASALT WEATHERED PUKA PUKA ROCK MOTTLED BROWN CLAYEY SILT & DECOMPOSED ROCK NOTE: HOLE CAVED @ 110' STIFF, DARK MOTTLED BROWN & GRAY CLAYEY SILT WITH END OF BORING @ 125' STIFF, MOTTLED BROWN CLAYEY SILT & DECOMPOSED ROCK DECOMPOSED ROCK STIFF, MOTTLED DARK BROWN & REDDISH BROWN CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK END OF BORING @ 127.5' DECOMPOSED ROCK STIFF, DARK MOTTLED BROWN & GRAY CLAYEY SILT WITH DECOMPOSED ROCK & GRAVEL WEATHERED PUKA PUKA ROCK STIFF, MOTTLED BROWN & GRAY CLAYEY SILT AND DECOMPOSED ROCK NOTE: HOLE CAVED IN 146' OR CUTTINGS? MOTTLED GRAY & BROWN DECOMPOSED ROCK NOTE: HOLE CAVED @ 120' END OF BORING @ 166.5' 170 BROWN DECOMPOSED ROCK WITH BROWN-GRAY, CLAYEY SILT MOTTLED BROWN CLAYEY SILT WITH SAND & GRAVEL STIFF, MOTTLED BROWN & GRAY CLAYEY SILT & DECOMPOSED ROCK END OF BORING @ 169.5' STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION DECOMPOSED ROCK WITH DARK MOTTLED BROWN & GRAY, CLAYEY SILT NOTE: HOLE CAVED IN @ 180' BORING LOGS 200

END OF BORING @ 201.5'

BORING NO. 33

ELEVATION

WATER LEVEL
WATER ELEVATION

DATE

DESCRIPTION

SOFT, BROWN CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK &

STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK

BORING NO. 34

BROWN, CLAYEY SILT WEATHERED ROCK

MOTTLED BROWN CLAYEY SILT

ELEVATION
WATER LEVEL
WATER ELEVATION

ELEVATION

DATE

DESCRIPTION

BORING NO. 31

ELEVATION

S WATER ELEVATION

그 WATER LEVEL

DATE

DESCRIPTION

STIFF, DARK BROWN CLAYEY SILT WITH DECOMPOSED ROCK

BORING NO. 32

WATER LEVEL

WATER ELEVATION

ELEVATION

DATE

DESCRIPTION

STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK

SHEET No. B27 OF 32 SHEETS

DATE: SEPT. 1988

INTERSTATE ROUTE H-3

F.A.I. PROJECT NO. 1-H3-1 (57)

F.A.I. PROJECT NO. I-H3-1 (58)

SCALE: AS NOTED

FED. ROAD STATE

ELEVATION

WATER LEVEL
WATER ELEVATION

BORING NO. 35

PROJ. NO.

STIFF, MOTTLED BROWN SILTY CLAY WITH DECOMPOSED ROCK

HAWAII | HAW. | I-H3-1(57) | 1988 | 250 | 274

DESCRIPTION

DATE

FISCAL | SHEET | TOTAL

YEAR NO. SHEETS

FISCAL SHEET TOTAL FED. ROAD PROJ. NO. YEAR NO. SHEETS DIST. NO. HAWAII | HAW. | I - H3-I (57) | 1988 | 25/ DATE BORING NO. 38 DATE BORING NO. 39 DATE DATE BORING NO. 36 BORING NO. 37 ELEVATION ELEVATION ELEVATION ELEVATION WATER LEVEL

WATER ELEVATION WATER LEVEL WATER LEVEL WATER LEVEL WATER ELEVATION WATER ELEVATION WATER ELEVATION BORING NO. 40 DATE DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION ELEVATION WATER LEVEL WATER LEVEL

WATER ELEVATION SOFT, BROWN CLAYEY SILT WITH TRACES OF ROOTS MEDIUM, BROWN CLAYEY SILT DESCRIPTION MOTTLED BROWN CLAYEY SILT MOTTLED BROWN CLAYEY SILT STIFF, MOTTLED BROWN CLAYEY SILT WITH TRACES OF DECOMPOSED SOFT, BROWN CLAYEY SILT STIFF, MOTTLED BROWN CLAYEY SILT MOTTLED BROWN CLAYEY SILT (DECOMPOSED ROCK) STIFF, BROWN WITH TRACES OF MOTTLED CLAYEY SILT STIFF, MOTTLED BROWN WITH BLACK CLAYEY SILT WITH TRACES OF HARD, MOTTLED BROWN CLAYEY SILT DECOMPOSED ROCK WEATHERED PUKA PUKA ROCK HARD, GREEN & BROWN CLAYEY SILT HARD, LIGHT BROWN CLAYEY SILT DECOMPOSED ROCK WITH MOTTLED BROWN CLAYEY SILT DARK BROWN CLAYEY SILT & DECOMPOSED ROCK HARD, MOTTLED BROWN CLAYEY SILT & DECOMPOSED ROCK STIFF, MOTTLED BROWN WITH GRAY CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK DARK BROWN CLAYEY SILT WITH DECOI HARD, MOTTLED BLUE CLAYEY SILT & DECOMPOSED ROCK WEATHERED PUKA PUKA ROCK STIFF, MOTTLED BROWN WITH BLACK CLAYEY SILT WITH TRACES OF MOTTLED BLUE CLAYEY SILT & DECOMPOSED ROCK DECOMPOSED ROCK REDDISH BROWN & GRAY PARTIALLY DECOMPOSED PUKA PUKA ROCK STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK BLUE, HIGHLY FRACTURED LAVA ROCK WITH SOME WEATHERING & FAIRLY HARD ROCK FRACTURED BLUE ROCK BLUE, DENSE LAVA ROCK (HARD ROCK) MOTTLED BROWN WITH BLACK DECOMPOSED ROCK DECOMPOSED ROCK FRACTURED BLUE ROCK HIGHLY FRACTURED (SAND SIZE) REDDISH BROWN WEATHERED PUKA PUKA LAVA ROCK WELL FRACTURED REDDISH BROWN & GRAY PARTIALLY DECOMPOSED LAVA ROCK WITH LARGE VESICLES BLUE, FRACTURED LAVA ROCK WITH DECOMPOSED ROCK ZONES BLUE, DENSE LAVA ROCK WITH LARGE VESICLES NOTE: HOLE CAVED @ 60.5' BROWN & YELLOW WEATHERED CLINKER REDDISH BROWN DECOMPOSED CLINKER BLUE, DENSE LAVA ROCK WITH SOME TAN CLAY ALONG FRACTURES REDDISH BROWN & GRAY WEATHERED, FRACTURED PUKA PUKA ROCK & CLINKER WITH TAN CLAY (SOFT ROCK) GRAY & BROWN DECOMPOSED ROCK WITH TRACES OF TAN CLAY FRACTURED BLUE ROCK WITH TRACES OF YELLOW CLAY STIFF, MOTTLED BROWN CLAYEY SILT & CLINKER BLUE, DENSE LAVA ROCK, FRACTURED NOTE: HOLE CAVED @ 64' DARK GRAY, WEATHERED CLINKER (SILTY SAND & GRAVEL) WITH TRACES OF TAN CLAY REDDISH BROWN PUKA PUKA ROCK & CLINKER PARTIALLY DECOMPOSED REDDISH GRAY CLINKER BLUE, LAVA ROCK WITH SOME VESICLES & TAN CLAY GRAY, MODERATELY WEATHERED LAVA ROCK FRACTURED WITH TAN, MOTTLED BROWN DECOMPOSED ROCK BLUE ROCK, FRACTURED WITH TRACES OF TAN CLAY ALONG JOINTS BLUE, DENSE LAVA ROCK WITH LARGE VESICLES (FRACTURED) BLUE, DENSE LAVA ROCK SLIGHTLY FRACTURED BLUE & BROWN, CLINKER WELL CEMENTED WITH SOME TAN CLAY REDDISH BROWN DECOMPOSED CLINKER GRAY, FRACTURED LAVA ROCK PARTIALLY DECOMPOSED WITH TAN MOTTLED BROWN & GRAY PUKA PUKA ROCK BLUE, FRACTURED LAVA ROCK BLUE, DENSE LAVA ROCK SLIGHTLY FRACTURED MODERATELY WEATHERED BLUE-GREEN, PUKA PUKA ROCK WITH CLAY REDDISH BROWN & GRAY CLINKER MODERATELY WEATHERED PUKA PUKA ROCK WITH TRACES OF CLAY GRAY & REDDISH BROWN CLINKER WITH TAN, CLAY END OF BORING @ 90.2' REDDISH BROWN & GRAY PUKA PUKA LAVA ROCK PARTIALLY DECOMPOSED WITH TAN CLAY BLUE, DENSE LAVA ROCK (HARD ROCK) BLUE, LAVA ROCK FRACTURED BLUE, PUKA PUKA ROCK WITH TRACES OF YELLOW-GREEN CLAY GRAY, DECOMPOSED ROCK & CLAY REDDISH BROWN & GRAY CLINKER BLUE, ROCK BLUE, DENSE LAVA ROCK BLUE, DENSE LAVA ROCK WITH MANY LARGE VESICLES BLUE, PUKA PUKA ROCK GRAY, PUKA PUKA ROCK & CLINKERS WITH CLAY? GRAY PARTIALLY DECOMPOSED PUKA PUKA LAVA ROCK FRACTURED, DENSE BLUE ROCK VOID OR LOOSE CLINKERS BLUE, PUKA PUKA ROCK REDDISH GRAY CLINKER BLUE, PUKA PUKA ROCK FRACTURED WITH TRACES OF GREEN CLAY BLUE, FRACTURED LAVA ROCK WITH CLAY & DECOMPOSED BLUISH-GRAY LAVA ROCK WITH FILLED VESICLES END OF BORING @ 117' BLUE, PUKA PUKA ROCK REDDISH GRAY CLINKER WITH YELLOW & BLACK VOLCANIC GLASS BLUE-GRAY LAVA ROCK & CLINKERS? WITH TRACES OF BROWN CLAY END OF BORING @ 123.5' END OF BORING @ 125' FRACTURED GRAY LAVA ROCK & CLINKERS? END OF BORING @ 123.5' STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION BORING LOGS INTERSTATE ROUTE H-3 FA.I. PROJECT NO. I-H3-1(57) FA.I. PROJECT NO. I-H3-1(58)

FO

SHEET NO. B28 OF 32 SHEETS

DATE: SEPT. 1988

SCALE: AS NOTED

FED. ROAD STATE FED. AID FISCAL | SHEET | TOTAL PROJ. NO. YEAR NO. 1988 252 274 I-H3-I (57) PROJECT H-3 WINDWARD VIADUCT-PHASE II KANEOHE, PROJECT H-3 WINDWARD VIADUCT-PHASE II KANEOHE, BORING RW-2 BORING RW-3 PROJECT H-3 WINDWARD VIADUCT-PHASE II KANEOHE, BORING RW-1 FILE 433-4 SURFACE ELEV. 536'± OAHU, HAWAII FILE 433-4 SURFACE ELEV. 540'± OAHU, HAWAII FILE 433-4 OAHU, HAWAII SURFACE ELEV. 560'± DEPTH TO WATER NONE ENCOUNTERED DEPTH TO WATER NONE ENCOUNTERED DATE 4-14-88 DATE 4-11-88 DEPTH TO WATER NONE ENCOUNTERED DATE 10-8-84 MOIST. DRY BLOWS MOIST. DRY BLOWS LAB MOIST. DRY BLOWS CONT. WT. PER TEST PER CONT. WT. TEST PER CONT. WT. % PCF FT. % PCF FT. RESULTS RESULTS RESULTS % PCF FT. CLASSIFICATION CLASSIFICATION CLASSIFICATION BROWN CLAYEY SILT (ML) 53 63 W/ORGANICS, VERY STIFF, 34 | 68 | BROWN SILT (ML) W/ORGANICS, BROWN SILT WITH DECOMPOSED STIFF, MOIST 54 | 59 | 19 LL=67, PI=0 ROCK FRAGMENTS, VERY STIFF, 48 . 13 (COLLUVIUM) C=850 P.S.F. 19 (COLLUVIUM) 56 | 63 | 34 56 | 59 | 29 | REDDISH BROWN CLAYEY SILT (RESIDUAL) (ML), <u>HARD</u>, DAMP 60 59 23 LL=79, PI=4 | 59 | 63 | 26 32 | 73 | 24 BROWN CLAYEY SILT (ML) W/TRACE SAND, VERY STIFF, (DECOMPOSED COLLUVIUM) 56 | 65 | 29 C=900 P.S.F. 61 31 Ø=40° 47 BLACK AND BROWN SILT WITH DECOMPOSED ROCK FRAGMENTS, HARD, MOIST (DECOMPOSED COLLUVIUM) NON PLASTIC | 48 | 72 | 57 67 | 62 | 37 28 65 BROWN CLAYEY SILT (ML) WITH ROCK FRAGMENTS, VERY STIFF TO (RESIDUAL) REDDISH BROWN CLAYEY SILT 88 (ML), <u>HARD</u>, DAMP 52 | 65 | 37 BROWN AND GRAY SANDY SILT R (ML), <u>HARD</u>, DAMP 40 79 104/9" 8 30 GRAY BASALT, FRACTURED, (RESIDUAL) 49 69 43 BROWN AND GRAY DECOMPOSED ROCK HARD, DRY 50/3" R 66 53 12 (RESIDUAL) 100/5" 11 GRAY VESICULAR BASALT, 50% GRAY VESICULAR WEATHERED HARD, BROKEN RECOV. CORE BASALT, HARD, BROKEN 100% NX RECOV. CORE | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | - 45 | -(BASALT) (WEATHERED ROCK) 100% NX RECOV. CORE 100% NX RECOV. CORE GRAY BASALT, VERY HARD, RECOV. CORE OCCASIONALLY BROKEN TO GRAY HIGHLY POROUS BASALT, MEDIUM HARD, OCCASIONALLY 100% NX 555 \_\_\_\_ BROKEN TO MASSIVE RECOV. CORE RECOV. CORE REGISTERED PROFESSIONAL ENGINEER (BASALT) RECOV. CORE : BOH @ 59.0° THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION (BASALT) RECOV. CORELL BDH @ 66.0° STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION ---BORING LOGS (BASALT) BOH @ 74.0° INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-I (57) F.A.I. PROJECT NO. 1-H3-1 (58) DATE: SEPT. 1988 SCALE · NONE SHEET NO. B29 OF 32 SHEETS DATE REVISION

DRAWN BY
TRACED BY
DESIGNED BY
OCANITIES BY

FED. ROAD STATE FED. AID PROJ. NO. FISCAL SHEET TOTAL YEAR NO. SHEETS 1988 253 274 I-H3-I (57) HAWAII HAW. BORING RW-5 FILE 433-4 PROJECT H-3 WINDWARD VIADUCT-PHASE II KANEOHE SURFACE ELEV. 485'± DEPTH TO WATER NONE ENCOUNTERED DATE 5-5-88 TEST CONT. WT. PER % PCF FT. RESULTS CLASSIFICATION BROWN CLAYEY SILT (MH), VERY STIFF, MOIST (COLFANIAM) 49 67 36 60 62 24 BROWN CLAYEY SILT (MH) WITH 57 62 36 DECOMPOSED ROCK FRAGMENTS, HARD, DAMP 60 | 66 | 44 54 68 35 (RESIDUAL) 63 63 66 GRAY AND BROWN CLAYEY SILT (ML), <u>VERY HARD</u>, DAMP 25 97 90/4" 10 (RESIDUAL) GRAY BASALT, <u>HARD</u> (BASALT) ВОН € 41.5 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1 (57)
F.A.I. PROJECT NO. I-H3-1 (58)
ALE: NONE DATE: SEPT. 1988 SCALE : NONE

| •                      | W-4<br>3-4<br>2-88   |                   | SURF                   | CE E   | LEV.                            | 516 | ARD VIADUCT-PHASE II KANEOHE,<br>± OAHU, HAWA<br>NE ENCOUNTERED          |
|------------------------|----------------------|-------------------|------------------------|--|---------------------------------|-----|--|
| LAB<br>TEST<br>RESULTS | MOIST.<br>CONT.<br>% | DRY<br>WT.<br>PCF | PER                    | S A M P L E  | D<br>E<br>P<br>T                |     | CLASSIFICATION   |
|                        | 40                   | 65                | 8                      | 1  |                                 |     | BROWN SILTY CLAY (CL), <u>HARD,</u> DRY (COLLUVIUM)                      |
|                        | 48                   | 56                | 22                     | 2  |                                 |     |  |
|                        | 55                   | 68                | 22                     | 3  | :<br>-<br>-<br>-                |     |  |
|                        |                      |                   | 57                     | 4  | _10                             |     | •  |
|                        | 47                   | 76                | 44                     | 5  | -<br>-<br>-<br>-<br>-<br>-<br>- |     | BROWN CLAYEY SILT (ML) WITH<br>DECOMPOSED ROCK FRAGMENTS,<br>HARD, MOIST |
|                        | 20                   | 88                | 35                     | 6  | - 20                            |     | <u>1.751.0</u> , 110101  |
| NON PLASTIC            | 21                   | 85                | 70                     | 7  |                                 |     |  |
|                        |                      |                   | 74                     | 8  | -30                             |     | GRAY AND BROWN SANDY SILT (ML), HARD, DAMP                               |
|                        | 15                   | 80                | 91/6"<br>95%<br>RECOV. | 9<br>NX<br>CORE  | -<br>-<br>-<br>35               |     | (RESIDUAL)  GRAY BASALT, HARD,  VERY BROKEN TO BROKEN                    |
|                        |                      |                   | 20 <b>%</b><br>RECOV.  | NX   | <br> -<br> -<br> -40            |     | BROWN SILTY GRAVEL (GM),<br>W/COBBLES, MEDIUM DENSE, DRY                 |
|                        |                      | G. State          | 85%<br>RECOV.          | NX<br>CORE   | -<br>-<br>-<br>-                |     | GRAY VESICULAR BASALT,   |
|                        |                      | F                 | 100%<br>RECOV.         | NX<br>CORE   | -<br>- 45<br>                   |     | <u>HARD</u> , MASSIVE  |
|                        |                      |                   |                        |  |                                 |     | GRADES TO VERY HARD  |
| `                      |                      |                   |                        | A STATE OF THE PERSON NAMED IN |                                 |     | BOH @ 49.0°  |
|                        |                      |                   |                        |  | 55<br> -<br> -<br> -<br> -      |     |  |
|                        |                      |                   |                        | namaari, spaaggapping de mili madinabri  | <br>60                          |     | •  |
|                        |                      |                   |                        |  |                                 |     |  |
|                        |                      |                   |                        |  | -                               |     | •  |

REVISION

DATE

SHEET NO. B30 OF 32 SHEETS

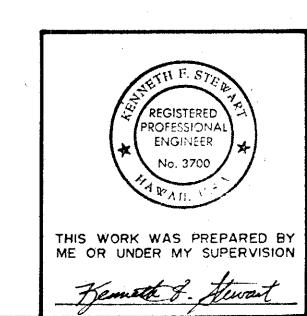
PROJECT H-3 WINDWARD VIADUCT KANEOHE, OAHU, HAWAII SURFACE ELEV. 850'± FILE 433-2 DATE 5-4-84 DEPTH TO WATER CAVED MOIST. DRY BLOWS CONT. WT. PER TEST RESULTS % PCF FT. CLASSIFICATION 57 61 14 REDDISH BROWN SILT (ML), STIFF TO VERY STIFF, DAMP NON-PLASTIC (WEATHERED CINDERS) 68 | 56 | 9 67 60 10 4 BROWN SILTY SAND (SM) LOOSE TO MEDIUM DENSE, DAMP 49 69 18 5 NON-PLASTIC 62 62 14 6 \_\_\_\_ (WEATHERED CINDERS) 42 79 24 BROWN SILTY SAND (ML)
MEDIUM DENSE, DAMP 41 73 40 39 | 78 | 43 NON-PLASTIC 23 32 100 75 32 | 103 | 99 (CINDERS) 20 107 R 118 | 14 10 GRAY SILTY SAND (SP-SM) VERY DENSE, DAMP 194 (CEMENTED CINDERS) 99 BOH @ 75.0°

|                        | 33-2   |  | SURF. | ACE E                      | H-3 WINDY<br>ELEV. 8<br>WATER   |  |
|------------------------|--------|--|-------|----------------------------|---|--|
| LAB<br>TEST<br>RESULTS | MOIST. | 1  | Į.    | S<br>A<br>M<br>P<br>L<br>E | D<br>E<br>P<br>T  | CLASSIFICATION   |
|                        | 50     |  | . 30  | 1                          |   | BROWN SANDY SILT (ML) HARD, DAMP                                     |
|                        | 38     | 84   | 58    | 2                          | -   | (WEATHERED CINDERS   |
|                        | 41     | 73   | 29    | 3                          |   | BROWN SILT (ML) <u>HARD,</u><br>DAMP                                 |
|                        |        |  | 68    | 4                          | - 10<br>  | (WEATHERED CINDERS   |
|                        |        |  | 48    | 5                          | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | REDDISH BROWN SANDY SILT<br>(SM) <u>MEDIUM DENSE TO DENSE</u> ,      |
|                        | 23     | 101  | 68    | 6                          | -<br>-20<br>-<br>-  | DAMP   |
|                        | 7      |  | 51    | 7                          |   | (CINDERS)  |
|                        |        |  |       |                            | -<br> -<br> -   | BLACK SILTY SAND (SP)  MEDIUM DENSE, MOIST  (CINDERS)                |
| ION-PLASTIC            |        |  | R     | 8                          | -<br>-<br>-<br>-  | BROWN SAND (SM) CEMENTED WITH OCCASIONAL BOULDERS, VERY DENSE, MOIST |
|                        |        |  | R     | 9 2                        | 35  | (CINDERS)  |
|                        | 22     |  | 150   | 10                         |   | BROWN SILTY SAND (SP)  |
|                        |        |  | 98    | 11                         | -40<br> -40<br>   | SOME CEMENTATION, <u>VERY</u> <u>DENSE</u> , DAMP                    |
|                        |        |  |       | 10                         |   | (WEATHERED CINDERS   |
| ION-PLASTIC            | 45     |  | 71    | 12                         | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-   | BROWN SANDY SILT (SM)  DENSE, DAMP                                   |
| ION-LEW21 IC           |        |  |       |                            |   | (WEATHERED CINDERS   |
|                        |        |  | 70    | 14                         |   | GRAY SILTY SAND (SM) SOME CEMENTATION, <u>DENSE</u> , DAMP           |
|                        |        | an gyykyb and drop hybriden  | R     | 15                         | _60   | (CINDERS   |
|                        | 27     | 93   | 72    | 16                         | . —   | BROWN SANDY SILT (ML) HARD, MOIST                                    |
|                        |        |  | R     | 17                         | _65   | (WEATHERED CINDERS   |
|                        |        | er de l'en en e   |       |                            | -<br>-<br>-<br>-<br>-<br>70<br>- 70   | BLACK SAND (SP) MEDIUM<br>DENSE TO DENSE, DRY                        |
|                        | 7      |  | 59    | 18                         |   |  |
|                        |        |  | 80    | 19                         | - 75<br>  | (CINDERS)  |
|                        |        | Andreas de la companya de la company |       |                            | -<br>-<br>-<br>-<br>80  | BOH @ 76.5°  |

|                             |                                |              |             |                                |                              |  |   |   | <u>, , , , , , , , , , , , , , , , , , , </u> |  |   |   |                        |       |        |
|-----------------------------|--------------------------------|--------------|-------------|--------------------------------|------------------------------|--|---|---|---|--|---|---|------------------------|-------|--------|
|                             |                                |              |             |                                |                              |  | 4 |   |   |  |   |   | FED. ROAD<br>DIST. NO. | STATE | FED. A |
| R-2<br>3 <b>-</b> 2<br>2-84 | S-2 SURFACE ELEV. 867'± HAWAII |              |             |                                |                              |  |   |   |   |  |   |   | HAWAII                 | HAW.  | I-H3-I |
| <del></del>                 | DRY                            | BLOWS<br>PER | <del></del> | D<br>E                         |                              | CLASSIFICATION   |   |   | ·   |  |   |   |                        |       |        |
| 50<br>38                    | 84                             | . 30<br>58   | 1 2         | -<br>-<br>-                    |                              | BROWN SANDY SILT (ML) HARD, DAMP                                     |   |   |   |  |   |   |                        |       |        |
|                             |                                |              |             |                                | ;<br>                        | (WEATHERED CINDERS)  |   |   |   |  |   |   |                        |       |        |
| 41                          | 73                             | 29           | 3           | . —<br>  . —<br>  . —<br>  . — |                              | BROWN SILT (ML) <u>HARD,</u><br>DAMP                                 | , |   |   |  |   |   |                        |       |        |
|                             |                                | 68           | 4           |                                |                              | (WEATHERED CINDERS)  |   |   |   |  |   |   |                        | *     |        |
|                             |                                | 48           | 5           | - 15                           |                              | REDDISH BROWN SANDY SILT   | ř |   |   |  | • |   |                        |       |        |
| 23                          | 101                            | 68           | 6           | - 20                           |                              | (SM) <u>MEDIUM DENSE TO DENSE</u> ,<br>DAMP                          |   |   |   |  |   |   |                        |       |        |
|                             |                                |              |             | <br><br>25                     |                              | (CINDERS)  |   |   |   |  |   |   |                        | ₹     |        |
| 7                           |                                | 51           | 7           | X                              |                              | BLACK SILTY SAND (SP)  MEDIUM DENSE, MOIST  (CINDERS)                |   |   |   |  |   | · |                        |       |        |
|                             |                                | R            | 8           | -30<br><br>                    |                              | BROWN SAND (SM) CEMENTED WITH OCCASIONAL BOULDERS, VERY DENSE, MOIST |   |   |   |  |   |   |                        |       |        |
| ,                           |                                | R            | 9           | - 35<br>·                      | 1111<br>1111<br>1111<br>1111 | (CINDERS)  | · | , |   |  |   |   |                        |       |        |
| 22                          |                                | 150          | 10          | -<br>-<br>-40                  |                              | BROWN SILTY SAND (SP) SOME CEMENTATION, <u>VERY</u>                  |   |   |   |  |   |   |                        |       |        |
|                             |                                | 98           | 1 1         | -<br>-<br>-                    |                              | DENSE, DAMP  (WEATHERED CINDERS)                                     |   |   |   |  |   |   |                        |       |        |
| 45                          |                                | 71           | 12          | 45<br>                         |                              |  | • |   |   |  |   |   |                        |       |        |
|                             |                                | 71           | 13          | -<br>-<br>-<br>-<br>50         |                              | BROWN SANDY SILT (SM) <u>DENSE</u> , DAMP                            |   |   |   |  |   |   |                        |       |        |
|                             |                                |              |             | ]:-                            |                              |  |   |   |   |  |   |   |                        | t     |        |

DATE

REVISION



FISCAL SHEET TOTAL YEAR NO. SHEETS

1988 254 274

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**BORING LOGS** 

INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-I (57) F.A.I. PROJECT NO. 1-H3-1 (58) DATE: SEPT. 1988

SCALE - NONE SHEET NO. B31 OF 32 SHEETS

FED. ROAD DIST. NO. FED. AID PROJ. NO. FISCAL SHEET TOTAL YEAR NO. SHEETS I-H3-I (57) 1988 255 274 HAW. PROJECT H-3 PRELIMINARY RECOMMENDATION BORING OA-2 FILE 433-2 SURFACE ELEV. 460'± DATE 10-10-84 DEPTH TO WATER NONE ENCOUNTERED MOIST. DRY BLOWS CONT. WT. PER TEST % PCF FT. RESULTS CLASSIFICATION 54 61 20 56 | 65 | 19 60 | 52 | 31 REDDISH BROWN SILT (ML) WITH DECOMPOSED ROCK FRAGMENTS, VERY STIFF, MOIST 57 | 66 | 37 70 42 52 (RESIDUAL) 46 71 35 DARK BROWN SILT (ML), <u>HARD</u>, 29 88 R (DECOMPOSED ROCK) DARK GRAY WEATHERED BASALT HARD, DAMP R (WEATHERED BASALT) 98% NX .-RECOV.CORE .-GRAY BASALT, <u>HARD</u>, FRACTURED 97% NX ... RECOV. CORE : (BASALT) 100% NX TECOV. CORE GRAY BASALT, HARD, OCCASIONALLY FRACTURED 100% NX ... RECOV. CORE ... (BASALT) BOH @ 55.0° THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION BORING LOGS INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. 1-H3-I (57) F.A.I. PROJECT NO. 1-H3-1 (58)
ALE: NONE DATE: SEPT. 1988 SCALE - NONE DATE REVISION SHEET NO. 832 OF 32 SHEETS