

```

-LINE-IDC--PL--SL-
00001 0 0 Program digit(input, output, outfile);
00002 0 0
00003 C 0 0 { $ link digit.obj, ccc$:[rex]digitlib.obj}
00004 C 0 0 {*****}
00005 C 0 0 {* A PROGRAM CREATED BY J.A. FENTON AND S. STOKES *}
00006 C 0 0 {* FOR DIGITISATION OF X, Y CO-ORDINATE DATA USING *}
00007 C 0 0 {* THE UNIVERSITY OF WAIKATO SUMMAGRAPHIC DIGIT- *}
00008 C 0 0 {* ISING TABLE. CREATED JAN-MAY 1988 *}
00009 C 0 0 {*****}
00010 0 0 VAR
00011 0 0 outfile TEXT;
00012 0 0 success,
00013 0 0 finished BOOLEAN;
00014 0 0 ch CHAR;
00015 0 0 header PACKED ARRAY [1..40] of CHAR;
00016 0 0 ofile PACKED ARRAY [1..20] of CHAR;
00017 0 0 x, y, pos,INFO, L,
00018 0 0 digit_lower_x, digit_lower_y, digit_upper_x,
00019 0 0 digit_upper_y, digit_upperl_x, digit_upperl_y, n : INTEGER;
00020 0 0 lower_x, lower_y, upper_x, upper_y, cordigit_upper_x,
00021 0 0 cordigit_upper_y, sf_x, sf_y, true_x, true_y, xaxis, yaxis,
00022 0 0 sinang, cosang, last_x, last_y, correct_x, correct_y : REAL;
00023 0 0 sen, dp_x, dp_y : INTEGER;
00024 0 0
00025 C 0 0 {*****}
00026 0 0
00027 0 0 PROCEDURE digit_init; extern;
00028 0 0
00029 1 0 FUNCTION digit_read (var x, y INTEGER;
00030 0 0 var ch : CHAR):BOOLEAN; extern;
00031 0 0
00032 0 0
00033 C 0 0 {*****}
00034 C 0 0 {*** Application Program ***}
00035 C 0 0 {*****}
00036 1 0 PROCEDURE introduction;
00037 1 1 BEGIN
00038 1 1 WRITELN(output, 'THIS PROGRAM MAY ONLY BE RUN ON THE SUMMAGRAPHICS');
00039 1 1 WRITELN(output, 'DIGITISING TABLE CURRENTLY LOCATED IN TB 1 (MAY 88)');
00040 1 1 WRITELN(output, 'IF YOU REQUIRE INSTRUCTIONS ON USE OF THE PROGRAM');

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-LINE-IDC-PL-SL-

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00041 1 1      WRITELN(output,'TYPE "H", OTHERWISE HIT ANY OTHER KEY THEN <RET>');
00042 1 1      READLN(input,ch);
00043 1 1      IF (ch = 'h') OR (ch = 'H') THEN
00044 1 2        BEGIN
00045 1 2
00046 1 2 WRITELN(output, '1.  SETTING UP TERMINAL AND DIGITISER: THE');
00047 1 2 WRITELN(output,'DIGITISER CONTROL PANEL MUST BE SWITCHED ON');
00048 1 2 WRITELN(output, 'AND THE STREAM AND POINT BUTTONS DEPRESSED');
00049 1 2 WRITELN(output, 'THE PEN DIGITISING ATTACHMENT IS BEST USED,');
00050 1 2 WRITELN(output, 'SO SHOULD BE PLUGGED INTO THE CONTROL PANEL. ');
00051 1 2 WRITELN(output);
00052 1 2 WRITELN(output,'2.  THE OUTLINE WHICH YOU REQUIRE TO DIGITISE MUST BE ALIGNED');
00053 1 2 WRITELN(output,'TO SOME FORM OF X-Y GRID SYSTEM (FOR MAPS LAT AND LONG MAY BE');
00054 1 2 WRITELN(output,
00055 1 2      'USED.) THE OUTLINE SHOULD BE FIRMLY POSITIONED ON THE DIGITISING TABLE. ');
00056 1 2 WRITELN(output,'AS CLOSE TO SQUARE ON THE TABLE AS POSSIBLE.  THE X-Y CO-ORDS');
00057 1 2 WRITELN(output,'OF THE LOWER LEFT, AND UPPER LEFT AND RIGHT LOCATIONS OF THE');
00058 1 2 WRITELN(output,'OUTLINE MUST BE KNOWN. ');
00059 1 2 WRITELN(output);
00060 1 2 WRITELN(output,'3.  NAMING AND FORMAT OF OUTPUT FILES:  YOU WILL BE ASKED TO');
00061 1 2 WRITELN(output,'PROVIDE A SUITABLE NAME FOR THE RESULTING OUTPUT FILE (WHICH ');
00062 1 2 WRITELN(output,'IN TOTAL SHOULD NOT EXCEED 20 CHARACTERS.  THE OUTPUT FILE IS');
00063 1 2 WRITELN(output,'DIRECTLY COMPATIBLE WITH THE KPB.TIDE GRAPHICS PACKAGE HELD');
00064 1 2 WRITELN(output,'BY THE DEPARTMENT OF EARTH SCIENCES.  THE FILE IS FORMATTED');
00065 1 2 WRITELN(output,'WITH AN INITIAL HEADER LINE (WHICH YOU INPUT) FOLLOWED BY X');
00066 1 2 WRITELN(output,'AND Y CO-ORDS, WITH A DELIMITER (-999.99) POSITIONED AT EACH');
00067 1 2 WRITELN(output,'LOCALITY IN THE FILE WHERE A BREAK IN THE OUTPUT IS REQUIRED. ');
00068 1 2 WRITELN(output,'AS CO-ORDS ARE DIGITISED THE STORED VALUES ARE DISPLAYED ON');
00069 1 2 WRITELN(output,'THE VDU. ');
00070 1 2 WRITELN(output);
00071 1 2 WRITELN(output,'4.  DELIMITING AND TERMINATING OUTPUT:  WHERE A BREAK IN THE');
00072 1 2 WRITELN(output,'OUTPUT IS REQUIRED (I.E. TO LIFT A PLOTTING PEN), SIMPLY');
00073 1 2 WRITELN(output,'DIGITISE THE SAME CO-ORD TWICE.  THE PROGRAM WILL RESPOND');
00074 1 2 WRITELN(output,'BY ASKING IF YOU WISH TO QUIT DIGITISING OR CONTINUE. ');
00075 1 2 WRITELN(output);
00076 1 2 WRITELN(output,'5.  IF REQUIRED, THE SENSITIVITY OF THE TERMINATING MECHANISM');
00077 1 2 WRITELN(output,'(I.E., THE MINIMUM SPACING BETWEEN CONSECUTIVE CO-ORDS) CAN');
00078 1 2 WRITELN(output,'ADJUSTED TO ANY REQUIRED LEVEL IF THE DEFAULT IS FOUND TO BE ');
00079 1 2 WRITELN(output,'INADEQUATE FOR YOUR APPLICATION.  IN ADDITON, THE ACCURACY OF');
00080 1 2 WRITELN(output,'THE OUTPUTTED VALUES MAY ALSO BE ADJUSTED TO SUIT THE USERS');
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```
00081 1 2 WRITELN(output,'REQUIREMENTS. ');
00082 1 1     END;
00083 1 1     WRITELN(output);
00084 1 1     WRITELN(output,'? USE DEFAULT SENSITIVITY (DEFAULT=100) (Y/N)? ');
00085 1 1     READ(input,ch);
00086 1 1     IF (ch = 'y') OR (ch = 'Y') THEN SEN := 100
00087 1 1         ELSE
00088 1 2         BEGIN
00089 1 2             WRITELN(output);
00090 1 2             WRITELN(output, 'INPUT REQUIRED SENSITIVITY (INTEGER)- ');
00091 1 2             READLN(input, sen);
00092 1 1         END;
00093 1 1     WRITELN(output);
00094 1 1     WRITELN(output,'REQUIRED NO. OF DECIMAL PLACES FOR X CO-ORD - ');
00095 1 1     READLN(input, dp_x);
00096 1 1     WRITELN(output);
00097 1 1     WRITELN(output,'REQUIRED NO. OF DECIMAL PLACES FOR Y CO-ORD - ');
00098 1 1     READLN(input, dp_y);
00099 1 1
00100 0 0     END;
00101 0 0
00102 1 0 PROCEDURE initialise_files;
00103 1 1     BEGIN
00104 1 1         WRITELN(output);
00105 1 1         WRITELN(output,'NAME FOR OUTPUT FILE? ');
00106 1 2         FOR pos := 1 TO 15 DO BEGIN
00107 1 2             IF EOLN(input) THEN ofile[pos] := ' '
00108 1 2                 ELSE READ(input, ofile[pos]);
00109 1 1             END;
00110 1 1         READLN(input);
00111 1 1         OPEN(outfile, ofile, HISTORY := NEW);
00112 1 1         REWRITE(outfile);
00113 0 0     END;
00114 0 0
00115 1 0 PROCEDURE file_info;
00116 1 1     BEGIN
00117 1 1         WRITELN(output);
00118 1 1         WRITELN(output,
00119 1 1             'INPUT HEADER INFORMATION FOR OUTPUT FILE (< 40 CHAR?) ');
00120 1 2         FOR INFO := 1 TO 40 DO BEGIN
```

```
00121      1 2          IF EOLN(input) THEN header[info] := '  
00122      1 2                      ELSE READ(input, header[info]);  
00123      1 1                      END;  
00124      1 1          WRITELN(outfile, header);  
00125      1 1          WRITELN(outfile);  
00126      0 0          END;  
00127      0 0  
00128      1 0  PROCEDURE get_first_coords;  
00129      1 1          BEGIN  
00130      1 1              WRITELN(output);  
00131      1 1              WRITELN(output, 'DIGITISE LOWER LEFT');  
00132      1 1              success := digit_read(x, y, ch);  
00133      1 1              IF success THEN  
00134      1 2                  BEGIN  
00135      1 2                      WRITELN(output, CHR(7));  
00136      1 2                      WRITELN(output, CHR(7));  
00137      1 2                      DIGIT_LOWER_X := X;  
00138      1 2                      DIGIT_LOWER_Y := Y;  
00139      1 2                      WRITELN(output, 'INSERT LOWER X CO-ORDINATE');  
00140      1 2                      READLN(input, LOWER_X);  
00141      1 2                      WRITELN(output, 'INSERT LOWER Y CO-ORDINATE');  
00142      1 2                      READLN(input, LOWER_Y);  
00143      1 1                  END;  
00144      1 1  
00145      1 1          WRITELN(output, 'DIGITISE UPPER RIGHT');  
00146      1 1          success := digit_read(x, y, ch);  
00147      1 1          IF success THEN  
00148      1 2              BEGIN  
00149      1 2                  WRITELN(output, CHR(7));  
00150      1 2                  WRITELN(output, CHR(7));  
00151      1 2                  digit_upper_x := x;  
00152      1 2                  digit_upper_y := y;  
00153      1 2                  WRITELN(output, 'INSERT UPPER X CO-ORDINATE');  
00154      1 2                  READLN(input, UPPERR_X);  
00155      1 2                  WRITELN(output, 'INSERT UPPER Y CO-ORDINATE');  
00156      1 2                  READLN(input, UPPERR_Y);  
00157      1 1              END;  
00158      1 1  
00159      1 1          WRITELN(output, 'DIGITISE UPPER LEFT');  
00160      1 1          WRITELN(output);
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00161      1 1          WRITELN(output,
00162      1 1          '**** NOTE THESE THREE DIGITISED POINTS MUST FORM A RIGHT ANGLE ****');
00163      1 1          success := digit_read(x, y, ch);
00164      1 1          IF success THEN
00165      1 2              BEGIN
00166      1 2                  WRITELN(output, CHR(7));
00167      1 2                  WRITELN(output, CHR(7));
00168      1 2                  digit_upperl_x := x;
00169      1 2                  digit_upperl_y := y;
00170      1 1          END;
00171      0 0          END;
00172      0 0
00173      1 0  PROCEDURE digit_correction;
00174      1 1          BEGIN
00175      1 1              x := x - digit_lower_x;
00176      1 1              y := y - digit_lower_y;
00177      0 0          END;
00178      0 0
00179      1 0  PROCEDURE angle_correction;
00180      1 1          BEGIN
00181      1 1              xaxis := abs(digit_upperr_x - digit_upperl_x);
00182      1 1              yaxis := abs(digit_upperr_y - digit_upperl_y);
00183      1 1              sinang := yaxis/sqrt(sqr(yaxis) + sqr(xaxis));
00184      1 1              cosang := xaxis/sqrt(sqr(yaxis) + sqr(xaxis));
00185      1 1          IF digit_upperr_x < digit_upperl_x THEN
00186      1 2              BEGIN
00187      1 2                  cordigit_upperr_x := (cosang * (digit_upperr_x - digit_lower_x))
00188      1 2                      - (sinang * (digit_upperr_y - digit_lower_y))
00189      1 2                      + digit_lower_x ;
00190      1 2                  cordigit_upperr_y := (sinang * (digit_upperr_x - digit_lower_x))
00191      1 2                      + (cosang * (digit_upperr_y - digit_lower_y))
00192      1 2                      + digit_lower_y;
00193      1 2              END
00194      1 1              ELSE
00195      1 2              BEGIN
00196      1 2                  cordigit_upperr_x := (sinang * (digit_upperr_y - digit_lower_y))
00197      1 2                      + (cosang * (digit_upperr_x - digit_lower_x))
00198      1 2                      + digit_lower_x ;
00199      1 2                  cordigit_upperr_y := (cosang * (digit_upperr_y - digit_lower_y))
00200      1 2                      - (sinang * (digit_upperr_x - digit_lower_x))
```

```
00201      1 2          + digit_lower_y;
00202      1 1          END;
00203      1 1          sf_x := (upperr_x - lower_x)/(cordigit_upperr_x - digit_lower_x);
00204      1 1          sf_y := (upperr_y - lower_y)/(cordigit_upperr_y - digit_lower_y);
00205      0 0          END;
00206      0 0
00207      1 0 PROCEDURE convert_dig_coords;
00208      1 1          BEGIN
00209      1 1          IF digit_upperr_x < digit_upperl_x THEN
00210      1 2          BEGIN
00211      1 2          correct_x := (x * cosang) (y * sinang);
00212      1 2          correct_y := (x * sinang) + (y * cosang);
00213      1 2          END
00214      1 1          ELSE
00215      1 2          BEGIN
00216      1 2          correct_x := (y * sinang) + (x * cosang);
00217      1 2          correct_y := (y * cosang) - (x * sinang);
00218      1 1          END;
00219      1 1          true_x := ((correct_x) * sf_x) + lower_x;
00220      1 1          true_y := ((correct_y) * sf_y) + lower_y;
00221      0 0          END;
00222      0 0
00223      0 1 BEGIN
00224      0 1          introduction;
00225      0 1          digit_init;
00226      0 1          initialise_files;
00227      0 1          file_info;
00228      0 1          finished := false;
00229      0 1          n := 0;
00230      0 1          get_first_coords;
00231      0 1          WRITELN(output, 'COMMENCE DIGITISING');
00232      0 1          WRITELN(outfile, '-999.99');
00233      0 1          angle_correction;
00234      0 1          WHILE NOT finished DO
00235      0 2          BEGIN
00236      0 2          n := n + 1;
00237      0 2          success := digit_read(x, y, ch);
00238      0 2          IF success THEN
00239      0 3          BEGIN
00240      0 3          WRITELN(output, CHR(7));
```

```
00241      0 3          WRITELN(output, CHR(7));
00242      0 3          digit_correction;
00243      0 3          convert_dig_coords;
00244      0 3      IF n > 1 THEN
00245      0 4          BEGIN
00246      0 4      IF (TRUNC((true_x)*sen) = TRUNC((last_x)*sen)) AND
00247      0 4          (TRUNC((true_y)*sen) = TRUNC((last_y)*sen))
00248      0 4          THEN
00249      0 5              BEGIN
00250      0 5      WRITELN(output,
00251      0 5          'DO YOU WISH TO STOP <RET> OR CONTINUE ? <ANY OTHER KEY>');
00252      0 5          success := digit_read(x, y, ch);
00253      0 5      IF NOT success AND (ORD(CH) = 13) THEN finished := TRUE
00254      0 5
00255      0 5              ELSE WRITELN(outfile, '-999.99')
00256      0 5              END
00257      0 4          ELSE
00258      0 5              BEGIN
00259      0 5      WRITELN(outfile, true_x:11:dp_x, true_y:11:dp_y);
00260      0 5      WRITELN(output, true_x:11:dp_x, true_y:11:dp_y);
00261      0 5      last_x := true_x;
00262      0 5      last_y := true_y;
00263      0 5              END
00264      0 4          END
00265      0 3          ELSE
00266      0 4              BEGIN
00267      0 4      WRITELN(outfile, true_x:11:dp_x, true_y:11:dp_y);
00268      0 4      WRITELN(output, true_x:11:dp_x, true_y:11:dp_y);
00269      0 4      last_x := true_x;
00270      0 4      last_y := true_y;
00271      0 4              END
00272      0 3          END
00273      0 1      END;
00274      0 0 END.
```

Name	Bytes	Attributes
\$CODE	8469	NOVEC,NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)
\$LOCAL	196	NOVEC, WRT, RD,NOEXE,NOSHR, LCL, REL, CON, PIC,ALIGN(2)

A6.1/8

COMMAND QUALIFIERS

PAS/NOOPTI/NOLIST DIGIT/LIS
/CHECK=(BOUNDS, NOCASE_SELECTORS, NOOVERFLOW, NOPOINTERS, NOSUBRANGE)
/DEBUG=(NOSYMBOLS, TRACEBACK)
/SHOW=(DICTIONARY, INCLUDE, NOINLINE, HEADER, SOURCE, STATISTICS, TABLE_OF_CONTENTS)
/NOOPTIMIZE
/STANDARD=NONE
/TERMINAL=(NOFILE_NAME, NOROUTINE_NAME, NOSTATISTICS)
/USAGE=(NOUNUSED, UNINITIALIZED, NOUNCERTAIN)
/NOANALYSIS_DATA
/NOENVIRONMENT
/LIST=ERTH\$:[2160.DIGIT]DIGIT.LIS;2
/OBJECT=ERTH\$:[2160.DIGIT]DIGIT.OBJ;3
/NOCROSS_REFERENCE /ERROR_LIMIT=30 /NOG_FLOATING /NOMACHINE_CODE /NOOLD_VERSION /WARNINGS

COMPILER INTERNAL TIMING

Phase	Faults	CPU Time	Elapsed Time
Initialization	179	00:00.4	00:01.6
Source Analysis	382	00:01.5	00:01.8
Source Listing	12	00:00.5	00:01.1
Tree Construction	159	00:00.6	00:00.6
Flow Analysis	0	00:00.0	00:00.0
Value Propagation	0	00:00.0	00:00.0
Profit Analysis	0	00:00.0	00:00.0
Context Analysis	260	00:04.4	00:04.6
Name Packing	6	00:00.5	00:00.6
Code Selection	113	00:01.1	00:01.1
Final	90	00:02.1	00:03.3
TOTAL	1205	00:11.0	00:14.7

CPU Time: 00:11.0 (1497 Lines/Minute)
Elapsed Time: 00:14.7
Page Faults: 1205
Pages Used: 875
Compilation Complete

-LINE-IDC-PL-SL-

```

00001      0 0 PROGRAM Coordinates (Input,Output, Infile, Outfile);
00002      0 0
00003      C 0 0 {*****}
00004      C 0 0 { The following program accepts raw digitized information of echo sounding }
00005      C 0 0 { traces from DIGIT.PAS and converts the X Y coordinates to fit the grid }
00006      C 0 0 { system used in the Bed Morphology study area. It takes into account }
00007      C 0 0 { convergence and divergence of longitudinal profiles. }
00008      C 0 0 { WRITTEN BY J.A.FENTON AUGUST 1988. }
00009      C 0 0 {*****}
00010      0 0
00011      0 0 VAR
00012      0 0   outfile, infile      : text;
00013      0 0   x, y, z, sf_x, sf_y, true_x, true_y,
00014      0 0   x_ds, x_us, y_ds, y_us, y_origds, y_origus  :Real;
00015      0 0   pos, info          :integer;
00016      0 0   ch, hold           char;
00017      0 0   HEADER            PACKED ARRAY [1..40] of char;
00018      0 0   OFILE             PACKED ARRAY [1..35] of char;
00019      0 0   IFILE             PACKED ARRAY [1..35] of char;
00020      0 0
00021      0 0
00022      C 0 0 {*****}
00023      C 0 0 {*** Application Program ***}
00024      C 0 0 {*****}
00025      1 0 PROCEDURE INITIALISE_FILES;
00026      1 1   BEGIN
00027      1 1     WRITELN(OUTPUT);
00028      1 1     WRITELN(OUTPUT, 'NAME FOR OUTPUT FILE?');
00029      1 2     FOR POS := 1 TO 35 DO BEGIN
00030      1 2       IF EOLN(INPUT) THEN OFILE[POS] := ' '
00031      1 2       ELSE READ(INPUT, OFILE[POS]);
00032      1 1     END;
00033      1 1     READLN(INPUT);
00034      1 1     OPEN(OUTFILE, OFILE, HISTORY := NEW);
00035      1 1     REWRITE(OUTFILE);
00036      1 1     WRITELN(OUTPUT);
00037      1 1     WRITELN(OUTPUT);
00038      1 1     WRITELN(OUTPUT, 'NAME OF INPUT FILE?');
00039      1 2     FOR POS := 1 TO 35 DO BEGIN
00040      1 2       IF EOLN(INPUT) THEN IFILE[POS] := ' '

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-LINE-IDC-PL-SL-

```

00041      1 2          ELSE READ(INPUT, IFILE[POS]);
00042      1 1          END;
00043      1 1          READLN(INPUT);
00044      1 1          OPEN(INFILE, IFILE, HISTORY := OLD);
00045      1 1          RESET(INFILE);
00046      0 0          END;
00047      0 0
00048      1 0 PROCEDURE FILE_INFO;
00049      1 1          BEGIN
00050      1 1              WRITELN(OUTPUT);
00051      1 1              WRITELN(OUTPUT, 'INPUT HEADER INFORMATION FOR OUTPUT FILE (< 40 CHAR?)');
00052      1 2              FOR INFO := 1 TO 40 DO BEGIN
00053      1 2                  IF EOLN(INPUT) THEN HEADER[INFO] := ' '
00054      1 2                  ELSE READ(INPUT, HEADER[INFO]);
00055      1 1                  END;
00056      1 1              WRITELN(OUTFILE, HEADER);
00057      1 1              WRITELN(OUTFILE);
00058      0 0          END;
00059      0 0
00060      1 0 PROCEDURE GET_VARS;
00061      1 1          BEGIN
00062      1 1              READLN(INFILE, X_DS, Y_DS);
00063      1 1              WRITELN(OUTPUT, 'X_DS', X_DS:5:2, 'Y_DS', Y_DS:5:2);
00064      1 1              READLN(INFILE, X_US, Y_US);
00065      1 1              WRITELN(OUTPUT, 'X_US', X_US:5:2, 'Y_US', Y_US:5:2);
00066      1 1              READLN(INFILE, Y_ORIGDS, Y_ORIGUS);
00067      1 1              WRITELN(OUTPUT, 'Y_OR_DS', Y_ORIGDS:5:2, 'Y_OR_US', Y_ORIGUS:5:2);
00068      1 1              SF_X := ABS((X_DS-X_US)/(Y_ORIGUS-Y_ORIGDS));
00069      1 1              SF_Y := ABS((Y_DS-Y_US)/(Y_ORIGUS-Y_ORIGDS));
00070      1 1              WRITELN(OUTPUT, SF_X:5:2, ' ', SF_Y:5:2);
00071      0 0          END;
00072      0 0
00073      1 0 PROCEDURE TRUE_COORDS;
00074      1 1          BEGIN
00075      1 1              WHILE NOT EOF(infile) DO
00076      1 2                  BEGIN
00077      1 2                      READLN(INFILE, Y, Z);
00078      1 2                      TRUE_Y := Y_US + (Y*SF_Y);
00079      1 2                      IF X_US > X_DS THEN TRUE_X := X_US - (Y * SF_X)
00080      1 2                      ELSE TRUE_X := (Y*SF_X)+ X_US;

```

COORDINATES

12-Feb-1989 12:52:15

VAX Pascal V3.7-254

Page 3

01 Source Listing

16-Dec-1988 09:58:05

ERTH\$:[2160.DIGIT]LCOORDS.PAS;16 (1)

-LINE-IDC-PL-SL-

```

00081      1  2      WRITELN(OUTFILE,TRUE_X:10:2,TRUE_Y:10:2,Z:10:2);
00082      1  1      END;
00083      0  0      END;
00084      0  0
00085      0  1 BEGIN
00086      0  1      INITIALISE_FILES;
00087      0  1      FILE_INFO;
00088      0  1      READLN(INFILE,HOLD);
00089      0  1      GET_VARS;
00090      0  1      TRUE_COORDS;
00091      0  0 END.
00092      0  0

```

COORDINATES

12-Feb-1989 12:52:15

VAX Pascal V3.7-254

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01 Pascal Compilation Statistics

16-Dec-1988 09:58:05

ERTH\$:[2160.DIGIT]LCOORDS.PAS;16 (1)

PSECT SUMMARY

Name	Bytes	Attributes
\$CODE	2321	NOVEC,NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)
\$LOCAL	207	NOVEC, WRT, RD,NOEXE,NOSHR, LCL, REL, CON, PIC,ALIGN(2)

COMMAND QUALIFIERS

```

PAS/NOOPTI/NOLIST LCOORDS/LIS
/CHECK=( BOUNDS, NOCASE_SELECTORS, NOOVERFLOW, NOPOINTERS, NOSUBRANGE)
/DEBUG=( NOSYMBOLS, TRACEBACK )
/SHOW=( DICTIONARY, INCLUDE, NOINLINE, HEADER, SOURCE, STATISTICS, TABLE_OF_CONTENTS )
/NOOPTIMIZE
/STANDARD=NONE
/TERMINAL=( NOFILE_NAME, NOROUTINE_NAME, NOSTATISTICS )
/USAGE=( NOUNUSED, UNINITIALIZED, NOUNCERTAIN )
/NOANALYSIS_DATA
/NOENVIRONMENT
/LIST=ERTH$:[2160.DIGIT]LCOORDS.LIS;1
/OBJECT=ERTH$:[2160.DIGIT]LCOORDS.OBJ;1
/NOCROSS_REFERENCE /ERROR_LIMIT=30 /NOG_FLOATING /NOMACHINE_CODE /NOOLD_VERSION /WARNINGS

```

01

Source Listing

12-Feb-1989 13:17:34

ERTH\$:[2160.DIGIT]SCCOORDS.PAS;4 (1)

-LINE-IDC-PL-SL-

```

00001      0 0 PROGRAM Coordinates (Input,Output, Infile, Outfile);
00002      0 0
00003      C 0 0 {*****}
00004      C 0 0 { The following program accepts raw digitized information of echo sounding }
00005      C 0 0 { traces from DIGIT.PAS and converts the X Y coordinates to fit the grid }
00006      C 0 0 { system used in the Bed Morphology study area. It takes into account }
00007      C 0 0 { convergence and divergence of cross section profiles. }
00008      C 0 0 { WRITTEN BY J.A.FENTON AUGUST 1988. }
00009      C 0 0 {*****}
00010      0 0
00011      0 0
00012      0 0 VAR
00013      0 0     outfile, infile      : text;
00014      0 0     x, y, z, sf_x, sf_y, true_x, true_y,
00015      0 0     x_l, x_r, y_l, y_r, x_origl, x_origr :Real;
00016      0 0     pos, info          :integer;
00017      0 0     ch, hold           char;
00018      0 0     HEADER           PACKED ARRAY [1..40] of char;
00019      0 0     OFILE            PACKED ARRAY [1..35] of char;
00020      0 0     IFILE            PACKED ARRAY [1..35] of char;
00021      0 0
00022      0 0
00023      C 0 0 {*****}
00024      C 0 0 {***           Application Program           ***}
00025      C 0 0 {*****}
00026      1 0 PROCEDURE INITIALISE_FILES;
00027      1 1     BEGIN
00028      1 1         WRITELN(OUTPUT);
00029      1 1         WRITELN(OUTPUT, 'NAME FOR OUTPUT FILE?');
00030      1 2         FOR POS := 1 TO 35 DO BEGIN
00031      1 2             IF EOLN(INPUT) THEN OFILE[POS] := ' '
00032      1 2             ELSE READ(INPUT, OFILE[POS]);
00033      1 1         END;
00034      1 1         READLN(INPUT);
00035      1 1         OPEN(OUTFILE,OFILE, HISTORY := NEW);
00036      1 1         REWRITE(OUTFILE);
00037      1 1         WRITELN(OUTPUT);
00038      1 1         WRITELN(OUTPUT);
00039      1 1         WRITELN(OUTPUT, 'NAME OF INPUT FILE?');
00040      1 2         FOR POS := 1 TO 35 DO BEGIN

```

-LINE-IDC-PL-SL-

```
00041 1 2      IF EOLN(INPUT) THEN IFILE[POS] := ' '
00042 1 2                ELSE READ(INPUT, IFILE[POS]);
00043 1 1                END;
00044 1 1      READLN(INPUT);
00045 1 1      OPEN(INFILE, IFILE, HISTORY := OLD);
00046 1 1      RESET(INFILE);
00047 0 0      END;
00048 0 0
00049 1 0 PROCEDURE FILE_INFO;
00050 1 1      BEGIN
00051 1 1          WRITELN(OUTPUT);
00052 1 1          WRITELN(OUTPUT, 'INPUT HEADER INFORMATION FOR OUTPUT FILE (< 40 CHAR?)');
00053 1 2          FOR INFO := 1 TO 40 DO BEGIN
00054 1 2              IF EOLN(INPUT) THEN HEADER[INFO] := ' '
00055 1 2                  ELSE READ(INPUT, HEADER[INFO]);
00056 1 1                  END;
00057 1 1          WRITELN(OUTFILE, HEADER);
00058 1 1          WRITELN(OUTFILE);
00059 0 0      END;
00060 0 0
00061 1 0 PROCEDURE GET_VARS;
00062 1 1      BEGIN
00063 1 1          READLN(INFILE, X_L, Y_L);
00064 1 1          WRITELN(OUTPUT, 'X_L', X_L, 'Y_L', Y_L);
00065 1 1          READLN(INFILE, X_R, Y_R);
00066 1 1          WRITELN(OUTPUT, 'X_R', X_R, 'Y_R', Y_R);
00067 1 1          READLN(INFILE, X_ORIGL, X_ORIGR);
00068 1 1          WRITELN(OUTPUT, 'X_ORL', X_ORIGL, 'X_ORR', X_ORIGR);
00069 1 1          SF_X := ABS((X_L-X_R)/(X_ORIGR-X_ORIGL));
00070 1 1          SF_Y := ABS((Y_L-Y_R)/(X_ORIGR-X_ORIGL));
00071 0 0      END;
00072 0 0
00073 1 0 PROCEDURE TRUE_COORDS;
00074 1 1      BEGIN
00075 1 1          WHILE NOT EOF(infile) DO
00076 1 2              BEGIN
00077 1 2                  READLN(INFILE, X, Z);
00078 1 2                  TRUE_X := X_R - (X*SF_X);
00079 1 2                  IF Y_L > Y_R THEN TRUE_Y := Y_R + (X * SF_Y)
00080 1 2                      ELSE TRUE_Y := Y_R - (X*SF_Y);
```

COORDINATES

12-Feb-1989 13:17:53 VAX Pascal V3.7-254

01

Source Listing

12-Feb-1989 13:17:34 ERTH\$:[2160.DIGIT]SCOODS.PAS;4 (1)

-LINE-IDC-PL-SL-

```

00081      1  2      WRITELN(OUTFILE,TRUE_X:10:2,TRUE_Y:10:2,Z:10:2);
00082      1  1      END;
00083      0  0      END;
00084      0  0
00085      0  1 BEGIN
00086      0  1      INITIALISE_FILES;
00087      0  1      FILE_INFO;
00088      0  1      READLN(INFILE,HOLD);
00089      0  1      GET_VARS;
00090      0  1      TRUE_COORDS;
00091      0  0 END.
00092      0  0

```

COORDINATES

12-Feb-1989 13:17:53

VAX Pascal V3.7-254

01

Pascal Compilation Statistics

12-Feb-1989 13:17:34

ERTH\$:[2160.DIGIT]SCOODS.PAS;4 (1)

PSECT SUMMARY

Name	Bytes	Attributes
\$CODE	2169 NOVEC,NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)	
\$LOCAL	207 NOVEC, WRT, RD,NOEXE,NOSHR, LCL, REL, CON, PIC,ALIGN(2)	

COMMAND QUALIFIERS

```

PAS/NOOPTI/NOLIST SCOODS/LIS
/CHECK=(BOUNDS, NOCASE_SELECTORS, NOOVERFLOW, NOPOINTERS, NOSUBRANGE)
/DEBUG=(NOSYMBOLS, TRACEBACK)
/SHOW=(DICTIONARY, INCLUDE, NOINLINE, HEADER, SOURCE, STATISTICS, TABLE_OF_CONTENTS)
/NGOPTIMIZE
/STANDARD=NONE
/TERMINAL=(NOFILE_NAME, NOROUTINE_NAME, NOSTATISTICS)
/USAGE=(NOUNUSED, UNINITIALIZED, NOUNCERTAIN)
/NOANALYSIS_DATA
/NOENVIRONMENT
/LIST=ERTH$:[2160.DIGIT]SCOODS.LIS;2
/OBJECT=ERTH$:[2160.DIGIT]SCOODS.OBJ;2
/NOCROSS_REFERENCE /ERROR_LIMIT=30 /NOG_FLOATING /NOMACHINE_CODE /NOOLD_VERSION /WARNINGS

```

-LINE-IDC-PL-SL-

```

00001      0 0 PROGRAM B edform_survey (input,output, infile, outfile);
00002      0 0
00003      C 0 0 {*****}
00004      C 0 0 { This program reads in coordinate corrected survey profile data (from   }
00005      C 0 0 { LCOORDS.PAS), taking depth values every approx 10m intervals along the }
00006      C 0 0 { profiles. Estimates of depth between two adjacent profile is then made   }
00007      C 0 0 { by simple linear interpelation. Resulting data is then outputed in a     }
00008      C 0 0 { format acceptable to SAS for 3D and contour plotting.                     }
00009      C 0 0 { WRITTEN BY J.A.FENTON AUGUST 1988.                                         }
00010      C 0 0 {*****}
00011      0 0
00012      0 0 TYPE
00013      0 0         bed = record
00014      0 0             xd:real;
00015      0 0             yd:real;
00016      0 0             zd:real
00017      0 0         end;
00018      0 0 VAR
00019      0 0     outfile, infile           text;
00020      0 0     header                   PACKED ARRAY [1..40] of char;
00021      0 0     newbed :array [1..29,1..100]of bed;
00022      0 0     survey :array [1..10,1..100]of bed;
00023      0 0     X,Y,Z                       :Real;
00024      0 0     I,J,L,K,info              :Integer;
00025      0 0     transect_end,finished    :B oolean;
00026      0 0
00027      C 0 0 {*****}
00028      C 0 0 {***           Application Program           ***}
00029      C 0 0 {*****}
00030      0 0
00031      1 0 PROCEDURE initialise_files;
00032      1 1     BEGIN
00033      1 1         WRITELN(output);
00034      1 1         WRITELN(output,'DETAIL EDINFORMATION PUT IN NEWB ED.DAT');
00035      1 1         OPEN(outfile,'NEWB EDDAT', HISTORY := NEW);
00036      1 1         REWRITE(outfile);
00037      1 1         WRITELN(output);
00038      1 1         OPEN(infile,'B ED.DAT',HISTORY := OLD);
00039      1 1         RESET(infile);
00040      0 0     END;

```


01

Source Listing

16-Dec-1988 09:49:16

ERTH\$:[2160.SEDTRANS]BEDFORM.PAS;33 (1)

-LINE-IDC-PL-SL-

```

00081      1  5      survey[I,J].YD :=Y;
00082      1  5      survey[I,J].ZD :=Z;
00083      1  5      J:=J+1;
00084      1  4      End;
00085      1  3      End;
00086      1  2      End;
00087      1  2      I:=I+1;
00088      1  2      transect_end:=false;
00089      1  1      End;
00090      0  0      END;
00091      0  0
00092      1  0  PROCEDURE synthesis_interm;
00093      1  1      BEGIN
00094      1  1      K:=1; L:=1;
00095      1  1      FOR I:= 1 TO 10 DO
00096      1  2      Begin
00097      1  2      FOR J := 1 TO 88 DO
00098      1  3      Begin
00099      1  3      Newbed[K,J].XD := survey[L,J].XD;
00100      1  3      Newbed[K,J].YD := survey[L,J].YD;
00101      1  3      Newbed[K,J].ZD := survey[L,J].ZD;
00102      1  2      End;
00103      1  2      L:=L+1;
00104      1  2      K:=k+3;
00105      1  1      End;
00106      1  1      I:=2;
00107      1  2      REPEAT
00108      1  2      FOR J:=1 TO 98 DO
00109      1  3      Begin
00110      1  3      newbed[I,J].XD := ((newbed[I-1,J].XD*2) + newbed[I+2,J].XD)/3;
00111      1  3      newbed[I,J].YD := ((newbed[I-1,J].YD*2) + newbed[I+2,J].YD)/3;
00112      1  3      newbed[I,J].ZD := ((newbed[I-1,J].ZD*2) + newbed[I+2,J].ZD)/3;
00113      1  3      newbed[I+1,J].XD := (newbed[I-1,J].XD + (newbed[I+2,J].XD*2))/3;
00114      1  3      newbed[I+1,J].YD := (newbed[I-1,J].YD + (newbed[I+2,J].YD*2))/3;
00115      1  3      newbed[I+1,J].ZD := (newbed[I-1,J].ZD + (newbed[I+2,J].ZD*2))/3;
00116      1  2      End;
00117      1  2      I:=I+3;
00118      1  1      UNTIL I=29;
00119      0  0      END;
00120      0  0

```

```

- LINE- IDC- PL- SL-
00121      0  1 BEGIN
00122      0  1  initialise_files;
00123      0  1  file_info;
00124      0  1  finished := false;
00125      0  1  select_data;
00126      0  1  synthesis_interm;
00127      0  1  FOR I:=1 TO 28 DO
00128      0  1    FOR J:=1 TO 88 DO
00129      0  1      newbed[I,J].XD := 350 - newbed[I,J].XD;
00130      0  1  FOR I:=1 TO 28 DO
00131      0  1    FOR J:=1 TO 88 DO
00132      0  1      WRITELN(outfile,newbed[I,J].XD:8:2,newbed[I,J].YD:8:2,newbed[I,J].ZD:8:2);
00133      0  1
00134      0  1    FOR J := 1 to 25 DO
00135      0  2      Begin
00136      0  2        x :=(newbed[2,J].XD + newbed[3,J].XD)/2;
00137      0  2        y :=(newbed[2,J].YD + newbed[3,J].YD)/2;
00138      0  2        z :=(newbed[2,J].ZD + newbed[3,J].ZD)/2;
00139      0  2      WRITELN(outfile,newbed[I,J].XD:8:2,newbed[I,J].YD:8:2,newbed[I,J].ZD:8:2);
00140      0  1      End;
00141      0  0 END.
00142      0  0
  
```

PSECT SUMMARY

Name	Bytes	Attributes
\$CODE	3343	NOVEC,NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)
\$LOCAL	46914	NOVEC, WRT, RD,NOEXE,NOSHR, LCL, REL, CON, PIC,ALIGN(2)

COMMAND QUALIFIERS

```

PAS/NOOPTI/NOLIST BEDFORM/LIS
/CHECK=( BOUNDS, NOCASE_SELECTORS, NOOVERFLOW, NOPOINTERS, NOSUBRANGE)
/DEBUG=( NOSYMBOLS, TRACEBACK)
/SHOW=( DICTIONARY, INCLUDE, NOINLINE, HEADER, SOURCE, STATISTICS, TABLE_OF_CONTENTS)
/NOOPTIMIZE
/STANDARD=NONE
/TERMINAL=( NOFILE_NAME, NOROUTINE_NAME, NOSTATISTICS)
/USAGE=( NOUNUSED, UNINITIALIZED, NOUNCERTAIN)
/NOANALYSIS_DATA
/NOENVIRONMENT
/LIST=ERTH$:[2160.SEDTRANS]BEDFORM.LIS;1
/OBJECT=ERTH$:[2160.SEDTRANS]BEDFORM.OBJ;1
  
```

SAS Program for plotting 3D Bed Morphology Diagram (Written by J.A.FENTON)

```
LIBNAME T'ERTH$:[2160.SEDTRANS]';
DATA BED;
  SET T.RIVDAT;
  Y = 1000 - Y;

PROC G3GRID DATA=BED OUT=SHAPE;
  GRID X*Y=Z/AXIS1 = 0 TO 350 BY 10
        AXIS2 = 0 TO 1000 BY 10
        JOIN;
RUN;

FILENAME SASQMS '['SASQMS.DAT';
COPTIONS HPOS=80 VPOS=60 DEVICE=QMS CHARACTERS NODASH NOFILL;
TITLE1 F=TRIPLEX H=3.5 'BED MORPHOLOGY STUDY ';
TITLE2 H=1 ' ';
TITLE3 F=TRIPLEX H=2 '3D DIAGRAM OF STUDY AREA ON 14/4/88';

DATA ANNO;
  LENGTH FUNCTION $ 8;
  RETAIN XSYS '2' YSYS '2' ZSYS '2';
  INPUT FUNCTION $ X Y Z LINE ANGLE STYLE $ SIZE POSITION $ TEXT $ CHAR30.;
  CARDS;
SYMBOL 15 30 4.5 . 0 SPECIAL 3.0 B M
SYMBOL 330 970 4.5 . 0 SPECIAL 3.0 B K
LABEL 275 0 -1.6 . 5 TRIPLEX 1.5 B 50m
LABEL 362 800 6.5 . -75 TRIPLEX 1.5 B 100m
MOVE 250 0 -1.2 . . . . .
DRAW 250 0 -1.0 1 . . . . .
DRAW 300 0 -1.0 1 . . . . .
DRAW 300 0 -1.2 1 . . . . .
MOVE 360 800 6.0 . . . . .
DRAW 350 800 6.0 1 . . . . .
DRAW 350 900 6.0 1 .
DRAW 360 900 6.0 1 .
MOVE 355 0 4.5 .
DRAW 358 0 4.5 1 .
MOVE 355 0 4.0 .
DRAW 362 0 4.0 1 . . . . .
LABEL 365 0 4.0 . 0 TRIPLEX 1.5 C 4.0m
MOVE 355 0 3.5 . . . . .
DRAW 358 0 3.5 1
MOVE 355 0 3.0 .
DRAW 362 0 3.0 1 . . . . .
LABEL 365 0 3.0 . 0 TRIPLEX 1.5 C 3.0m
MOVE 355 0 2.5 .
DRAW 358 0 2.5 1
MOVE 355 0 2.0 . . . . .
DRAW 362 0 2.0 1 . . . . .
LABEL 365 0 2.0 . 0 TRIPLEX 1.5 C 2.0m
LABEL 350 300 6.0 . -75 TRIPLEX 1.5 A FLOW DIRECTION
LABEL 350 300 6.0 . -75 MATH 4.0 C g

RUN;

PROC G3D DATA=SHAPE;
  PLOT Y*X=Z/SIDE
        CTOP = BLACK
        CBOTTOM = ROSE
        TILT = 20
        ROTATE =5
        NOAXIS
        ANNOTATE = ANNO;

RUN;
```

SAS Program for Contour Plot of Bed Morphology Diagram
(Written by J.A.FENTON).

```
LIBNAME T'ERTH$:[2160.SEDTRANS]';
DATA BED;
  SET T.RIVDAT;
```

Appendix 6.6 (1 of 1)

```
PROC G3GRID DATA=BED OUT=SHAPE;
  GRID X*Y=Z/AXIS1 = 0 TO 350 BY 10
      AXIS2 = 0 TO 1000 BY 10
      JOIN;
```

```
RUN;
```

```
FILENAME SASQMS '[]SASQMS.DAT';
GOPTIONS HPOS=80 VPOS=60 DEVICE=QMS CHARACTERS NODASH NOFILL;
TITLE F=TRIPLEX H=2 'CONTOUR DIAGRAM OF STUDY AREA ON 14/4/88';
FOOTNOTE1 F=TRIPLEX H=1.5 'Contours in meters above W.C.B survey datum.';
```

```
DATA ANNO;
  LENGTH FUNCTION $ 8.;
  RETAIN XSYS '2' YSYS '2';
  INPUT FUNCTION $ X Y LINE STYLE $ ANGLE SIZE POSITION $ TEXT $ CHAR30.;
  CARDS;
```

```
LABEL 260 298 . TRIPLEX 90 1.5 B 50m
LABEL 320 325 . TRIPLEX 0 1.5 B 100m
SYMBOL 970 15 . SPECIAL . 3.0 B M
SYMBOL 30 330 . SPECIAL . 3.0 B K
LABEL 350 156 . TRIPLEX 0 1.5 A FLOW DIRECTION
LABEL 350 156 . MATH 0 3.5 C g
MOVE 270 323 . . . .
DRAW 270 270 1 .
MOVE 370 323 . . . .
DRAW 370 320 1
MOVE 265 320
DRAW 370 320 1 .
MOVE 265 270
DRAW 270 270 1 .
LABEL 100 76 . TRIPLEX 0 1.5 B 3.0
LABEL 150 68 . TRIPLEX 45 1.5 B 2.5
LABEL 175 62 . TRIPLEX 0 1.5 B 2.0
LABEL 185 53 . TRIPLEX 0 1.5 B 1.5
LABEL 200 136 . TRIPLEX 0 1.5 B 2.5
LABEL 150 180 . TRIPLEX -20 1.5 B 2.0
LABEL 120 210 . TRIPLEX 0 1.5 B 1.5
LABEL 430 68 . TRIPLEX 60 1.5 B 0.5
LABEL 940 290 . TRIPLEX 0 1.5 B 1.0
LABEL 800 284 . TRIPLEX 20 1.5 B 3.0
LABEL 825 297 . TRIPLEX 20 1.5 B 3.5
LABEL 850 311 . TRIPLEX 20 1.5 B 4.0
LABEL 875 333 . TRIPLEX 0 1.5 B 4.5
LABEL 860 60 . TRIPLEX 10 1.5 B 0.5
```

```
,
RUN;
```

```
PROC GCONTOUR DATA=SHAPE;
  PLOT X*Y=Z/LEVELS = 0 TO 4.5 BY 0.5
      LLEVELS = 2 8 3 9 4 15 25 22 10 1
      NOAXIS
      NOLEGEND
      ANNOTATE = ANNO;
```

```
RUN;
```

-LINE-IDC-PL-SL-

```
00001 0 0 PROGRAM Grain_size (input,output, infile, outfile1, outfile2);
00002 0 0
00003 C 0 0 {*****}
00004 C 0 0 { This program accepts phi size data from sieve analysis and calculates }
00005 C 0 0 { the following grain size parameters; Mean, sorting, skewness, kurtosis }
00006 C 0 0 { by both the graphical and moment method, D65, D35, median, C, and }
00007 C 0 0 { percentages of gravel sand and silt. Results are placed in two files, }
00008 C 0 0 { one with a full listing of results, while the other contains raw data }
00009 C 0 0 { for future analysis. Written by J.A.FENTON August 1988. }
00010 C 0 0 {*****}
00011 0 0
00012 0 0 VAR
00013 0 0     outfile1,outfile2, infile          text;
00014 0 0     start,st, phiint,totwgt,gravel,
00015 0 0         sand, silt, diffphi, sf, momean,
00016 0 0         modev, sdevm,summodev, moskew,
00017 0 0         summoskew, skewm, mokurt, summokurt,
00018 0 0         kurtm, gmean, gsort, gskew,
00019 0 0         gkurt, sumfm, fm                real;
00020 0 0     info,numphi,I,K, prior, reqpct     integer;
00021 0 0     reply                                char;
00022 0 0     phiperct                             array [1..24] of real;
00023 0 0     phisize, cumfreq                     ARRAY [0..30] of real;
00024 0 0         cumwgt,intpercent,midpt       : ARRAY [1..30] of real;
00025 0 0         header                       : PACKED ARRAY [1..40] of char;
00026 0 0     found,stop    boolean;
00027 0 0     percentile                          ARRAY [1..24] of integer;
00028 0 0 Value percentile := (1,3,5,10,15,16,20,25,30,35,40,45,50,55,60,
00029 0 0                     65,70,75,80,84,85,90,95,97);
00030 0 0
00031 C 0 0 {*****}
00032 C 0 0 {***           Application Program           ***}
00033 C 0 0 {*****}
00034 0 0
00035 1 0 PROCEDURE initialise_files;
00036 1 1     BEGIN
00037 1 1         WRITELN(output);
00038 1 1         WRITELN(output,'DETAILED INFORMATION PUT IN SURF_GS.TXT');
00039 1 1         OPEN(outfile1,'SURF_GS.TXT', HISTORY := OLD);
00040 1 1         EXTEND(outfile1);
```

-LINE-IDC-PL-SL-

```

00041 1 1      WRITELN(output);
00042 1 1      WRITELN(output,'RAW DATA PUT IN SURF_GS.DAT');
00043 1 1      OPEN(outfile2,'SURF_GS.DAT', HISTORY := OLD);
00044 1 1      EXTEND(outfile2);
00045 1 1      WRITELN(output);
00046 0 0      END;
00047 0 0
00048 1 0  PROCEDURE file_info;
00049 1 1      BEGIN
00050 1 1      WRITELN(output);
00051 1 1      WRITE(output,'SAMPLE ID :');
00052 1 2      FOR info := 1 TO 40 DO Begin
00053 1 2          IF EOLN(INPUT) THEN header[info] := ' '
00054 1 2          ELSE READ(input, header[info]);
00055 1 1      END;
00056 1 1      WRITELN(outfile1, header);
00057 1 1      WRITELN(outfile1);
00058 1 1      WRITELN(outfile2, header);
00059 0 0      END;
00060 0 0
00061 1 0  PROCEDURE sieve_results;
00062 1 0
00063 1 1      BEGIN
00064 1 1      WRITELN(output);
00065 1 1      WRITE(output,'Total sample weight :');
00066 1 1      READLN(input, totwgt);
00067 1 1      WRITELN(output);
00068 1 1      WRITE(output,'Number of Phi intervals :');
00069 1 1      READLN(input, numphi);
00070 1 1      WRITELN(output);
00071 1 1      WRITE(output, 'Starting Phi Value :');
00072 1 1      READLN(input, start);
00073 1 1      WRITELN(output);
00074 1 1      st := start;
00075 1 1      FOR I:= 1 to numphi DO
00076 1 2          Begin
00077 1 2              WRITE(output,'Cumulative Wgt at ',start:8:2,' Phi :');
00078 1 2              READLN(input, cumwgt[I]);
00079 1 2              IF I > 1 THEN
00080 1 3                  Begin

```

01

Source Listing

13-Mar-1989 20:48:12

ERTH\$:[2160.SURFSEDS]GSIIZE.PAS;72 (1)

-LINE-IDC-PL-SL-

```

00081      1  3      IF (cumwgt[I] < cumwgt[I-1]) THEN
00082      1  4          Begin
00083      1  4              WHILE cumwgt[I] < cumwgt[I-1] Do
00084      1  5                  Begin
00085      1  5                      WRITELN(output,
00086      1  5                          'ERROR :- Cumulative weights must increase!!');
00087      1  5                      WRITE(output,
00088      1  5                          'PLEASE Re-enter cumulative Wgt at ',start:8:2,' Phi :');
00089      1  5                      READLN(input, cumwgt[I]);
00090      1  4                  End;
00091      1  3          End;
00092      1  3      If cumwgt[I] > totwgt THEN
00093      1  4          Begin
00094      1  4              WHILE cumwgt[I] > totwgt DO
00095      1  5                  Begin
00096      1  5                      WRITELN(output,
00097      1  5                          '"MAJOR MALFUNCTION" :- Weights can not be greater than the total !!');
00098      1  5                      WRITE(output,
00099      1  5                          'PLEASE Re-enter cumulative Wgt at ',start:8:2,' Phi :');
00100      1  5                      READLN(input, cumwgt[I]);
00101      1  4                  End;
00102      1  3          End;
00103      1  2          End;
00104      1  2              phisize[I] := start;
00105      1  2              start := start + phiint;
00106      1  2              WRITELN(output);
00107      1  1          End;
00108      0  0      END;
00109      0  0
00110      1  0      PROCEDURE percent_calc;
00111      1  0
00112      1  1          BEGIN
00113      1  1              gravel:=0;
00114      1  1              FOR I := 1 TO numphi DO
00115      1  2                  Begin
00116      1  2                      IF I > 1 THEN
00117      1  2                          intpercent[I] := ((cumwgt[I]-cumwgt[I-1])/totwgt)*100
00118      1  2                      ELSE
00119      1  2                          intpercent[I] := (cumwgt[I]/totwgt)*100;
00120      1  2                          cumfreq[I] := (cumwgt[I]/totwgt)*100;

```

```

01          Source Listing
-LINE-IDC-PL-SL-
00121      1 2          IF phisize[I] = -1 THEN gravel := cumfreq[I];
00122      1 2          IF phisize[I] = 4 THEN sand := cumfreq[I] - gravel;
00123      1 2          midpt[I] := phisize[I] - (phiint/2);
00124      1 2          fm := midpt[I] * intpercent[I];
00125      1 2          sumfm := sumfm + fm;
00126      1 1          End;
00127      1 1          IF phisize[I] < 4 THEN sand := cumfreq[I] - gravel;
00128      1 1          IF (sand+gravel) < 100 THEN silt := 100 - (sand+gravel);
00129      1 1          momean := sumfm/100;
00130      0 0          END;
00131      0 0
00132      0 0
00133      1 0          PROCEDURE moments;
00134      1 0
00135      1 1          BEGIN
00136      1 1          FOR I:= 1 TO numphi DO
00137      1 2          Begin
00138      1 2          modev := ((midpt[I] - momean)**2)*intpercent[I];
00139      1 2          summodev := summodev + modev;
00140      1 2          moskew := ((midpt[I] - momean)**3)*intpercent[I];
00141      1 2          summoskew := summoskew + moskew;
00142      1 2          mokurt := ((midpt[I] - momean)**4)*intpercent[I];
00143      1 2          summokurt := summokurt + mokurt;
00144      1 1          End;
00145      1 1          sdevm := sqrt(summodev/100);
00146      1 1          skewm := summoskew/(100*(sdevm**3));
00147      1 1          kurtm := summokurt/(100*(sdevm**4));
00148      0 0          END;
00149      0 0
00150      0 0
00151      1 0          PROCEDURE graphics;
00152      1 0
00153      1 1          BEGIN
00154      1 1          prior:=0;
00155      1 1          K:=1;
00156      1 1          FOR I := 1 to numphi DO
00157      1 2          Begin
00158      1 2          found := false;
00159      1 2          WHILE (K<=24) and (not found) DO
00160      1 3          Begin

```

01

Source Listing

13-Mar-1989 20:48:12

ERTH\$:[2160.SURFSEDS]GSIZE.PAS;72 (1)

-LINE-IDC-PL-SL-

```

00161      1 3      IF cumfreq[I] < percentile[K] THEN
00162      1 3          found := true;
00163      1 3      IF cumfreq[I] > percentile[K] THEN
00164      1 4      Begin
00165      1 4      If I=1 THEN
00166      1 5          Begin
00167      1 5              cumfreq[prior] := 0;
00168      1 5              phisize[prior] := phisize[I] - phiint;
00169      1 5          End
00170      1 4          ELSE
00171      1 4              prior := I-1;
00172      1 4              sf := (cumfreq[I] - cumfreq[prior])/
00173      1 4                  (phisize[I] - phisize[prior]);
00174      1 4              diffphi := (percentile[K] - cumfreq[prior])/sf;
00175      1 4              phiperct[K] := phisize[prior] + diffphi;
00176      1 4          K:=K+1;
00177      1 3      End;
00178      1 2      End;
00179      1 1      END;
00180      1 1      gmean := (phiperct[3] + phiperct[5] + phiperct[8] +
00181      1 1          phiperct[10] + phiperct[12] + phiperct[14]
00182      1 1          + phiperct[16] + phiperct[18] + phiperct[21]
00183      1 1          + phiperct[23])/10;
00184      1 1      gsort := (phiperct[17] + phiperct[19] + phiperct[22] +
00185      1 1          phiperct[24] - phiperct[2] - phiperct[4] -
00186      1 1          phiperct[7] - phiperct[9])/9.1;
00187      1 1      gskew := ((phiperct[20] + phiperct[6] - (phiperct[13]*2))/
00188      1 1          (2*(phiperct[20] - phiperct[6]))) + ((phiperct[23]
00189      1 1          + phiperct[3] - (phiperct[13]*2))/(2*(phiperct[23]
00190      1 1          - phiperct[3]));
00191      1 1      gkurt := (phiperct[23] - phiperct[3])/(2.44*(phiperct[18]
00192      1 1          - phiperct[8]));
00193      0 0      END;
00194      0 0
00195      0 0
00196      1 0      PROCEDURE write_out;
00197      1 0
00198      1 1      BEGIN
00199      1 1          WRITELN(outfile1,
00200      1 1              'start phi, phi interval, No intervals,

```

01

Source Listing

13-Mar-1989 20:48:12

ERTH\$: [2160.SURFSEDS]GSIIZE.PAS;72 (1)

-LINE-IDC-PL-SL-

```

00201 1 1 WRITELN(outfile1, st:8:2, phiint:12:2, numphi:14, totwgt:16:2);
00202 1 1 WRITELN(outfile2, st:8:2, phiint:12:2, numphi:14, totwgt:16:2);
00203 1 1 WRITELN(outfile1);
00204 1 1 WRITELN(outfile1, 'Gravel % Sand % Silt %');
00205 1 1 WRITELN(outfile1, gravel:5:2, sand:12:2, silt:8:2);
00206 1 1 WRITELN(outfile2, gravel:5:2, sand:12:2, silt:8:2);
00207 1 1 WRITELN(outfile1);
00208 1 1 WRITELN(outfile1, 'phi size cum wgt interval % cum freq');
00209 1 1 FOR I:= 1 TO numphi do
00210 1 2 Begin
00211 1 2 WRITELN(outfile1, phisize[I]:6:2, cumwgt[I]:10:2,
00212 1 2 intpercent[I]:10:2, cumfreq[I]:10:2);
00213 1 2 WRITELN(outfile2, phisize[I]:6:2, cumwgt[I]:10:2,
00214 1 2 intpercent[I]:10:2, cumfreq[I]:10:2);
00215 1 1 End;
00216 1 1
00217 1 1 WRITELN(outfile1);
00218 1 1 WRITELN(outfile1,
00219 1 1 'moment mean, sorting, skewness, kurtosis');
00220 1 1 WRITELN(outfile1, momean:10:2, sdevm:14:2, skewm:14:2, kurtm:16:2);
00221 1 1 WRITELN(outfile2, momean:10:2, sdevm:14:2, skewm:14:2, kurtm:16:2);
00222 1 1 WRITELN(outfile1);
00223 1 1 WRITELN(outfile1,
00224 1 1 'graphic mean, sorting, skewness, kurtosis');
00225 1 1 WRITELN(outfile1, gmean:10:2, gsort:14:2, gskew:14:2, gkurt:16:2);
00226 1 1 WRITELN(outfile2, gmean:10:2, gsort:14:2, gskew:14:2, gkurt:16:2);
00227 1 1 IF gsort < 0.35 THEN WRITE(outfile1, ' Very well sorted');
00228 1 1 IF (gsort > 0.35) and (gsort < 0.5) THEN
00229 1 1 WRITE(outfile1, ' Well sorted');
00230 1 1 IF (gsort > 0.5) and (gsort < 0.71) THEN
00231 1 1 WRITE(outfile1, ' Moderately well sorted');
00232 1 1 IF (gsort > 0.71) and (gsort < 1) THEN
00233 1 1 WRITE(outfile1, ' Moderately sorted');
00234 1 1 IF (gsort > 1) and (gsort < 2) THEN
00235 1 1 WRITE(outfile1, ' Poorly sorted');
00236 1 1 IF (gsort > 2) and (gsort < 4) THEN
00237 1 1 WRITE(outfile1, ' Very poorly sorted');
00238 1 1 IF gsort > 4 THEN
00239 1 1 WRITE(outfile1, ' Extremely poorly sorted');
00240 1 1 IF (gskew > 0.3) and (gskew < 1.0) THEN

```

-LINE-IDC-PL-SL-

```

00241      1 1      WRITE(outfile1,' Strongly fine-skewed');
00242      1 1      IF (gskew > 0.1) and (gskew < 0.3) THEN
00243      1 1      * WRITE(outfile1,' Fine-skewed');
00244      1 1      IF (gskew > -0.1) and (gskew < 0.1) THEN
00245      1 1      WRITE(outfile1,' Near-symmetrical');
00246      1 1      IF (gskew > -0.3) and (gskew < -0.1) THEN
00247      1 1      WRITE(outfile1,' Coarse-skewed');
00248      1 1      IF (gskew > -1) and (gskew < -0.3) THEN
00249      1 1      WRITE(outfile1,' Strongly coarse-skewed');
00250      1 1      IF gkurt < 0.67 THEN WRITELN(outfile1,' Very platykurtic');
00251      1 1      IF (gkurt > 0.67) and (gkurt < 0.9) THEN
00252      1 1      WRITELN(outfile1,' Platykurtic');
00253      1 1      IF (gkurt > 0.9) and (gkurt < 1.11) THEN
00254      1 1      WRITELN(outfile1,' Mesokurtic');
00255      1 1      IF (gkurt > 1.11) and (gkurt < 1.5) THEN
00256      1 1      WRITELN(outfile1,' Leptokurtic');
00257      1 1      IF (gkurt > 1.5) and (gkurt < 3.0) THEN
00258      1 1      WRITELN(outfile1,' Very leptokurtic');
00259      1 1      IF gkurt > 3.0 THEN WRITELN(outfile1,' Extremely leptokurtic');
00260      1 1      WRITELN(outfile
00261      1 1      WRITELN(outfile1,' D65      D35      C      Medium');
00262      1 1      WRITELN(outfile1,phiperct[16]:8:2,phiperct[10]:8:2,
00263      1 1      phiperct[1]:8:2,phiperct[13]:8:2);
00264      1 1      WRITELN(outfile2,phiperct[16]:8:2,phiperct[10]:8:2,
00265      1 1      phiperct[1]:8:2,phiperct[13]:8:2);
00266      1 1      WRITELN(outfile1);
00267      1 1      WRITELN(outfile1);
00268      0 0      END;
00269      0 0
00270      1 0 Procedure clear_var;
00271      1 1      Begin
00272      1 1      start:=0; st:=0; totwgt:=0; gravel:=0; sand:=0;
00273      1 1      silt:=0; diffphi:=0; sf:=0; momean:=0; modev:=0; sdevm:=0;
00274      1 1      summodev:=0; moskew:=0; summoskew:=0; skewm:=0; mokurt:=0;
00275      1 1      summokurt:=0; kurtm:=0; gmean:=0; gsort:=0; gskew:=0;
00276      1 1      gkurt:=0; sumfm:=0; fm:=0; info:=0; numphi:=0; I:=0; K:=0;
00277      1 1      prior:=0;
00278      1 1      For I:=1 to 24 Do
00279      1 1      phiperct[I]:=0;
00280      1 1      For I:=0 to 30 Do

```

GRAIN_SIZE

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01 Source Listing 13-Mar-1989 20:48:12 ERTH\$:[2160.SURFSEDS]GSIIZE.PAS;72 (1)

-LINE-IDC-PL-SL-

```
00281      1 2      begin
00282      1 2      phisize[I]:=0; cumfreq[I]:=0;
00283      1 1      end;
00284      1 1      For I:=1 to 30 Do
00285      1 2      begin
00286      1 2          cumwgt[I]:=0; intpercent[I]:=0; midpt[I]:=0;
00287      1 1      end;
00288      0 0      End;
00289      0 0
00290      0 1 BEGIN
00291      0 1      stop := false;
00292      0 1      initialise_files;
00293      0 1      WRITELN(output);
00294      0 1      WRITE(output,'Enter Phi interval used :');
00295      0 1      READLN(input, phiint);
00296      0 1      WRITELN(output);
00297      0 1      WRITELN(output,'This Phi interval is now fixed until program is stopped');
00298      0 1      WHILE NOT stop Do
00299      0 2          Begin
00300      0 2              file_info;
00301      0 2              sieve_results;
00302      0 2              percent_calc;
00303      0 2              moments;
00304      0 2              graphics;
00305      0 2              write_out;
00306      0 2              WRITE(output,'Input another analysis (Y/N) <Y>:');
00307      0 2              Readln(input, reply);
00308      0 2              IF (reply = 'n') or (reply = 'N') THEN Stop := true
00309      0 2              ELSE clear_var;
00310      0 1          End;
00311      0 0 END.
00312      0 0
```

GRAIN_SIZE

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01 Pascal Compilation Statistics 13-Mar-1989 20:48:12 ERTH\$:[2160.SURFSEDS]GSIZE.PAS;72 (1)

PSECT SUMMARY

Name	Bytes	Attributes
\$CODE	8994	NOVEC,NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)
\$LOCAL	1004	NOVEC, WRT, RD,NOEXE,NOSHR, LCL, REL, CON, PIC,ALIGN(2)

COMMAND QUALIFIERS

```

PAS/NOOPTI/NOLIST/LIS GSIZE
/CHECK=(BOUNDS,NOCASE_SELECTORS,NOOVERFLOW,NOPOINTERS,NOSUBRANGE)
/DEBUG=(NOSYMBOLS,TRACEBACK)
/SHOW=(DICTIONARY,INCLUDE,NOINLINE.HEADER,SOURCE,STATISTICS,TABLE_OF_CONTENTS)
/NOOPTIMIZE
/STANDARD=NONE
/TERMINAL=(NOFILE_NAME,NOROUTINE_NAME,NOSTATISTICS)
/USAGE=(NOUNUSED,UNINITIALIZED,NOUNCERTAIN)
/NOANALYSIS_DATA
/NOENVIRONMENT
/LIST=ERTH$:[2160.SURFSEDS]GSIZE.LIS;1
/OBJECT=ERTH$:[2160.SURFSEDS]GSIZE.OBJ;1
/NOCROSS_REFERENCE /ERROR_LIMIT=30 /NOG_FLOATING /NOMACHINE_CODE /NOOLD_VERSION /WARNINGS

```

COMPILER INTERNAL TIMING

Phase	Faults	CPU Time	Elapsed Time
Initialization	227	00:00.2	00:00.5
Source Analysis	407	00:00.6	00:01.2
Source Listing	13	00:00.3	00:01.0
Tree Construction	145	00:00.3	00:00.3
Flow Analysis	0	00:00.0	00:00.0
Value Propagation	0	00:00.0	00:00.0
Profit Analysis	0	00:00.0	00:00.0
Context Analysis	246	00:01.8	00:01.8
Name Packing	8	00:00.1	00:00.1
Code Selection	127	00:00.5	00:00.5
Final	85	00:00.7	00:00.8
TOTAL	1264	00:04.5	00:06.3

Appendix 6.8 : Mercer core data.

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Mercer Site 1 0-0.45m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	81.60
Gravel %	Sand %	Silt %	
7.30	92.70	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.19	0.23	0.23
-2.00	0.84	0.80	1.03
-1.50	2.14	1.59	2.62
-1.00	5.96	4.68	7.30
-0.50	12.49	8.00	15.31
0.00	19.09	8.09	23.39
0.50	29.07	12.23	35.63
1.00	41.02	14.64	50.27
1.50	56.04	18.41	68.68
2.00	71.63	19.11	87.78
2.50	78.84	8.84	96.62
3.00	80.79	2.39	99.01
3.50	81.33	0.66	99.67
4.00	81.60	0.33	100.00
moment mean,	sorting,	skewness,	kurtosis
0.81	1.13	-0.45	2.79
graphic mean,	sorting,	skewness,	kurtosis
0.81	1.13	-0.23	0.94
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.40	0.47	-2.02	0.99

Mercer site 1 0.45-0.95m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	70.15
Gravel %	Sand %	Silt %	
5.10	94.90	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.26	0.37	0.37
-2.00	0.40	0.20	0.57
-1.50	1.50	1.57	2.14
-1.00	3.58	2.97	5.10
-0.50	6.76	4.53	9.64
0.00	11.48	6.73	16.36
0.50	20.15	12.36	28.72
1.00	32.45	17.53	46.26
1.50	47.35	21.24	67.50
2.00	60.94	19.37	86.87
2.50	67.55	9.42	96.29
3.00	69.55	2.85	99.14
3.50	70.02	0.67	99.81
4.00	70.15	0.19	100.00
moment mean,	sorting,	skewness,	kurtosis
0.96	1.03	-0.61	3.45
graphic mean,	sorting,	skewness,	kurtosis
0.96	1.02	-0.18	1.05
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.44	0.68	-1.86	1.09

A6.8/2

Mercer Site 1 0.95-1.75m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	54.03
Gravel %	Sand %	Silt %	
16.77	83.23	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.88	1.63	1.63
-2.00	1.99	2.05	3.68
-1.50	4.65	4.92	8.61
-1.00	9.06	8.16	16.77
-0.50	16.05	12.94	29.71
0.00	23.60	13.97	43.68
0.50	32.57	16.60	60.28
1.00	40.60	14.86	75.14
1.50	47.06	11.96	87.10
2.00	1.56	8.33	95.43
2.50	53.20	3.04	98.46
3.00	53.81	1.13	99.59
3.50	53.97	0.30	99.89
4.00	54.03	0.11	100.00
moment mean,	sorting,	skewness,	kurtosis
0.15	1.18	-0.12	2.70
graphic mean,	sorting,	skewness,	kurtosis
0.15	1.20	-0.05	0.94
	Poorly sorted	Near-symmetrical	Mesokurtic
D65	D35	C	Medium
0.66	-0.31	-2.69	0.19

Mercer Site 1 1.75 - 2.5m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	83.91
Gravel %	Sand %	Silt %	
14.88	85.12	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.46	0.55	0.55
-2.00	1.99	1.82	2.37
-1.50	5.61	4.31	6.69
-1.00	12.49	8.20	14.88
-0.50	22.02	11.36	26.24
0.00	32.56	12.56	38.80
0.50	47.56	17.88	56.68
1.00	62.23	17.48	74.16
1.50	73.29	13.18	87.34
2.00	79.61	7.53	94.88
2.50	82.37	3.29	98.16
3.00	83.31	1.12	99.28
3.50	83.81	0.60	99.88
4.00	83.91	0.12	100.00
moment mean,	sorting,	skewness,	kurtosis
0.25	1.13	-0.09	2.77
graphic mean,	sorting,	skewness,	kurtosis
0.24	1.15	-0.08	0.96
	Poorly sorted	Near-symmetrical	Mesokurtic
D65	D35	C	Medium
0.74	-0.15	-2.38	0.31

Mercer Site 1 2.5-3.45m

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	94.85
Gravel %	Sand %	Silt %	
7.59	92.41	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.79	0.83	0.83
-1.50	2.86	2.18	3.02
-1.00	7.20	4.58	7.59
-0.50	15.75	9.01	16.61
0.00	28.50	13.44	30.05
0.50	42.90	15.18	45.23
1.00	60.06	18.09	63.32
1.50	75.92	16.72	80.04
2.00	86.62	11.28	91.32
2.50	91.83	5.49	96.82
3.00	94.04	2.33	99.15
3.50	94.61	0.60	99.75
4.00	94.85	0.25	100.00
moment mean,	sorting,	skewness,	kurtosis
0.58	1.08	-0.10	2.75
graphic mean,	sorting,	skewness,	kurtosis
0.58	1.09	-0.06	0.96
Poorly sorted		Near-symmetrical	
D65	D35	C	Medium
1.05	0.16	-1.96	0.63

Mercer Site 1 3.45-3.85m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	56.13
Gravel %	Sand %	Silt %	
4.20	95.80	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.44	0.78	0.78
-2.00	0.59	0.27	1.05
-1.50	1.12	0.94	2.00
-1.00	2.36	2.21	4.20
-0.50	4.30	3.46	7.66
0.00	6.91	4.65	12.31
0.50	11.42	8.03	20.35
1.00	19.32	14.07	34.42
1.50	31.52	21.74	56.16
2.00	45.61	25.10	81.26
2.50	53.04	13.24	94.49
3.00	55.11	3.69	98.18
3.50	55.79	1.21	99.39
4.00	56.13	0.61	100.00
moment mean,	sorting,	skewness,	kurtosis
1.19	1.05	-0.92	4.45
graphic mean,	sorting,	skewness,	kurtosis
1.19	1.00	-0.25	1.17
Poorly sorted		Coarse-skewed	
D65	D35	C	Medium
1.68	1.01	-2.10	1.36

Mercer Site 2 0-0.35m

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	72.58
Gravel %	Sand %	Silt %	
6.24	93.76	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.83	1.14	1.14
-1.50	1.92	1.50	2.65
-1.00	4.53	3.60	6.24
-0.50	8.88	5.99	12.23
0.00	15.19	8.69	20.93
0.50	27.05	16.34	37.27
1.00	46.12	26.27	63.54
1.50	61.64	21.38	84.93
2.00	70.08	11.63	96.56
2.50	72.03	2.69	99.24
3.00	72.48	0.62	99.86
3.50	72.56	0.11	99.97
4.00	72.58	0.03	100.00
moment mean,	sorting,	skewness,	kurtosis
0.63	0.92	-0.66	3.56
graphic mean,	sorting,	skewness,	kurtosis
0.63	0.91	-0.20	1.11
Moderately sorted		Coarse-skewed	
D65	D35	C	Medium
1.03	0.43	-2.06	0.74

Mercer Site 2 0.35-1.05m

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	69.92
Gravel %	Sand %	Silt %	
phi size	cum wgt	interval %	cum freq
-3.00	0.67	0.96	0.96
-2.50	0.67	0.00	0.96
-2.00	1.81	1.63	2.59
-1.50	3.84	2.90	5.49
-1.00	8.07	6.05	11.54
-0.50	14.29	8.90	20.44
0.00	21.86	10.83	31.26
0.50	32.24	14.85	46.11
1.00	44.58	17.65	63.76
1.50	56.18	16.59	80.35
2.00	65.48	13.30	93.65
2.50	68.84	4.81	98.46
3.00	69.66	1.17	99.63
3.50	69.82	0.23	99.86
4.00	69.92	0.14	100.00
moment mean,	sorting,	skewness,	kurtosis
0.47	1.16	-0.51	3.14
graphic mean,	sorting,	skewness,	kurtosis
0.49	1.16	-0.16	0.94
Poorly sorted		Coarse-skewed	
D65	D35	C	Medium
1.04	0.13	-2.49	0.61

Mercer Site 2 1.05-1.5m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	85.39
Gravel %	Sand %	Silt %	
8.02	91.98	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.11	0.13	0.13
-2.00	1.20	1.28	1.41
-1.50	3.17	2.31	3.71
-1.00	6.85	4.31	8.02
-0.50	13.11	7.33	15.35
0.00	21.09	9.35	24.70
0.50	31.83	12.58	37.28
1.00	47.49	18.34	55.62
1.50	63.75	19.04	74.66
2.00	76.88	15.38	90.03
2.50	82.82	6.96	96.99
3.00	85.03	2.59	99.58
3.50	85.34	0.36	99.94
4.00	85.39	0.06	100.00
moment mean,	sorting,	skewness,	kurtosis
0.71	1.11	-0.47	2.87
graphic mean,	sorting,	skewness,	kurtosis
0.72	1.11	-0.17	1.01
Poorly sorted		Coarse-skewed	
D65	D35	C	Medium
1.25	0.41	-2.16	0.85

Mercer Site 2 1.5-1.7m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	51.31
Gravel %	Sand %	Silt %	
13.08	86.92	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.30	0.58	0.58
-2.00	0.86	1.09	1.68
-1.50	2.71	3.61	5.28
-1.00	6.71	7.80	13.08
-0.50	12.08	10.47	23.54
0.00	17.93	11.40	34.94
0.50	25.92	15.57	50.52
1.00	34.86	17.42	67.94
1.50	41.82	13.56	81.50
2.00	46.99	10.08	91.58
2.50	49.50	4.89	96.47
3.00	50.80	2.53	99.01
3.50	51.16	0.70	99.71
4.00	51.31	0.29	100.00
moment mean,	sorting,	skewness,	kurtosis
0.42	1.20	-0.07	2.67
graphic mean,	sorting,	skewness,	kurtosis
0.43	1.20	-0.06	0.94
Poorly sorted		Near-symmetrical	
D65	D35	C	Medium
0.92	0.00	-2.31	0.48

Mercer Site 2 1.7-2.15m

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	76.32
Gravel %	Sand %	Silt %	
1.00	99.00	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.04	0.05	0.05
-1.50	0.24	0.26	0.31
-1.00	0.76	0.68	1.00
-0.50	2.29	2.00	3.00
0.00	6.51	5.53	8.53
0.50	16.01	12.45	20.98
1.00	37.14	27.69	48.66
1.50	59.60	29.43	78.09
2.00	72.13	16.42	94.51
2.50	75.22	4.05	98.56
3.00	75.91	0.90	99.46
3.50	76.25	0.45	99.91
4.00	76.32	0.09	100.00
moment mean,	sorting,	skewness,	kurtosis
0.98	0.73	-0.33	4.13
graphic mean,	sorting,	skewness,	kurtosis
0.98	0.70	-0.09	1.11
Moderately well sorted		Near-symmetrical	
D65	D35	C	Medium
1.28	0.75	-1.00	1.02

Mercer Site 2 2.15-2.65m

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	36.20
Gravel %	Sand %	Silt %	
27.40	72.60	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.16	0.44	0.44
-2.50	0.29	0.36	0.80
-2.00	1.47	3.26	4.06
-1.50	4.63	8.73	12.79
-1.00	9.92	14.61	27.40
-0.50	16.03	16.88	44.28
0.00	20.43	12.15	56.44
0.50	23.49	8.45	64.89
1.00	26.32	7.82	72.71
1.50	29.80	9.61	82.32
2.00	33.65	10.64	92.96
2.50	35.21	4.31	97.27
3.00	35.87	1.82	99.09
3.50	36.03	0.44	99.53
4.00	36.20	0.47	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.02	1.35	0.31	2.29
graphic mean,	sorting,	skewness,	kurtosis
-0.03	1.38	0.22	0.78
Poorly sorted		Fine-skewed	
D65	D35	C	Medium
0.51	-0.77	-2.47	-0.26

Mercer Site 2 2.65-3.75m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	60.82
Gravel %	Sand %	Silt %	
4.01	95.99	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.34	0.56	0.56
-2.00	0.55	0.35	0.90
-1.50	1.10	0.90	1.81
-1.00	2.44	2.20	4.01
-0.50	4.61	3.57	7.58
0.00	8.20	5.90	13.48
0.50	14.66	10.62	24.10
1.00	24.37	15.97	40.07
1.50	36.84	20.50	60.57
2.00	52.63	25.96	86.53
2.50	58.60	9.82	96.35
3.00	60.18	2.60	98.95
3.50	60.67	0.81	99.75
4.00	60.82	0.25	100.00
moment mean,	sorting,	skewness,	kurtosis
1.08	1.01	-0.84	4.13
graphic mean,	sorting,	skewness,	kurtosis
1.08	0.90	-0.25	1.08
Moderately sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.59	0.84	-1.95	1.24

Mercer Site 2 3.75-4.35m

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	50.25
Gravel %	Sand %	Silt %	
0.42	99.58	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.01	0.02	0.02
-1.50	0.06	0.09	0.11
-1.00	0.21	0.31	0.42
-0.50	0.86	1.29	1.71
0.00	2.05	2.37	4.08
0.50	5.61	7.08	11.16
1.00	12.82	14.35	25.51
1.50	22.18	18.63	44.14
2.00	36.40	28.30	72.44
2.50	45.96	19.02	91.46
3.00	49.41	6.87	98.33
3.50	50.00	1.17	99.50
4.00	50.25	0.50	100.00
moment mean,	sorting,	skewness,	kurtosis
1.51	0.82	-0.46	3.48
graphic mean,	sorting,	skewness,	kurtosis
1.52	0.81	-0.14	1.02
Moderately sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.87	1.25	-0.77	1.60

Mercer Site 2 4.35-4.8m

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	38.15
Gravel %	Sand %	Silt %	
19.42	80.58	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.19	0.50	0.50
-2.50	1.13	2.46	2.96
-2.00	1.71	1.52	4.48
-1.50	3.27	4.09	8.57
-1.00	7.41	10.85	19.42
-0.50	13.91	17.04	36.46
0.00	20.44	17.12	53.58
0.50	25.37	12.92	66.50
1.00	28.52	8.26	74.76
1.50	30.91	6.26	81.02
2.00	33.75	7.44	88.47
2.50	35.81	5.40	93.87
3.00	37.32	3.96	97.82
3.50	37.85	1.39	99.21
4.00	38.15	0.79	100.00
moment mean,	sorting,	skewness,	kurtosis
0.11	1.38	0.33	2.77
graphic mean,	sorting,	skewness,	kurtosis
0.12	1.40	0.23	1.01
Poorly sorted		Fine-skewed	Mesokurtic
D65	D35	C	Medium
0.44	-0.54	-2.90	-0.10

Mercer Site 2 4.8-5.45m

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	55.78
Gravel %	Sand %	Silt %	
0.84	99.16	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.01	0.02	0.02
-1.50	0.24	0.41	0.43
-1.00	0.47	0.41	0.84
-0.50	0.98	0.91	1.76
0.00	1.68	1.25	3.01
0.50	2.78	1.97	4.98
1.00	5.76	5.34	10.33
1.50	13.43	13.75	24.08
2.00	31.16	31.79	55.86
2.50	47.10	28.58	84.44
3.00	53.68	11.80	96.24
3.50	55.41	3.10	99.34
4.00	55.78	0.66	100.00
moment mean,	sorting,	skewness,	kurtosis
1.84	0.78	-1.14	6.21
graphic mean,	sorting,	skewness,	kurtosis
1.86	0.73	-0.12	1.22
Moderately sorted		Coarse-skewed	Leptokurtic
D65	D35	C	Medium
2.16	1.67	-0.91	1.91

Mercer site 3 0-0.7m

start phi,	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	15	93.05
Gravel %	Sand %	Silt %	
18.09	81.91	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	1.01	1.09	1.09
-2.50	3.04	2.18	3.27
-2.00	6.45	3.66	6.93
-1.50	11.53	5.46	12.39
-1.00	16.83	5.70	18.09
-0.50	24.30	8.03	26.11
0.00	33.97	10.39	36.51
0.50	47.98	15.06	51.56
1.00	65.28	18.59	70.16
1.50	77.98	13.65	83.80
2.00	86.87	9.55	93.36
2.50	90.79	4.21	97.57
3.00	92.53	1.87	99.44
3.50	92.91	0.41	99.85
4.00	93.05	0.15	100.00
moment mean,	sorting,	skewness,	kurtosis
0.25	1.32	-0.46	2.83
graphic mean,	sorting,	skewness,	kurtosis
0.25	1.33	-0.21	1.05
Poorly sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.86	-0.07	-3.04	0.45

Mercer Site 3 0.7-0.85m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	39.65
Gravel %	Sand %	Silt %	
22.62	77.38	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.20	0.50	0.50
-2.00	1.04	2.12	2.62
-1.50	3.55	6.33	8.95
-1.00	8.97	13.67	22.62
-0.50	15.23	15.79	38.41
0.00	19.68	11.22	49.63
0.50	23.18	8.83	58.46
1.00	26.25	7.74	66.20
1.50	29.79	8.93	75.13
2.00	34.05	10.74	85.88
2.50	36.97	7.36	93.24
3.00	38.95	4.99	98.23
3.50	39.38	1.08	99.32
4.00	39.65	0.68	100.00
moment mean,	sorting,	skewness,	kurtosis
0.25	1.44	0.26	2.06
graphic mean,	sorting,	skewness,	kurtosis
0.25	1.47	0.19	0.75
Poorly sorted		Fine-skewed	Platykurtic
D65	D35	C	Medium
0.92	-0.61	-2.38	0.02

Mercer site 3 0.85-2.0m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	57.27
Gravel %	Sand %	Silt %	
3.39	96.61	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.34	0.59	0.59
-1.50	0.94	1.05	1.64
-1.00	1.94	1.75	3.39
-0.50	3.77	3.20	6.58
0.00	6.82	5.33	11.91
0.50	12.63	10.14	22.05
1.00	22.73	17.64	39.69
1.50	35.64	22.54	62.23
2.00	48.59	22.61	84.84
2.50	54.46	10.25	95.09
3.00	56.57	3.68	98.78
3.50	57.05	0.84	99.62
4.00	57.27	0.38	100.00
moment mean,	sorting,	skewness,	kurtosis
1.12	0.98	-0.65	3.85
graphic mean,	sorting,	skewness,	kurtosis
1.12	0.96	-0.19	1.11
Moderately sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.56	0.87	-1.81	1.23

Mercer Site 3 2.0-2.7m

start phi,	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	15	77.32
Gravel %	Sand %	Silt %	
10.71	89.29	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.12	0.16	0.16
-2.50	0.93	1.05	1.20
-2.00	2.25	1.71	2.91
-1.50	4.20	2.52	5.43
-1.00	8.28	5.28	10.71
-0.50	15.42	9.23	19.94
0.00	23.71	10.72	30.66
0.50	33.34	12.45	43.12
1.00	45.45	15.66	58.78
1.50	58.02	16.26	75.04
2.00	68.60	13.68	88.72
2.50	74.04	7.04	95.76
3.00	76.19	2.78	98.54
3.50	76.89	0.91	99.44
4.00	77.32	0.56	100.00
moment mean,	sorting,	skewness,	kurtosis
0.60	1.25	-0.33	2.87
graphic mean,	sorting,	skewness,	kurtosis
0.60	1.25	-0.14	0.94
Poorly sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.19	0.17	-2.60	0.72

Mercer site 3 2.7-2.8m

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	47.16
Gravel %	Sand %	Silt %	
26.02	73.98	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	0.35	0.74	0.74
-3.00	0.35	0.00	0.74
-2.50	0.87	1.10	1.84
-2.00	2.32	3.07	4.92
-1.50	7.25	10.45	15.37
-1.00	12.27	10.64	26.02
-0.50	18.21	12.60	38.61
0.00	23.44	11.09	49.70
0.50	28.99	11.77	61.47
1.00	34.41	11.49	72.96
1.50	40.20	12.28	85.24
2.00	44.89	9.94	95.19
2.50	46.07	2.50	97.69
3.00	46.54	1.00	98.69
3.50	46.75	0.45	99.13
4.00	47.16	0.87	100.00
moment mean,	sorting,	skewness,	kurtosis
0.01	1.36	0.03	2.60
graphic mean,	sorting,	skewness,	kurtosis
0.00	1.37	-0.01	0.77
D65	D35	C	Medium
0.65	-0.64	-2.88	0.01

Mercer Site 3 2.8-3.5m

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	71.91
Gravel %	Sand %	Silt %	
44.65	55.35	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	0.70	0.97	0.97
-3.00	2.50	2.50	3.48
-2.50	6.12	5.03	8.51
-2.00	11.77	7.86	16.37
-1.50	21.02	12.86	29.23
-1.00	32.11	15.42	44.65
-0.50	42.80	14.87	59.52
0.00	48.72	8.23	67.75
0.50	52.93	5.85	73.61
1.00	57.63	6.54	80.14
1.50	63.04	7.52	87.67
2.00	67.35	5.99	93.66
2.50	69.10	2.43	96.09
3.00	70.47	1.91	98.00
3.50	71.39	1.28	99.28
4.00	71.91	0.72	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.54	1.57	0.47	2.66
graphic mean,	sorting,	skewness,	kurtosis
-0.55	1.59	0.24	0.92
D65	D35	C	Medium
-0.17	-1.31	-3.49	-0.82

Mercer Site 3 3.5-4.05m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	62.69
Gravel %	Sand %	Silt %	
28.90	71.10	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.40	0.64	0.64
-2.00	3.14	4.37	5.01
-1.50	9.55	10.22	15.23
-1.00	18.12	13.67	28.90
-0.50	26.03	12.62	41.52
0.00	32.99	11.10	52.62
0.50	41.60	13.73	66.36
1.00	50.70	14.52	80.87
1.50	58.05	11.72	92.60
2.00	61.29	5.17	97.77
2.50	61.99	1.12	98.88
3.00	62.30	0.49	99.38
3.50	62.54	0.38	99.76
4.00	62.69	0.24	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.15	1.21	0.12	2.39
graphic mean,	sorting,	skewness,	kurtosis
-0.15	1.23	-0.02	0.79
D65	D35	C	Medium
0.45	-0.76	-2.46	-0.12

Mercer Site 3 4.05-4.65m

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	82.67
Gravel %	Sand %	Silt %	
46.96	53.04	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	3.79	4.58	4.58
-2.50	9.64	7.08	11.66
-2.00	18.81	11.09	22.75
-1.50	29.10	12.45	35.20
-1.00	38.82	11.76	46.96
-0.50	46.94	9.82	56.78
0.00	53.76	8.25	65.03
0.50	60.73	8.43	73.46
1.00	67.15	7.77	81.23
1.50	73.51	7.69	88.92
2.00	78.79	6.39	95.31
2.50	80.33	1.86	97.17
3.00	81.36	1.25	98.42
3.50	81.85	0.59	99.01
4.00	82.67	0.99	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.63	1.60	0.39	2.41
graphic mean,	sorting,	skewness,	kurtosis
-0.66	1.63	0.15	0.81
D65	D35	C	Medium
0.00	-1.51	-3.39	-0.85

Mercer Site 3 4.65-4.8m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	47.38
Gravel %	Sand %	Silt %	
14.16	85.84	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.11	0.23	0.23
-2.00	1.31	2.53	2.76
-1.50	3.85	5.36	8.13
-1.00	6.71	6.04	14.16
-0.50	10.41	7.81	21.97
0.00	15.43	10.60	32.57
0.50	22.53	14.99	47.55
1.00	30.63	17.10	64.65
1.50	38.43	16.46	81.11
2.00	45.39	14.69	95.80
2.50	46.72	2.81	98.61
3.00	47.08	0.76	99.37
3.50	47.25	0.36	99.73
4.00	47.38	0.27	100.00
moment mean,	sorting,	skewness,	kurtosis
0.42	1.17	-0.39	2.66
graphic mean,	sorting,	skewness,	kurtosis
0.40	1.18	-0.21	0.92
Poorly sorted Coarse-skewed Mesokurtic			
D65	D35	C	Medium
1.01	0.08	-2.35	0.57

Mercer Site 3 4.8-5m

start phi,	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	15	45.98
Gravel %	Sand %	Silt %	
28.58	71.42	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	1.00	2.17	2.17
-2.50	2.38	3.00	5.18
-2.00	5.51	6.81	11.98
-1.50	9.44	8.55	20.53
-1.00	13.14	8.05	28.58
-0.50	18.50	11.66	40.23
0.00	24.26	12.53	52.76
0.50	30.75	14.11	66.88
1.00	36.99	13.57	80.45
1.50	41.67	10.18	90.63
2.00	44.99	7.22	97.85
2.50	45.60	1.33	99.17
3.00	45.82	0.48	99.65
3.50	45.90	0.17	99.83
4.00	45.98	0.17	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.23	1.35	-0.20	2.41
graphic mean,	sorting,	skewness,	kurtosis
-0.23	1.37	-0.12	0.88
Poorly sorted Coarse-skewed Platykurtic			
D65	D35	C	Medium
0.43	-0.72	-3.27	-0.11

Mercer Site 4 0-1.2m

start phi,	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	15	130.80
Gravel %	Sand %	Silt %	
16.62	83.38	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.54	0.41	0.41
-2.50	5.41	3.72	4.14
-2.00	9.34	3.00	7.14
-1.50	15.59	4.78	11.92
-1.00	21.74	4.70	16.62
-0.50	30.42	6.64	23.26
0.00	42.26	9.05	32.31
0.50	61.59	14.78	47.09
1.00	85.27	18.10	65.19
1.50	106.28	16.06	81.25
2.00	120.86	11.15	92.40
2.50	127.35	4.96	97.36
3.00	129.97	2.00	99.37
3.50	130.32	0.27	99.63
4.00	130.80	0.37	100.00
moment mean,	sorting,	skewness,	kurtosis
0.36	1.34	-0.57	2.92
graphic mean,	sorting,	skewness,	kurtosis
0.35	1.34	-0.25	1.11
Poorly sorted Coarse-skewed Mesokurtic			
D65	D35	C	Medium
0.99	0.09	-2.92	0.58

Mercer Site 4 1.2-1.55m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	68.34
Gravel %	Sand %	Silt %	
0.32	99.68	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.01	0.01	0.01
-1.50	0.10	0.14	0.15
-1.00	0.22	0.18	0.32
-0.50	0.69	0.69	1.01
0.00	1.48	1.16	2.17
0.50	5.42	5.77	7.93
1.00	17.64	17.88	25.81
1.50	39.38	31.81	57.62
2.00	58.88	28.53	86.16
2.50	66.45	11.08	97.23
3.00	67.88	2.09	99.33
3.50	68.19	0.45	99.78
4.00	68.34	0.22	100.00
moment mean,	sorting,	skewness,	kurtosis
1.36	0.65	-0.36	4.55
graphic mean,	sorting,	skewness,	kurtosis
1.36	0.63	-0.06	1.07
Moderately well sorted Near-symmetrical Mesokurtic			
D65	D35	C	Medium
1.63	1.14	-0.51	1.38

Mercer Site 4 1.55-2.0m

start phi	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	15	67.63
Gravel %	Sand %	Silt %	
22.70	77.30	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.27	0.40	0.40
-2.50	1.17	1.33	1.73
-2.00	3.18	2.97	4.70
-1.50	7.61	6.55	11.25
-1.00	15.35	11.44	22.70
-0.50	24.39	13.37	36.06
0.00	32.25	11.62	47.69
0.50	39.26	10.37	58.05
1.00	45.80	9.67	67.72
1.50	52.60	10.05	77.78
2.00	60.81	12.14	89.92
2.50	64.96	6.14	96.05
3.00	66.63	2.47	98.52
3.50	67.19	0.83	99.35
4.00	67.63	0.65	100.00
moment mean,	sorting,	skewness,	kurtosis
0.19	1.41	0.07	2.27
graphic mean,	sorting,	skewness,	kurtosis
0.19	1.44	0.06	0.79
D65	Poorly sorted	Near-symmetrical	Platykurtic
0.86	D35 C Medium		
	-0.54	-2.77	0.11

Mercer Site 4 2.0-2.1m

start phi	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	56.63
Gravel %	Sand %	Silt %	
2.72	97.28	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.04	0.07	0.07
-1.50	0.56	0.92	0.99
-1.00	1.54	1.73	2.72
-0.50	2.91	2.42	5.14
0.00	4.64	3.05	8.19
0.50	7.29	4.68	12.87
1.00	11.48	7.40	20.27
1.50	20.75	16.37	36.64
2.00	38.73	31.75	68.39
2.50	50.39	20.59	88.98
3.00	55.34	8.74	97.72
3.50	56.38	1.84	99.56
4.00	56.63	0.44	100.00
moment mean,	sorting,	skewness,	kurtosis
1.54	0.96	-1.10	4.55
graphic mean,	sorting,	skewness,	kurtosis
1.55	0.91	-0.26	1.36
D65	Moderately sorted	Coarse-skewed	Leptokurtic
1.95	D35 C Medium		
	1.45	-1.50	1.71

Mercer site 4 2.1-3.0m

start phi	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	56.12
Gravel %	Sand %	Silt %	
14.50	85.50	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.43	0.77	0.77
-2.00	1.51	1.92	2.69
-1.50	3.80	4.08	6.77
-1.00	8.14	7.73	14.50
-0.50	13.54	9.62	24.13
0.00	21.10	13.47	37.60
0.50	30.32	16.43	54.03
1.00	36.67	11.32	65.34
1.50	41.46	8.54	73.88
2.00	47.21	10.25	84.12
2.50	53.63	11.44	95.56
3.00	55.40	3.15	98.72
3.50	55.95	0.98	99.70
4.00	56.12	0.30	100.00
moment mean,	sorting,	skewness,	kurtosis
0.46	1.32	-0.03	2.33
graphic mean,	sorting,	skewness,	kurtosis
0.46	1.35	0.05	0.85
D65	Poorly sorted	Near-symmetrical	Platykurtic
0.98	D35 C Medium		
	-0.10	-2.44	0.38

Mercer Site 4 3.05-3.45m

start phi	phi interval,	No intervals,	total wgt(g)
-1.50	0.50	12	14.73
Gravel %	Sand %	Silt %	
6.92	93.08	0.00	
phi size	cum wgt	interval %	cum freq
-1.50	0.68	4.62	4.62
-1.00	1.02	2.31	6.92
-0.50	2.01	6.72	13.65
0.00	2.98	6.59	20.23
0.50	4.17	8.08	28.31
1.00	5.27	7.47	35.78
1.50	6.34	7.26	43.04
2.00	7.55	8.21	51.26
2.50	9.11	10.59	61.85
3.00	10.81	11.54	73.39
3.50	11.63	5.57	78.95
4.00	14.73	21.05	100.00
moment mean,	sorting,	skewness,	kurtosis
1.66	1.68	-0.37	1.99
graphic mean,	sorting,	skewness,	kurtosis
1.65	1.75	-0.20	0.76
D65	Poorly sorted	Coarse-skewed	Platykurtic
2.64	D35 C Medium		
	0.95	-1.89	1.92

Mercer Site 4 3.45-4.0m

start phi,	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	15	64.26
Gravel %	Sand %	Silt %	
22.02	77.98	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.58	0.90	0.90
-2.50	2.04	2.27	3.17
-2.00	3.58	2.40	5.57
-1.50	8.13	7.08	12.65
-1.00	14.15	9.37	22.02
-0.50	20.96	10.60	32.62
0.00	28.12	11.14	43.76
0.50	36.88	13.63	57.39
1.00	46.04	14.25	71.65
1.50	54.90	13.79	85.43
2.00	61.84	10.80	96.23
2.50	63.18	2.09	98.32
3.00	63.73	0.86	99.18
-3.50	63.99	0.40	99.58
4.00	64.26	0.42	100.00
moment mean,	sorting,	skewness,	kurtosis
0.11	1.31	-0.24	2.61
graphic mean,	sorting,	skewness,	kurtosis
0.10	1.33	-0.14	0.84
	Poorly sorted	Coarse-skewed	Platykurtic
D65	D35	C	Medium
0.77	-0.39	-2.98	0.23

Mercer Site 4 4.0-4.35m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	80.58
Gravel %	Sand %	Silt %	
7.81	92.19	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.41	0.51	0.51
-2.00	0.88	0.58	1.09
-1.50	2.60	2.13	3.23
-1.00	6.29	4.58	7.81
-0.50	12.08	7.19	14.99
0.00	21.39	11.55	26.55
0.50	36.59	18.86	45.41
1.00	55.08	22.95	68.35
1.50	70.11	18.65	87.01
2.00	78.39	10.28	97.28
2.50	79.68	1.60	98.88
3.00	80.13	0.56	99.44
3.50	80.48	0.43	99.88
4.00	80.58	0.12	100.00
moment mean,	sorting,	skewness,	kurtosis
0.50	0.97	-0.45	3.50
graphic mean,	sorting,	skewness,	kurtosis
0.50	0.94	-0.16	1.05
	Moderately sorted	Coarse-skewed	Meokurtic
D65	D35	C	Medium
0.93	0.22	-2.08	0.60

Mercer Site 4 4.35-4.65m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	61.05
Gravel %	Sand %	Silt %	
32.78	67.22	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	1.36	2.23	2.23
-2.00	2.87	2.47	4.70
-1.50	9.02	10.07	14.77
-1.00	20.01	18.00	32.78
-0.50	30.06	16.46	49.24
0.00	36.56	10.65	59.89
0.50	41.88	8.71	68.60
1.00	47.55	9.29	77.89
1.50	52.65	8.35	86.24
2.00	56.65	6.55	92.79
2.50	58.29	2.69	95.48
3.00	59.57	2.10	97.58
3.50	60.30	1.20	98.77
4.00	61.05	1.23	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.15	1.39	0.57	2.79
graphic mean,	sorting,	skewness,	kurtosis
-0.15	1.41	0.30	0.87
	Poorly sorted	Strongly fine-skewed	Platykurtic
D65	D35	C	Medium
0.29	-0.93	-2.78	-0.46

Mercer Site 4 4.65-5.2m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	68.69
Gravel %	Sand %	Silt %	
10.38	89.62	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.82	1.19	1.19
-1.50	2.78	2.85	4.05
-1.00	7.13	6.33	10.38
-0.50	14.50	10.73	21.11
0.00	27.18	18.46	39.57
0.50	46.95	28.78	68.35
1.00	60.05	19.07	87.42
1.50	64.79	6.90	94.32
2.00	66.70	2.78	97.10
2.50	67.51	1.18	98.28
3.00	68.12	0.89	99.17
3.50	68.42	0.44	99.61
4.00	68.69	0.39	100.00
moment mean,	sorting,	skewness,	kurtosis
0.15	0.92	0.27	4.35
graphic mean,	sorting,	skewness,	kurtosis
0.13	0.88	-0.08	1.17
	Moderately sorted	Near-symmetrical	Leptokurtic
D65	D35	C	Medium
0.44	-0.12	-2.08	0.18

Mercer Site 4 5.2-5.3m (Unit only 82% sand)

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	51.90
Gravel %	Sand %	Silt %	
1.62	98.38	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.42	0.81	0.81
-1.50	0.59	0.33	1.14
-1.00	0.84	0.48	1.62
-0.50	1.14	0.58	2.20
0.00	1.85	1.37	3.56
0.50	4.88	5.84	9.40
1.00	15.13	19.75	29.15
1.50	26.16	21.25	50.40
2.00	35.46	17.92	68.32
2.50	43.85	16.17	84.49
3.00	48.17	8.32	92.81
3.50	50.55	4.59	97.40
4.00	51.90	2.60	100.00
moment mean,	sorting,	skewness,	kurtosis
1.54	0.99	-0.34	4.34
graphic mean,	sorting,	skewness,	kurtosis
1.57	0.95	0.11	0.97
	Moderately sorted	Fine-skewed	Mesokurtic
D65	D35	C	Medium
1.91	1.14	-1.71	1.49

Mercer Site 5 0-0.25m

start phi,	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	15	77.79
Gravel %	Sand %	Silt %	
7.21	92.79	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.28	0.36	0.36
-2.50	0.39	0.14	0.50
-2.00	0.99	0.77	1.27
-1.50	2.58	2.04	3.32
-1.00	5.61	3.90	7.21
-0.50	10.32	6.05	13.27
0.00	16.53	7.98	21.25
0.50	27.40	13.97	35.22
1.00	39.90	16.07	51.29
1.50	50.14	13.16	64.46
2.00	68.64	23.78	88.24
2.50	75.23	8.47	96.71
3.00	77.38	2.76	99.47
3.50	77.77	0.50	99.97
4.00	77.79	0.03	100.00
moment mean,	sorting,	skewness,	kurtosis
	1.13	-0.64	3.17
graphic mean,	sorting,	skewness,	kurtosis
0.85	1.12	-0.18	0.95
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.51	0.49	-2.18	0.96

Mercer Site 5 0.25-1.05m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	97.16
Gravel %	Sand %	Silt %	
8.68	91.32	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	1.95	2.01	2.01
-1.50	4.21	2.33	4.33
-1.00	8.43	4.34	8.68
-0.50	14.29	6.03	14.71
0.00	23.44	9.42	24.13
0.50	39.50	16.53	40.65
1.00	59.82	20.91	61.57
1.50	77.00	17.68	79.25
2.00	90.11	13.49	92.74
2.50	95.13	5.17	97.91
3.00	96.67	1.59	99.50
3.50	96.99	0.33	99.83
4.00	97.16	0.17	100.00
moment mean,	sorting,	skewness,	kurtosis
0.62	1.07	-0.47	3.15
graphic mean,	sorting,	skewness,	kurtosis
0.63	1.08	-0.14	1.10
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.10	0.33	-2.25	0.72

Mercer Site 5 1.05-1.7m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	123.86
Gravel %	Sand %	Silt %	
16.93	83.07	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	1.02	0.82	0.82
-2.00	5.19	3.37	4.19
-1.50	11.97	5.47	9.66
-1.00	20.97	7.27	16.93
-0.50	32.19	9.06	25.99
0.00	47.45	12.32	38.31
0.50	67.47	16.16	54.47
1.00	88.84	17.25	71.73
1.50	105.20	13.21	84.93
2.00	115.93	8.66	93.60
2.50	120.78	3.92	97.51
3.00	122.78	1.61	99.13
3.50	123.49	0.57	99.70
4.00	123.86	0.30	100.00
moment mean,	sorting,	skewness,	kurtosis
0.27	1.23	-0.17	2.69
graphic mean,	sorting,	skewness,	kurtosis
0.26	1.24	-0.12	1.00
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.81	-0.13	-2.47	0.36

Mercer Site 5 1.7-2.1m

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	87.78
Gravel %	Sand %	Silt %	
26.43	73.57	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	1.23	1.40	1.40
-2.50	3.02	2.04	3.44
-2.00	6.12	3.53	6.97
-1.50	13.71	8.65	15.62
-1.00	23.20	10.81	26.43
-0.50	32.14	10.18	36.61
0.00	44.06	13.58	50.19
0.50	64.83	23.66	73.86
1.00	80.36	17.69	91.55
1.50	83.27	3.32	94.86
2.00	86.09	3.21	98.07
2.50	87.24	1.31	99.38
3.00	87.69	0.51	99.90
3.50	87.77	0.09	99.99
4.00	87.78	0.01	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.24	1.14	-0.31	2.96
graphic mean,	sorting,	skewness,	kurtosis
-0.24	1.15	-0.25	0.97
Poorly sorted Coarse-skewed Mesokurtic			
D65	D35	C	Medium
0.31	-0.58	-3.14	-0.01

Mercer Site 5 2.1-2.35m

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	75.98
Gravel %	Sand %	Silt %	
3.54	96.46	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.30	0.39	0.39
-2.50	0.39	0.12	0.51
-2.00	0.69	0.39	0.91
-1.50	1.36	0.88	1.79
-1.00	2.69	1.75	3.54
-0.50	5.09	3.16	6.70
0.00	10.36	6.94	13.64
0.50	21.32	14.42	28.06
1.00	37.88	21.80	49.86
1.50	57.89	26.34	76.19
2.00	71.19	17.50	93.70
2.50	74.03	3.74	97.43
3.00	75.01	1.29	98.72
3.50	75.43	0.55	99.28
4.00	75.98	0.72	100.00
moment mean,	sorting,	skewness,	kurtosis
0.90	0.93	-0.68	5.25
graphic mean,	sorting,	skewness,	kurtosis
0.90	0.88	-0.16	1.11
Moderately sorted Coarse-skewed Leptokurtic			
D65	D35	C	Medium
1.29	0.66	-1.95	1.00

Mercer Site 5 2.35-2.5m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	82.37
Gravel %	Sand %	Silt %	
28.82	71.18	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.41	0.50	0.50
-2.00	0.77	0.44	0.93
-1.50	11.61	13.16	14.09
-1.00	23.74	14.73	28.82
-0.50	37.65	16.89	45.71
0.00	50.99	16.20	61.90
0.50	62.82	14.36	76.27
1.00	70.20	8.96	85.23
1.50	75.10	5.95	91.17
2.00	79.06	4.81	95.98
2.50	80.67	1.95	97.94
3.00	81.51	1.02	98.96
3.50	81.95	0.53	99.49
4.00	82.37	0.51	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.23	1.16	0.67	3.25
graphic mean,	sorting,	skewness,	kurtosis
-0.25	1.15	0.15	0.97
Poorly sorted Fine-skewed Mesokurtic			
D65	D35	C	Medium
0.11	-0.82	-2.00	-0.37

Mercer Site 5 2.5-3.4m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	66.26
Gravel %	Sand %	Silt %	
11.47	88.53	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.36	0.54	0.54
-2.00	0.76	0.60	1.15
-1.50	3.53	4.18	5.33
-1.00	7.60	6.14	11.47
-0.50	15.56	12.01	23.48
0.00	26.95	17.19	40.67
0.50	42.00	22.71	63.39
1.00	55.39	20.21	83.59
1.50	62.01	9.99	93.59
2.00	64.75	4.14	97.72
2.50	65.50	1.13	98.85
3.00	65.95	0.68	99.53
3.50	66.14	0.29	99.82
4.00	66.26	0.18	100.00
moment mean,	sorting,	skewness,	kurtosis
0.15	0.96	-0.05	3.50
graphic mean,	sorting,	skewness,	kurtosis
0.15	0.95	-0.10	1.06
Moderately sorted Near-symmetrical Mesokurtic			
D65	D35	C	Medium
0.54	-0.17	-2.12	0.21

Mercer Site 5 3.4-3.8m

start phi,	phi interval,	No intervals,	total wgt(g)
-3.50	0.50	16	107.28
Gravel %	Sand %	Silt %	
23.49	76.51	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	2.03	1.89	1.89
-3.00	3.67	1.53	3.42
-2.50	4.75	1.01	4.43
-2.00	7.54	2.60	7.03
-1.50	15.60	7.51	14.54
-1.00	25.20	8.95	23.49
-0.50	36.87	10.88	34.37
0.00	49.92	12.16	46.53
0.50	67.57	16.45	62.98
1.00	85.43	16.65	79.63
1.50	96.40	10.23	89.86
2.00	103.44	6.56	96.42
2.50	105.35	1.78	98.20
3.00	106.35	0.93	99.13
3.50	106.92	0.53	99.66
4.00	107.28	0.34	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.06	1.34	-0.40	3.26
graphic mean,	sorting,	skewness,	kurtosis
-0.05	1.34	-0.16	0.98
Poorly sorted		Coarse-skewed	
D65	D35	C	Medium
0.56	-0.47	-3.74	0.11

Mercer Site 5 3.8-4.2m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	106.85
Gravel %	Sand %	Silt %	
15.79	84.21	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	3.20	2.99	2.99
-1.50	8.90	5.33	8.33
-1.00	16.87	7.46	15.79
-0.50	27.27	9.73	25.52
0.00	40.32	12.21	37.74
0.50	64.27	22.41	60.15
1.00	79.18	13.95	74.10
1.50	90.03	10.15	84.26
2.00	99.51	8.87	93.13
2.50	105.29	5.4	98.54
3.00	106.22	0.87	99.41
3.50	106.60	0.36	99.77
4.00	106.85	0.23	100.00
moment mean,	sorting,	skewness,	kurtosis
0.25	1.17	-0.05	2.64
graphic mean,	sorting,	skewness,	kurtosis
0.25	1.19	-0.03	1.04
Poorly sorted		Near-symmetrical	
D65	D35	C	Medium
0.67	-0.11	-2.33	0.27

Mercer Site 5 4.2-4.7m

start phi,	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	15	85.08
Gravel %	Sand %	Silt %	
3.36	96.64	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.58	0.68	0.68
-2.50	1.08	0.59	1.27
-2.00	1.36	0.33	1.60
-1.50	2.06	0.82	2.42
-1.00	2.86	0.94	3.36
-0.50	3.99	1.33	4.69
0.00	6.10	2.48	7.17
0.50	10.36	5.01	12.18
1.00	21.54	13.14	25.32
1.50	46.03	28.78	54.10
2.00	72.02	30.55	84.65
2.50	79.21	8.45	93.10
3.00	82.38	3.73	96.83
3.50	84.11	2.03	98.86
4.00	85.08	1.14	100.00
moment mean,	sorting,	skewness,	kurtosis
1.32	0.99	-1.40	7.80
graphic mean,	sorting,	skewness,	kurtosis
1.35	0.89	-0.17	1.53
Moderately sorted		Coarse-skewed	
D65	D35	C	Medium
1.68	1.17	-2.73	1.43

(Unit only 60% sand)

start phi,	phi interval,	No intervals,	total wgt(g)
-1.00	0.50	11	60.87
Gravel %	Sand %	Silt %	
0.05	99.95	0.00	
phi size	cum wgt	interval %	cum freq
-1.00	0.03	0.05	0.05
-0.50	0.15	0.20	0.25
0.00	0.28	0.21	0.46
0.50	0.70	0.69	1.15
1.00	1.88	1.94	3.10
1.50	6.17	7.07	10.17
2.00	16.04	16.27	26.44
2.50	28.43	20.42	46.86
3.00	39.82	18.77	65.63
3.50	51.90	19.91	85.54
4.00	60.67	14.46	100.00
moment mean,	sorting,	skewness,	kurtosis
2.55	0.84	-0.46	3.03
graphic mean,	sorting,	skewness,	kurtosis
2.57	0.84	-0.05	0.86
Moderately sorted		Near-symmetrical	
D65	D35	C	Medium
2.98	2.21	0.39	2.58

Mercer Site 5 4.95-5.1m

(Unit only 89% sand)

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	67.47
Gravel %	Sand %	Silt %	
2.61	97.39	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.12	0.18	0.18
-1.50	0.44	0.47	0.65
-1.00	1.76	1.96	2.61
-0.50	2.38	0.92	3.53
0.00	4.06	2.49	6.02
0.50	7.40	4.95	10.97
1.00	15.62	12.18	23.15
1.50	34.07	27.35	50.50
2.00	50.29	24.04	74.54
2.50	59.79	14.08	88.62
3.00	64.21	6.55	95.17
3.50	66.27	3.05	98.22
4.00	67.47	1.78	100.00
moment mean,	sorting,	skewness,	kurtosis
1.48	0.94	-0.53	4.48
graphic mean,	sorting,	skewness,	kurtosis
1.49	0.92	-0.01	1.33
Moderately sorted		Near-symmetrical	Leptokurtic
D65	D35	C	Medium
1.80	1.22	-1.41	1.49

Mercer Site 6 0-0.3m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	47.64
Gravel %	Sand %	Silt %	
18.98	81.02	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.09	0.19	0.19
-2.00	0.70	1.28	1.47
-1.50	3.69	6.28	7.75
-1.00	9.04	11.23	18.98
-0.50	18.14	19.10	38.03
0.00	27.58	19.82	57.89
0.50	33.17	11.73	69.63
1.00	37.21	8.48	78.11
1.50	41.02	8.00	86.10
2.00	44.48	7.26	93.37
2.50	46.30	3.82	97.19
3.00	47.06	1.60	98.78
3.50	47.43	0.78	99.56
4.00	47.64	0.44	100.00
moment mean,	sorting,	skewness,	kurtosis
0.01	1.19	0.56	2.87
graphic mean,	sorting,	skewness,	kurtosis
0.00	1.19	0.24	0.97
Poorly sorted		Fine-skewed	Mesokurtic
D65	D35	C	Medium
0.30	-0.58	-2.18	-0.20

Mercer Site 6 0.3-0.65m

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	91.32
Gravel %	Sand %	Silt %	
6.96	93.04	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.78	0.85	0.85
-2.50	0.78	0.00	0.85
-2.00	1.70	1.01	1.86
-1.50	3.31	1.76	3.62
-1.00	6.36	3.34	6.96
-0.50	12.44	6.66	13.62
0.00	19.41	7.63	21.25
0.50	27.25	8.59	29.84
1.00	38.44	12.25	42.09
1.50	52.70	15.62	57.71
2.00	71.83	20.95	78.66
2.50	83.30	12.56	91.22
3.00	89.10	6.35	97.57
3.50	90.92	1.99	99.56
4.00	91.32	0.44	100.00
moment mean,	sorting,	skewness,	kurtosis
1.02	1.26	-0.70	3.33
graphic mean,	sorting,	skewness,	kurtosis
1.04	1.24	-0.25	0.99
Poorly sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.67	0.71	-2.43	1.25

Mercer Site 6 0.6-1.9m

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	84.38
Gravel %	Sand %	Silt %	
17.07	82.93	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	1.57	1.86	1.86
-3.00	4.04	2.93	4.79
-2.50	5.00	1.14	5.93
-2.00	6.71	2.03	7.95
-1.50	9.62	3.45	11.40
-1.00	14.40	5.66	17.07
-0.50	21.58	8.51	25.57
0.00	30.86	11.00	36.57
0.50	44.06	15.64	52.22
1.00	59.35	18.12	70.34
1.50	71.16	14.00	84.33
2.00	79.62	10.03	94.36
2.50	82.90	3.89	98.25
3.00	84.14	1.47	99.72
3.50	84.33	0.23	99.94
4.00	84.38	0.06	100.00
moment mean,	sorting,	skewness,	kurtosis
0.20	1.40	-0.81	3.55
graphic mean,	sorting,	skewness,	kurtosis
0.18	1.38	-0.26	1.20
Poorly sorted		Coarse-skewed	Leptokurtic
D65	D35	C	Medium
0.85	-0.07	-3.73	0.43

Mercer Site 6 1.9-2.25m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	67.00
Gravel %	Sand %	Silt %	
5.82	94.18	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.13	0.19	0.19
-2.00	0.36	0.34	0.54
-1.50	1.16	1.19	1.73
-1.00	3.90	4.09	5.82
-0.50	8.18	6.39	12.21
0.00	14.00	8.69	20.90
0.50	25.05	16.49	37.39
1.00	39.05	20.90	58.28
1.50	48.23	13.70	71.99
2.00	57.55	13.91	85.90
2.50	63.23	8.48	94.37
3.00	65.85	3.91	98.28
3.50	66.52	1.00	99.28
4.00	67.00	0.72	100.00
moment mean,	sorting,	skewness,	kurtosis
0.82	1.10	-0.11	2.94
graphic mean,	sorting,	skewness,	kurtosis
0.81	1.11	-0.01	1.02
Poorly sorted Near-symmetrical Mesokurtic			
D65	D35	C	Medium
1.25	0.43	-1.81	0.80

Mercer Site 6 2.25-3.2m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	49.92
Gravel %	Sand %	Silt %	
1.58	98.42	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.04	0.08	0.08
-1.50	0.26	0.44	0.52
-1.00	0.79	1.06	1.58
-0.50	1.94	2.30	3.89
0.00	4.06	4.25	8.13
0.50	10.39	12.68	20.81
1.00	20.40	20.05	40.87
1.50	31.82	22.88	63.74
2.00	42.01	20.41	84.15
2.50	47.14	10.28	94.43
3.00	49.38	4.49	98.92
3.50	49.77	0.78	99.70
4.00	49.92	0.30	100.00
moment mean,	sorting,	skewness,	kurtosis
1.17	0.88	-0.31	3.46
graphic mean,	sorting,	skewness,	kurtosis
1.17	0.88	-0.06	1.03
Moderately sorted Near-symmetrical Mesokurtic			
D65	D35	C	Medium
1.53	0.85	-1.27	1.20

Mercer Site 6 3.2-3.6m

start phi,	phi interval,	No intervals,	total wgt(g)
-3.50	0.50	16	60.56
Gravel %	Sand %	Silt %	
9.58	90.42	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	0.77	1.27	1.27
-3.00	0.98	0.35	1.62
-2.50	1.00	0.03	1.65
-2.00	1.64	1.06	2.71
-1.50	3.22	2.61	5.32
-1.00	5.80	4.26	9.58
-0.50	10.60	7.93	17.50
0.00	17.28	11.03	28.53
0.50	25.22	13.11	41.64
1.00	32.50	12.02	53.67
1.50	38.71	10.25	63.92
2.00	46.64	13.09	77.01
2.50	54.18	12.45	89.46
3.00	58.80	7.63	97.09
3.50	60.06	2.08	99.17
4.00	60.56	0.83	100.00
moment mean,	sorting,	skewness,	kurtosis
0.80	1.42	-0.49	3.20
graphic mean,	sorting,	skewness,	kurtosis
0.82	1.39	-0.05	0.87
Poorly sorted Near-symmetrical Platykurtic			
D65	D35	C	Medium
1.54	0.25	-3.61	0.85

Mercer Site 6 3.6-4.5m

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	116.88
Gravel %	Sand %	Silt %	
0.64	99.36	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.09	0.08	0.08
-1.50	0.19	0.09	0.16
-1.00	0.75	0.48	0.64
-0.50	3.24	2.13	2.77
0.00	10.98	6.62	9.39
0.50	38.10	23.20	32.60
1.00	67.00	24.73	57.32
1.50	90.27	19.91	77.23
2.00	98.86	7.35	84.58
2.50	100.03	1.00	85.58
3.00	114.32	12.23	97.81
3.50	116.20	1.61	99.42
4.00	116.88	0.58	100.00
moment mean,	sorting,	skewness,	kurtosis
1.01	0.96	0.60	3.06
graphic mean,	sorting,	skewness,	kurtosis
1.01	0.93	0.24	1.19
Moderately sorted Fine-skewed Leptokurtic			
D65	D35	C	Medium
1.19	0.55	-0.92	0.85

Mercer Site 6 4.5-5.35m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	66.04
Gravel %	Sand %	Silt %	
9.45	90.55	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.09	0.14	0.14
-2.00	0.71	0.94	1.08
-1.50	2.50	2.71	3.79
-1.00	6.24	5.66	9.45
-0.50	13.13	10.43	19.88
0.00	23.39	15.54	35.42
0.50	37.67	21.62	57.04
1.00	47.81	15.35	72.40
1.50	54.81	10.60	83.00
2.00	59.77	7.51	90.51
2.50	62.98	4.86	95.37
3.00	65.05	3.13	98.50
3.50	65.74	1.04	99.55
4.00	66.04	0.45	100.00
moment mean,	sorting,	skewness,	kurtosis
0.42	1.13	0.25	3.00
graphic mean,	sorting,	skewness,	kurtosis
0.42	1.13	0.10	1.08
Poorly sorted Near-symmetrical Mesokurtic			
D65	D35	C	Medium
0.76	-0.01	-2.04	0.34

Mercer Site 7 0-0.5m

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	70.40
Gravel %	Sand %	Silt %	
3.62	96.38	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.38	0.54	0.54
-1.50	1.28	1.28	1.82
-1.00	2.55	1.80	3.62
-0.50	4.98	3.45	7.07
0.00	9.05	5.78	12.86
0.50	16.70	10.87	23.72
1.00	28.38	16.59	40.31
1.50	42.69	20.33	60.64
2.00	60.55	25.37	86.01
2.50	68.70	11.58	97.59
3.00	70.10	1.99	99.57
3.50	70.33	0.33	99.90
4.00	70.40	0.10	100.00
moment mean,	sorting,	skewness,	kurtosis
1.08	0.96	-0.82	3.71
graphic mean,	sorting,	skewness,	kurtosis
1.09	0.95	-0.24	1.05
Moderately sorted Coarse-skewed Mesokurtic			
D65	D35	C	Medium
1.59	0.84	-1.82	1.24

Mercer Site 7 0.5-0.95m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	117.35
Gravel %	Sand %	Silt %	
9.65	90.35	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	2.75	2.34	2.34
-2.00	4.35	1.36	3.71
-1.50	6.86	2.14	5.85
-1.00	11.33	3.81	9.65
-0.50	18.73	6.31	15.96
0.00	29.43	9.12	25.08
0.50	47.40	15.31	40.39
1.00	71.85	20.84	61.23
1.50	93.23	18.22	79.45
2.00	109.10	13.52	92.97
2.50	115.29	5.27	98.24
3.00	117.05	1.50	99.74
3.50	117.26	0.18	99.92
4.00	117.35	0.08	100.00
moment mean,	sorting,	skewness,	kurtosis
0.58	1.15	-0.76	3.61
graphic mean,	sorting,	skewness,	kurtosis
0.59	1.14	-0.19	1.15
Poorly sorted Coarse-skewed Leptokurtic			
D65	D35	C	Medium
1.10	0.32	-2.79	0.73

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	129.23
Gravel %	Sand %	Silt %	
26.67	73.33	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	1.92	1.49	1.49
-3.00	1.92	0.00	1.49
-2.50	7.28	4.15	5.63
-2.00	16.15	6.86	12.50
-1.50	25.67	7.37	19.86
-1.00	34.46	6.80	26.67
-0.50	45.82	8.79	35.46
0.00	60.59	11.43	46.89
0.50	81.46	16.15	63.03
1.00	102.06	15.94	78.98
1.50	115.59	10.47	89.45
2.00	124.02	6.52	95.97
2.50	127.69	2.84	98.81
3.00	128.83	0.88	99.69
3.50	129.09	0.20	99.89
4.00	129.23	0.11	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.13	1.40	-0.36	2.58
graphic mean,	sorting,	skewness,	kurtosis
-0.12	1.41	-0.21	0.92
Poorly sorted Coarse-skewed Mesokurtic			
D65	D35	C	Medium
0.56	-0.53	-3.66	0.10

Mercer Site 7 2.75-3.15m

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	68.88
Gravel %	Sand %	Silt %	
20.69	79.31	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.15	0.22	0.22
-2.50	1.67	2.21	2.42
-2.00	3.28	2.34	4.76
-1.50	7.49	6.11	10.87
-1.00	14.25	9.81	20.69
-0.50	21.96	11.19	31.88
0.00	30.78	12.80	44.69
0.50	39.14	12.14	56.82
1.00	46.67	10.93	67.76
1.50	53.66	10.15	77.90
2.00	63.02	13.59	91.49
2.50	67.08	5.89	97.39
3.00	68.57	2.16	99.55
3.50	68.85	0.41	99.96
4.00	68.88	0.04	100.00
moment mean,	sorting,	skewness,	kurtosis
0.22	1.35	-0.13	2.26
graphic mean,	sorting,	skewness,	kurtosis
0.23	1.39	-0.01	0.81
Poorly sorted		Near-symmetrical	Platykurtic
D65	D35	C	Medium
0.87	-0.38	-2.82	0.22

Mercer Site 7 3.15-3.42m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	66.59
Gravel %	Sand %	Silt %	
7.52	92.48	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.31	0.47	0.47
-2.00	1.01	1.05	1.52
-1.50	2.93	2.88	4.40
-1.00	5.01	3.12	7.52
-0.50	7.94	4.40	11.92
0.00	12.04	6.16	18.08
0.50	18.31	9.42	27.50
1.00	27.18	13.32	40.82
1.50	37.85	16.02	56.84
2.00	52.48	21.97	78.81
2.50	61.77	13.95	92.76
3.00	65.74	5.96	98.72
3.50	66.42	1.02	99.74
4.00	66.59	0.26	100.00
moment mean,	sorting,	skewness,	kurtosis
1.05	1.20	-0.77	3.24
graphic mean,	sorting,	skewness,	kurtosis
1.06	1.19	-0.28	1.08
Poorly sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.69	0.78	-2.25	1.29

Mercer Site 7 1.65-2.45m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	82.15
Gravel %	Sand %	Silt %	
13.76	86.24	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.75	0.91	0.91
-2.00	3.55	3.41	4.32
-1.50	6.99	4.19	8.51
-1.00	11.30	5.25	13.76
-0.50	17.61	7.68	21.44
0.00	25.88	10.07	31.50
0.50	37.22	13.80	45.31
1.00	51.93	17.91	63.21
1.50	67.19	18.58	81.79
2.00	77.35	12.37	94.16
2.50	80.81	4.21	98.37
3.00	81.91	1.34	99.71
3.50	82.06	0.18	99.89
4.00	82.15	0.11	100.00
moment mean,	sorting,	skewness,	kurtosis
0.44	1.20	-0.53	2.80
graphic mean,	sorting,	skewness,	kurtosis
0.43	1.21	-0.24	1.00
Poorly sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.05	0.13	-2.49	0.63

Mercer Site 7 2.45-2.75m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	99.50
Gravel %	Sand %	Silt %	
4.93	95.07	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.41	0.41	0.41
-2.00	1.01	0.60	1.02
-1.50	2.42	1.42	2.43
-1.00	4.91	2.50	4.93
-0.50	9.14	4.25	9.19
0.00	15.88	6.77	15.96
0.50	28.78	12.96	28.92
1.00	48.19	19.51	48.43
1.50	71.23	23.16	71.59
2.00	91.86	20.73	92.32
2.50	97.28	5.45	97.77
3.00	99.23	1.96	99.73
3.50	99.45	0.22	99.95
4.00	99.50	0.05	100.00
moment mean,	sorting,	skewness,	kurtosis
0.89	0.98	-0.81	3.94
graphic mean,	sorting,	skewness,	kurtosis
0.90	0.95	-0.20	1.08
Moderately sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.36	0.66	-2.01	1.03

Mercer Site 7 3.42-3.55m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	58.60
Gravel %	Sand %	Silt %	
27.82	72.18	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	1.84	3.14	3.14
-2.00	7.74	10.07	13.21
-1.50	12.83	8.69	21.89
-1.00	16.30	5.92	27.82
-0.50	19.06	4.71	32.53
0.00	22.43	5.75	38.28
0.50	25.36	5.00	43.28
1.00	34.67	15.89	59.16
1.50	42.09	12.66	71.83
2.00	50.63	14.57	86.40
2.50	55.70	8.65	95.05
3.00	58.05	4.01	99.06
3.50	58.51	0.78	99.85
4.00	58.60	0.15	100.00
moment mean,	sorting,	skewness,	kurtosis
0.29	1.62	-0.34	1.89
graphic mean,	sorting,	skewness,	kurtosis
0.29	1.67	-0.31	0.71
D65 Poorly sorted Strongly coarse-skewed Platykurtic			
D65	D35	C	Medium
1.23	-0.28	-2.84	0.71

Mercer Site 7 4.5-5.0m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	79.32
Gravel %	Sand %	Silt %	
9.11	90.89	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.82	1.03	1.03
-2.00	1.04	0.28	1.31
-1.50	2.95	2.41	3.72
-1.00	7.23	5.40	9.11
-0.50	15.19	10.04	19.15
0.00	24.00	11.11	30.26
0.50	33.91	12.49	42.75
1.00	45.58	14.71	57.46
1.50	57.83	15.44	72.91
2.00	72.56	18.57	91.48
2.50	77.28	5.95	97.43
3.00	79.00	2.17	99.60
3.50	79.26	0.33	99.92
4.00	79.32	0.08	100.00
moment mean,	sorting,	skewness,	kurtosis
0.62	1.16	-0.39	2.66
graphic mean,	sorting,	skewness,	kurtosis
0.63	1.16	-0.15	0.84
D65 Poorly sorted Coarse-skewed Platykurtic			
D65	D35	C	Medium
1.24	0.19	-2.52	0.75

Mercer Site 7 3.55-4.5m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	96.97
Gravel %	Sand %	Silt %	
11.58	88.42	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.45	0.46	0.46
-2.00	1.86	1.45	1.92
-1.50	4.82	3.05	4.97
-1.00	11.23	6.61	11.58
-0.50	20.80	9.87	21.45
0.00	31.71	11.25	32.70
0.50	43.56	12.22	44.92
1.00	61.26	18.25	63.17
1.50	73.69	12.82	75.99
2.00	91.47	18.34	94.33
2.50	95.44	4.09	98.42
3.00	96.72	1.32	99.74
3.50	96.95	0.24	99.98
4.00	96.97	0.02	100.00
moment mean,	sorting,	skewness,	kurtosis
0.50	1.15	-0.39	2.51
graphic mean,	sorting,	skewness,	kurtosis
0.51	1.18	-0.16	0.81
D65 Poorly sorted Coarse-skewed Platykurtic			
D65	D35	C	Medium
1.07	0.09	-2.32	0.64

Appendix 6.9 : Puni Core Data.

A6.9/2

Puni Site 1 1.15-1.5m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	86.37
Gravel %	Sand %	Silt %	
16.48	83.52	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.85	0.98	0.98
-2.00	2.97	2.45	3.44
-1.50	7.95	5.77	9.20
-1.00	14.23	7.27	16.48
-0.50	16.57	2.71	19.18
0.00	27.32	12.45	31.63
0.50	41.35	16.24	47.88
1.00	56.23	17.23	65.10
1.50	68.35	14.03	79.14
2.00	78.62	11.89	91.03
2.50	83.27	5.38	96.41
3.00	85.77	2.89	99.31
3.50	86.22	0.52	99.83
4.00	86.37	0.17	100.00
moment mean,	sorting,	skewness,	kurtosis
0.45	1.25	-0.35	2.72
graphic mean,	sorting,	skewness,	kurtosis
0.45	1.25	-0.16	1.07
Poorly sorted		Coarse-skewed	
D65	D35	C	Medium
1.00	0.10	-2.50	0.56

Puni Site 1 1.5-1.85m

start phi	phi interval	No intervals	total wgt(g)
-4.00	0.50	17	60.41
Gravel %	Sand %	Silt %	
29.73	70.27	0.00	
phi size	cum wgt	interval %	cum freq
-4.00	2.59	4.29	4.29
-3.50	3.48	1.47	5.76
-3.00	4.72	2.05	7.81
-2.50	6.30	2.62	10.43
-2.00	8.82	4.17	14.60
-1.50	12.24	5.66	20.26
-1.00	17.96	9.47	29.73
-0.50	25.84	13.04	42.77
0.00	32.21	10.54	53.32
0.50	37.66	9.02	62.34
1.00	42.65	8.26	70.60
1.50	47.63	8.24	78.84
2.00	54.00	10.54	89.39
2.50	57.88	6.42	95.81
3.00	59.80	3.18	98.99
3.50	60.25	0.74	99.74
4.00	60.41	0.26	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.17	1.78	-0.38	2.65
graphic mean,	sorting,	skewness,	kurtosis
-0.19	1.81	-0.06	1.01
Poorly sorted		Near-symmetrical	
D65	D35	C	Medium
0.66	-0.80	-4.38	-0.16

A6.9/1

Puni Site 1 0-0.55m

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	72.53
Gravel %	Sand %	Silt %	
10.41	89.59	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	1.10	1.52	1.52
-1.50	3.86	3.81	5.32
-1.00	7.55	5.09	10.41
-0.50	13.34	7.98	18.39
0.00	20.26	9.54	27.93
0.50	32.30	16.60	44.53
1.00	47.62	21.12	65.66
1.50	61.27	18.82	84.48
2.00	69.40	11.21	95.68
2.50	71.55	2.96	98.65
3.00	72.21	0.91	99.56
3.50	72.39	0.25	99.81
4.00	72.53	0.19	100.00
moment mean,	sorting,	skewness,	kurtosis
0.49	1.06	-0.43	2.96
graphic mean,	sorting,	skewness,	kurtosis
0.48	1.06	-0.22	1.03
Poorly sorted		Coarse-skewed	
D65	D35	C	Medium
0.98	0.21	-2.17	0.63

Puni Site 1 0.55-1.15m

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	79.52
Gravel %	Sand %	Silt %	
6.61	93.39	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.33	0.41	0.41
-1.50	2.21	2.36	2.78
-1.00	5.26	3.84	6.61
-0.50	10.09	6.07	12.69
0.00	19.34	11.63	24.32
0.50	32.83	16.96	41.29
1.00	51.37	23.31	64.60
1.50	67.02	19.68	84.28
2.00	76.05	11.36	95.64
2.50	78.52	3.11	98.74
3.00	79.22	0.88	99.62
3.50	79.42	0.25	99.87
4.00	79.52	0.13	100.00
moment mean,	sorting,	skewness,	kurtosis
0.60	0.95	-0.37	3.18
graphic mean,	sorting,	skewness,	kurtosis
0.59	0.96	-0.16	1.05
Moderately sorted		Coarse-skewed	
D65	D35	C	Medium
1.01	0.31	-1.88	0.69

Puni Site 1 2.6-2.9m

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	41.12
Gravel %	Sand %	Silt %	
3.96	96.04	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.09	0.22	0.22
-1.50	0.57	1.17	1.39
-1.00	1.63	2.58	3.96
-0.50	4.47	6.91	10.87
0.00	10.40	14.42	25.29
0.50	17.88	18.19	43.48
1.00	23.93	14.71	58.20
1.50	27.39	8.41	66.61
2.00	31.44	9.85	76.46
2.50	35.82	10.65	87.11
3.00	39.14	8.07	95.18
3.50	40.46	3.21	98.39
4.00	41.12	1.61	100.00
moment mean,	sorting,	skewness,	kurtosis
0.91	1.24	0.23	2.32
graphic mean,	sorting,	skewness,	kurtosis
0.91	1.28	0.19	0.83
	Poorly sorted	Fine-skewed	Platykurtic
D65	D35	C	Medium
1.40	0.27	-1.67	0.72

Puni Site 1 2.9-2.95m

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	53.57
Gravel %	Sand %	Silt %	
15.36	84.64	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	1.30	2.43	2.43
-1.50	4.60	6.16	8.59
-1.00	8.23	6.78	15.36
-0.50	15.19	12.99	28.36
0.00	23.37	15.27	43.63
0.50	31.62	15.40	59.03
1.00	36.51	9.13	68.15
1.50	39.48	5.54	73.70
2.00	42.74	6.09	79.78
2.50	46.48	6.98	86.76
3.00	50.23	7.00	93.77
3.50	52.48	4.20	97.97
4.00	53.57	2.03	100.00
moment mean,	sorting,	skewness,	kurtosis
0.46	1.49	0.37	2.29
graphic mean,	sorting,	skewness,	kurtosis
0.46	1.53	0.23	0.91
	Poorly sorted	Fine-skewed	Mesokurtic
D65	D35	C	Medium
0.83	-0.28	-2.29	0.21

Puni Site 1 1.85-2.4m

start phi	phi interval	No intervals	total wgt(g)
-1.50	0.50	12	61.29
Gravel %	Sand %	Silt %	
0.38	99.62	0.00	
phi size	cum wgt	interval %	cum freq
-1.50	0.07	0.11	0.11
-1.00	0.23	0.26	0.38
-0.50	0.52	0.47	0.85
0.00	0.87	0.57	1.42
0.50	1.73	1.40	2.82
1.00	4.53	4.57	7.39
1.50	13.22	14.18	21.57
2.00	31.25	29.42	50.99
2.50	50.27	31.03	82.02
3.00	59.37	14.85	96.87
3.50	60.82	2.37	99.23
4.00	61.29	0.77	100.00
moment mean,	sorting,	skewness,	kurtosis
1.93	0.69	-0.87	5.69
graphic mean,	sorting,	skewness,	kurtosis
1.94	0.65	-0.10	1.09
	Moderately well sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
2.23	1.73	-0.37	1.98

Puni Site 1 2.4-2.6m

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	39.85
Gravel %	Sand %	Silt %	
6.80	93.20	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.69	1.73	1.73
-2.00	1.27	1.46	3.19
-1.50	1.84	1.43	4.62
-1.00	2.71	2.18	6.80
-0.50	3.43	1.81	8.61
0.00	4.64	3.04	11.64
0.50	6.22	3.96	15.61
1.00	8.43	5.55	21.15
1.50	11.77	8.38	29.54
2.00	20.80	22.66	52.20
2.50	31.68	27.30	79.50
3.00	37.34	14.20	93.70
3.50	39.12	4.47	98.17
4.00	39.85	1.83	100.00
moment mean,	sorting,	skewness,	kurtosis
1.62	1.31	-1.45	5.05
graphic mean,	sorting,	skewness,	kurtosis
1.62	1.21	-0.41	1.57
	Poorly sorted	Strongly coarse-skewed	Very leptokurtic
D65	D35	C	Medium
2.23	1.62	-2.71	1.95

Puni Site 1 2.95-3.10m

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	48.53
Gravel %	Sand %	Silt %	
63.01	36.99	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	1.48	3.05	3.05
-2.50	4.40	6.02	9.07
-2.00	12.00	15.66	24.73
-1.50	23.09	22.85	47.58
-1.00	30.58	15.43	63.01
-0.50	36.67	12.55	75.56
0.00	39.87	6.59	82.16
0.50	41.97	4.33	86.48
1.00	43.39	2.93	89.41
1.50	44.48	2.25	91.65
2.00	45.83	2.78	94.44
2.50	47.09	2.60	97.03
3.00	47.93	1.73	98.76
3.50	48.29	0.74	99.51
4.00	48.53	0.49	100.00
moment mean,	sorting,	skewness,	kurtosis
-1.06	1.42	1.16	4.07
graphic mean,	sorting,	skewness,	kurtosis
-1.07	1.35	0.37	1.38
Poorly sorted		Strongly fine-skewed	Leptokurtic
D65	D35	C	Medium
-0.92	-1.78	-3.34	-1.42

Puni Site 1 3.1-3.5m (Unit only 74% sand)

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	84.91
Gravel %	Sand %	Silt %	
52.73	47.27	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	1.01	1.19	1.19
-3.00	2.51	1.77	2.96
-2.50	6.06	4.18	7.14
-2.00	13.94	9.28	16.42
-1.50	28.59	17.25	33.67
-1.00	44.77	19.06	52.73
-0.50	54.94	11.96	64.70
0.00	59.95	5.90	70.60
0.50	65.84	6.94	77.54
1.00	70.60	5.61	83.15
1.50	73.85	3.83	86.97
2.00	77.06	3.78	90.75
2.50	80.37	3.90	94.65
3.00	82.67	2.71	97.36
3.50	83.95	1.51	98.87
4.00	84.91	1.13	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.64	1.60	0.76	3.01
graphic mean,	sorting,	skewness,	kurtosis
-0.65	1.58	0.38	1.05
Poorly sorted		Strongly fine-skewed	Mesokurtic
D65	D35	C	Medium
-0.47	-1.47	-3.58	-1.07

Puni Site 1 3.5-4.35m

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	49.27
Gravel %	Sand %	Silt %	
20.11	79.89	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	1.87	3.80	3.80
-3.00	3.60	3.51	7.31
-2.50	5.20	3.25	10.55
-2.00	6.93	3.51	14.07
-1.50	8.55	3.29	17.35
-1.00	9.91	2.76	20.11
-0.50	10.99	2.19	22.31
0.00	12.20	2.46	24.76
0.50	13.44	2.52	27.28
1.00	14.81	2.78	30.06
1.50	16.47	3.37	33.43
2.00	21.28	9.76	43.19
2.50	30.23	18.17	61.36
3.00	42.62	25.15	86.50
3.50	47.35	9.60	96.10
4.00	49.27	3.90	100.00
moment mean,	sorting,	skewness,	kurtosis
1.26	2.16	-1.08	2.81
graphic mean,	sorting,	skewness,	kurtosis
1.26	2.04	-0.65	1.02
Very poorly sorted		Strongly coarse-skewed	Mesokurtic
D65	D35	C	Medium
2.57	1.58	-3.87	2.19

Puni Site 1 4.35-4.95m (Unit only 3% sand)

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	9.63
Gravel %	Sand %	Silt %	
4.36	95.64	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.10	1.04	1.04
-2.50	0.10	0.00	1.04
-2.00	0.24	1.45	2.49
-1.50	0.34	1.04	3.53
-1.00	0.42	0.83	4.36
-0.50	0.50	0.83	5.19
0.00	0.57	0.73	5.92
0.50	0.66	0.93	6.85
1.00	0.76	1.04	7.89
1.50	0.93	1.77	9.66
2.00	1.33	4.15	13.81
2.50	2.58	12.98	26.79
3.00	4.83	23.36	50.16
3.50	7.59	28.66	78.82
4.00	9.63	21.18	100.00
moment mean,	sorting,	skewness,	kurtosis
2.66	1.32	-2.50	9.80
graphic mean,	sorting,	skewness,	kurtosis
2.67	1.10	-0.40	1.84
Poorly sorted		Strongly coarse-skewed	Very leptokurtic
D65	D35	C	Medium
3.26	2.68	-3.02	3.00

PUNI SITE 2 0-1.1M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	72.64
Gravel %	Sand %	Silt %	
15.85	84.15	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.25	0.34	0.34
-2.00	2.50	3.10	3.44
-1.50	6.41	5.38	8.82
-1.00	11.51	7.02	15.85
-0.50	17.13	7.74	23.58
0.00	25.02	10.86	34.44
0.50	36.99	16.48	50.92
1.00	50.49	18.58	69.51
1.50	61.43	15.06	84.57
2.00	68.99	10.41	94.98
2.50	71.36	3.26	98.24
3.00	72.20	1.16	99.39
3.50	72.45	0.34	99.74
4.00	72.64	0.26	100.00
moment mean,	sorting,	skewness,	kurtosis
0.33	1.18	-0.31	2.70
graphic mean,	sorting,	skewness,	kurtosis
0.32	1.19	-0.19	0.98
Poorly sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.88	0.02	-2.39	0.47

PUNI SITE 2 1.1-1.3M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	56.46
Gravel %	Sand %	Silt %	
10.98	89.02	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	1.05	1.86	1.86
-2.00	1.38	0.58	2.44
-1.50	3.32	3.44	5.88
-1.00	6.20	5.10	10.98
-0.50	10.16	7.01	18.00
0.00	15.31	9.12	27.12
0.50	23.42	14.36	41.48
1.00	34.55	19.71	61.19
1.50	44.45	17.53	78.73
2.00	51.83	13.07	91.80
2.50	55.11	5.81	97.61
3.00	56.09	1.74	99.34
3.50	56.32	0.41	99.75
4.00	56.46	0.25	100.00
moment mean,	sorting,	skewness,	kurtosis
0.57	1.17	-0.54	3.20
graphic mean,	sorting,	skewness,	kurtosis
0.58	1.15	-0.18	1.06
Poorly sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.11	0.27	-2.73	0.72

PUNI SITE 2 1.3-1.8M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	43.92
Gravel %	Sand %	Silt %	
17.76	82.24	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.44	1.00	1.00
-2.00	1.52	2.46	3.46
-1.50	3.98	5.60	9.06
-1.00	7.80	8.70	17.76
-0.50	13.45	12.86	30.62
0.00	18.26	10.95	41.58
0.50	22.50	9.65	51.23
1.00	26.01	7.99	59.22
1.50	30.92	11.18	70.40
2.00	37.11	14.09	84.49
2.50	41.65	10.34	94.83
3.00	43.26	3.67	98.50
3.50	43.66	0.91	99.41
4.00	43.92	0.59	100.00
moment mean,	sorting,	skewness,	kurtosis
0.44	1.42	-0.08	2.07
graphic mean,	sorting,	skewness,	kurtosis
0.43	1.47	-0.02	0.75
Poorly sorted		Near-symmetrical	Platykurtic
D65	D35	C	Medium
1.26	-0.30	-2.50	0.44

PUNI SITE 2 1.8-2.2M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	69.40
Gravel %	Sand %	Silt %	
41.76	58.24	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.36	0.52	0.52
-2.00	7.16	9.80	10.32
-1.50	18.49	16.33	26.64
-1.00	28.98	15.12	41.76
-0.50	37.12	11.73	53.49
0.00	44.07	10.01	63.50
0.50	50.79	9.68	73.18
1.00	57.25	9.31	82.49
1.50	62.38	7.39	89.88
2.00	66.43	5.84	95.72
2.50	68.30	2.69	98.41
3.00	69.05	1.08	99.50
3.50	69.25	0.29	99.78
4.00	69.40	0.22	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.43	1.34	0.49	2.35
graphic mean,	sorting,	skewness,	kurtosis
-0.44	1.37	0.21	0.80
Poorly sorted		Fine-skewed	Platykurtic
D65	D35	C	Medium
0.08	-1.22	-2.48	-0.65

PUNI SITE 2 2.2-2.4M

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	70.15
Gravel %	Sand %	Silt %	
29.92	70.08	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	1.48	2.11	2.11
-3.00	1.91	0.61	2.72
-2.50	3.76	2.64	5.36
-2.00	7.49	5.32	10.68
-1.50	13.90	9.14	19.81
-1.00	20.99	10.11	29.92
-0.50	28.56	10.79	40.71
0.00	36.90	11.89	52.60
0.50	46.79	14.10	66.70
1.00	56.26	13.50	80.20
1.50	63.31	10.05	90.25
2.00	67.99	6.67	96.92
2.50	69.50	2.15	99.07
3.00	69.96	0.66	99.73
3.50	70.07	0.16	99.89
4.00	70.15	0.11	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.23	1.39	-0.28	2.66
graphic mean,	sorting,	skewness,	kurtosis
-0.22	1.39	-0.11	0.88
Poorly sorted		Coarse-skewed	Platykurtic
D65	D35	C	Medium
0.44	-0.76	-3.76	-0.11

PUNI SITE 2 2.4-2.7M

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	57.28
Gravel %	Sand %	Silt %	
41.59	58.41	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	1.66	2.90	2.90
-3.00	1.92	0.45	3.35
-2.50	2.64	1.26	4.61
-2.00	6.29	6.37	10.98
-1.50	13.57	12.71	23.69
-1.00	23.82	17.89	41.59
-0.50	33.91	17.62	59.20
0.00	39.58	9.90	69.10
0.50	43.63	7.07	76.17
1.00	47.11	6.08	82.25
1.50	50.72	6.30	88.55
2.00	54.68	6.91	95.46
2.50	56.26	2.76	98.22
3.00	56.96	1.22	99.44
3.50	57.16	0.35	99.79
4.00	57.28	0.21	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.53	1.42	0.30	2.88
graphic mean,	sorting,	skewness,	kurtosis
-0.51	1.45	0.26	0.97
Poorly sorted		Fine-skewed	Mesokurtic
D65	D35	C	Medium
-0.21	-1.18	-3.83	-0.76

PUNI SITE 2 2.7-3.15M

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	48.96
Gravel %	Sand %	Silt %	
5.35	94.65	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.40	0.82	0.82
-1.50	1.36	1.96	2.78
-1.00	2.62	2.57	5.35
-0.50	4.31	3.45	8.80
0.00	6.19	3.84	12.64
0.50	8.20	4.11	16.75
1.00	10.71	5.13	21.88
1.50	14.35	7.43	29.31
2.00	21.37	14.34	43.65
2.50	33.53	24.84	68.48
3.00	43.02	19.38	87.87
3.50	46.91	7.95	95.81
4.00	48.96	4.19	100.00
moment mean,	sorting,	skewness,	kurtosis
1.78	1.32	-1.06	3.62
graphic mean,	sorting,	skewness,	kurtosis
1.79	1.27	-0.40	1.27
Poorly sorted		Strongly coarse-skewed	Leptokurtic
D65	D35	C	Medium
2.43	0.70	-1.95	2.13

PUNI SITE 2 3.15-3.5M

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	105.87
Gravel %	Sand %	Silt %	
2.00	98.00	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.07	0.07	0.07
-1.50	0.69	0.59	0.65
-1.00	2.12	1.35	2.00
-0.50	7.56	5.14	7.14
0.00	19.35	11.14	18.28
0.50	38.31	17.91	36.19
1.00	63.85	24.12	60.31
1.50	85.85	20.78	81.09
2.00	101.08	14.39	95.48
2.50	104.19	2.94	98.41
3.00	105.19	0.94	99.36
3.50	105.63	0.42	99.77
4.00	105.87	0.23	100.00
moment mean,	sorting,	skewness,	kurtosis
0.76	0.85	-0.11	3.30
graphic mean,	sorting,	skewness,	kurtosis
0.75	0.84	-0.08	0.95
Moderately sorted		Near-symmetrical	Mesokurtic
D65	D35	C	Medium
1.11	0.47	-1.37	0.79

PUNI SITE 2 3.5-3.75M

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	48.55
Gravel %	Sand %	Silt %	
26.59	73.41	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.71	1.46	1.46
-1.50	4.46	7.72	9.19
-1.00	12.91	17.40	26.59
-0.50	23.42	21.65	48.24
0.00	30.80	15.20	63.44
0.50	36.93	12.63	76.07
1.00	39.81	5.93	82.00
1.50	42.99	6.55	88.55
2.00	46.16	6.53	95.08
2.50	47.60	2.97	98.04
3.00	48.18	1.19	99.24
3.50	48.40	0.45	99.69
4.00	48.55	0.31	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.19	1.16	0.74	3.02
graphic mean,	sorting,	skewness,	kurtosis
-0.21	1.16	0.30	1.03
	Poorly sorted	Fine-skewed	Mesokurtic
D65	D35	C	Medium
0.06	-0.81	-2.16	-0.44

PUNI SITE 2 3.75-4.15M

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	87.40
Gravel %	Sand %	Silt %	
0.78	99.13	0.09	
phi size	cum wgt	interval %	cum freq
-2.00	0.09	0.10	0.10
-1.50	0.30	0.24	0.34
-1.00	0.68	0.43	0.78
-0.50	1.99	1.50	2.28
0.00	6.19	4.81	7.08
0.50	17.92	13.42	20.50
1.00	37.88	22.84	43.34
1.50	62.65	28.34	71.68
2.00	81.13	21.14	92.83
2.50	85.75	5.29	98.11
3.00	86.98	1.41	99.52
3.50	87.21	0.26	99.78
4.00	87.32	0.13	99.91
moment mean,	sorting,	skewness,	kurtosis
1.06	0.74	-0.37	3.93
graphic mean,	sorting,	skewness,	kurtosis
1.07	0.73	-0.09	1.01
	Moderately sorted	Near-symmetrical	Mesokurtic
D65	D35	C	Medium
1.38	0.82	-0.93	1.12

PUNI SITE 2 4.15-4.5M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	40.33
Gravel %	Sand %	Silt %	
7.74	92.26	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.18	0.45	0.45
-2.00	0.40	0.55	0.99
-1.50	1.18	1.93	2.93
-1.00	3.12	4.81	7.74
-0.50	8.91	14.36	22.09
0.00	18.32	23.33	45.43
0.50	27.91	23.78	69.20
1.00	33.14	12.97	82.17
1.50	35.72	6.40	88.57
2.00	37.97	5.58	94.15
2.50	39.21	3.07	97.22
3.00	39.91	1.74	98.96
3.50	40.13	0.55	99.50
4.00	40.33	0.50	100.00
moment mean,	sorting,	skewness,	kurtosis
0.20	1.01	0.57	3.91
graphic mean,	sorting,	skewness,	kurtosis
0.20	0.97	0.16	1.21
	Moderately sorted	Fine-skewed	Leptokurtic
D65	D35	C	Medium
0.41	-0.22	-2.00	0.10

PUNI SITE 2 4.5-5.25M

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	59.35
Gravel %	Sand %	Silt %	
23.00	77.00	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	0.36	0.61	0.61
-3.00	0.60	0.40	1.01
-2.50	1.55	1.60	2.61
-2.00	3.60	3.45	6.07
-1.50	7.50	6.57	12.64
-1.00	13.65	10.36	23.00
-0.50	24.91	18.97	41.97
0.00	34.12	15.52	57.49
0.50	40.67	11.04	68.53
1.00	45.58	8.27	76.80
1.50	49.65	6.86	83.66
2.00	55.12	9.22	92.87
2.50	57.21	3.52	96.39
3.00	58.57	2.29	98.69
3.50	58.98	0.69	99.38
4.00	59.35	0.62	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.06	1.36	0.24	2.84
graphic mean,	sorting,	skewness,	kurtosis
-0.05	1.36	0.19	0.99
	Poorly sorted	Fine-skewed	Mesokurtic
D65	D35	C	Medium
0.34	-0.68	-3.01	-0.24

PUNI SITE 3 0-0.45

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	64.52
Gravel %	Sand %	Silt %	
12.93	87.07	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.41	0.64	0.64
-2.00	1.44	1.60	2.23
-1.50	4.47	4.70	6.93
-1.00	8.34	6.00	12.93
-0.50	12.97	7.18	20.10
0.00	18.08	7.92	28.02
0.50	26.20	12.59	40.61
1.00	37.32	17.23	57.84
1.50	49.44	18.78	76.63
2.00	59.43	15.48	92.11
2.50	63.07	5.64	97.75
3.00	64.19	1.74	99.49
3.50	64.34	0.23	99.72
4.00	64.52	0.28	100.00
moment mean,	sorting,	skewness,	kurtosis
0.58	1.20	-0.51	2.75
graphic mean,	sorting,	skewness,	kurtosis
0.57	1.20	-0.24	0.99
D65	Poorly sorted	Coarse-skewed	Mesokurtic
1.19	D35	C	Medium
	0.28	-2.39	0.77

PUNI SITE 3 0.45-0.7M

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	101.65
Gravel %	Sand %	Silt %	
8.96	91.04	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	1.05	1.03	1.03
-1.50	4.43	3.33	4.36
-1.00	9.11	4.60	8.96
-0.50	16.40	7.17	16.13
0.00	26.93	10.36	26.49
0.50	43.54	16.34	42.83
1.00	65.36	21.47	64.30
1.50	84.14	18.48	82.77
2.00	97.09	12.74	95.51
2.50	100.34	3.20	98.71
3.00	101.27	0.91	99.63
3.50	101.56	0.29	99.91
4.00	101.65	0.09	100.00
moment mean,	sorting,	skewness,	kurtosis
0.55	1.03	-0.44	2.97
graphic mean,	sorting,	skewness,	kurtosis
0.54	1.04	-0.19	1.03
D65	Poorly sorted	Coarse-skewed	Mesokurtic
1.02	D35	C	Medium
	0.26	-2.02	0.67

PUNI SITE 3 0.7-1.55M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	111.67
Gravel %	Sand %	Silt %	
9.45	90.55	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.55	0.49	0.49
-2.00	1.37	0.73	1.23
-1.50	4.79	3.06	4.29
-1.00	10.55	5.16	9.45
-0.50	17.18	5.94	15.38
0.00	27.19	8.96	24.35
0.50	44.00	15.05	39.40
1.00	66.12	19.81	59.21
1.50	85.96	17.77	76.98
2.00	102.95	15.21	92.19
2.50	109.10	5.51	97.70
3.00	111.10	1.79	99.49
3.50	111.49	0.35	99.84
4.00	111.67	0.16	100.00
moment mean,	sorting,	skewness,	kurtosis
0.65	1.10	-0.49	3.05
graphic mean,	sorting,	skewness,	kurtosis
0.66	1.10	-0.16	1.06
D65	Poorly sorted	Coarse-skewed	Mesokurtic
1.16	D35	C	Medium
	0.35	-2.15	0.77

PUNI SITE 3 1.55-2.15M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	64.18
Gravel %	Sand %	Silt %	
6.23	93.77	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.31	0.48	0.48
-2.00	0.43	0.19	0.67
-1.50	1.40	1.51	2.18
-1.00	4.00	4.05	6.23
-0.50	7.88	6.05	12.28
0.00	13.18	8.26	20.54
0.50	20.38	11.22	31.75
1.00	28.83	13.17	44.92
1.50	37.96	14.23	59.15
2.00	52.11	22.05	81.19
2.50	61.05	13.93	95.12
3.00	63.63	4.02	99.14
3.50	63.95	0.50	99.64
4.00	64.18	0.36	100.00
moment mean,	sorting,	skewness,	kurtosis
0.98	1.15	-0.56	2.84
graphic mean,	sorting,	skewness,	kurtosis
0.98	1.15	-0.25	0.90
D65	Poorly sorted	Coarse-skewed	Mesokurtic
1.63	D35	C	Medium
	0.62	-1.89	1.18

PUNI SITE 3 2.15-2.7M

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	69.35
Gravel %	Sand %	Silt %	
8.25	91.75	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	0.47	0.68	0.68
-3.00	0.47	0.00	0.68
-2.50	0.47	0.00	0.68
-2.00	0.74	0.39	1.07
-1.50	2.08	1.93	3.00
-1.00	5.72	5.25	8.25
-0.50	11.78	8.74	16.99
0.00	18.96	10.35	27.34
0.50	27.20	11.88	39.22
1.00	35.90	12.55	51.77
1.50	43.93	11.58	63.35
2.00	53.59	13.93	77.27
2.50	62.27	12.52	89.79
3.00	67.98	8.23	98.02
3.50	69.06	1.56	99.58
4.00	69.35	0.42	100.00
moment mean,	sorting,	skewness,	kurtosis
0.86	1.32	-0.37	2.84
graphic mean,	sorting,	skewness,	kurtosis
0.88	1.31	-0.07	0.83
Poorly sorted		Near-symmetrical	
D65	D35	C	Medium
1.56	0.32	-2.09	0.93

PUNI SITE 3 2.7-3.0M

start phi	phi interval	No intervals	total wgt(g)
-1.00	0.50	11	96.05
Gravel %	Sand %	Silt %	
0.39	99.61	0.00	
phi size	cum wgt	interval %	cum freq
-1.00	0.37	0.39	0.39
-0.50	1.24	0.91	1.29
0.00	5.28	4.21	5.50
0.50	23.51	18.98	24.48
1.00	55.50	33.31	57.78
1.50	76.37	21.73	79.51
2.00	88.34	12.46	91.97
2.50	93.30	5.16	97.14
3.00	95.48	2.27	99.41
3.50	95.93	0.47	99.88
4.00	96.05	0.12	100.00
moment mean,	sorting,	skewness,	kurtosis
0.96	0.71	0.43	3.66
graphic mean,	sorting,	skewness,	kurtosis
0.97	0.71	0.17	1.09
Moderately well sorted		Fine-skewed	
D65	D35	C	Medium
1.17	0.66	-0.66	0.88

PUNI SITE 3 3.0-3.7M

start phi	phi interval	No intervals	total wgt(g)
-1.50	0.50	12	73.18
Gravel %	Sand %	Silt %	
1.80	98.20	0.00	
phi size	cum wgt	interval %	cum freq
-1.50	0.21	0.29	0.29
-1.00	1.32	1.52	1.80
-0.50	7.06	7.84	9.65
0.00	18.35	15.43	25.08
0.50	36.64	24.99	50.07
1.00	52.91	22.23	72.30
1.50	63.19	14.05	86.35
2.00	70.08	9.42	95.76
2.50	72.20	2.90	98.66
3.00	72.99	1.08	99.74
3.50	73.13	0.19	99.93
4.00	73.18	0.07	100.00
moment mean,	sorting,	skewness,	kurtosis
0.55	0.83	0.25	3.01
graphic mean,	sorting,	skewness,	kurtosis
0.54	0.84	0.07	1.03
Moderately sorted		Near-symmetrical	
D65	D35	C	Medium
0.84	0.20	-1.26	0.50

PUNI SITE 3 3.7-3.95M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	47.77
Gravel %	Sand %	Silt %	
20.68	79.32	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.10	0.21	0.21
-2.00	0.41	0.65	0.86
-1.50	3.19	5.82	6.68
-1.00	9.88	14.00	20.68
-0.50	19.37	19.87	40.55
0.00	24.74	11.24	51.79
0.50	27.95	6.72	58.51
1.00	31.72	7.89	66.40
1.50	36.45	9.90	76.30
2.00	42.00	11.62	87.92
2.50	45.41	7.14	95.06
3.00	47.12	3.58	98.64
3.50	47.48	0.75	99.39
4.00	47.77	0.61	100.00
moment mean,	sorting,	skewness,	kurtosis
0.24	1.37	0.34	2.03
graphic mean,	sorting,	skewness,	kurtosis
0.23	1.40	0.26	0.73
Poorly sorted		Fine-skewed	
D65	D35	C	Medium
0.91	-0.64	-1.96	-0.08

PUNI SITE 3 3.95-4.65M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	64.83
Gravel %	Sand %	Silt %	
1.06	98.94	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.05	0.08	0.08
-1.50	0.16	0.17	0.25
-1.00	0.69	0.82	1.06
-0.50	1.69	1.54	2.61
0.00	3.66	3.04	5.65
0.50	9.00	8.24	13.88
1.00	20.00	16.97	30.85
1.50	34.33	22.10	52.95
2.00	50.04	24.23	77.19
2.50	59.07	13.93	91.12
3.00	63.39	6.66	97.78
3.50	64.42	1.59	99.37
4.00	64.83	0.63	100.00
moment mean,	sorting,	skewness,	kurtosis
1.39	0.87	-0.34	3.59
graphic mean,	sorting,	skewness,	kurtosis
1.40	0.86	-0.05	1.05
Moderately sorted Near-symmetrical Mesokurtic			
D65	D35	C	Medium
1.75	1.09	-1.04	1.43

PUNI SITE 3 4.65-5.2M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	82.84
Gravel %	Sand %	Silt %	
13.33	89.67	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.66	0.80	0.80
-1.50	2.61	2.35	3.15
-1.00	8.56	7.18	10.33
-0.50	22.77	17.15	27.49
0.00	40.00	20.80	48.29
0.50	56.84	20.33	68.61
1.00	65.23	10.13	78.74
1.50	69.78	5.49	84.23
2.00	74.82	6.08	90.32
2.50	79.05	5.11	95.42
3.00	81.64	3.13	98.55
3.50	82.42	0.94	99.49
4.00	82.84	0.51	100.00
moment mean,	sorting,	skewness,	kurtosis
0.22	1.14	0.6	3.16
graphic mean,	sorting,	skewness,	kurtosis
0.22	1.11	0.2	1.13
Poorly sorted Fine-skewed Leptokurtic			
D65	D35	C	Medium
0.41	-0.32	-1.96	0.04

PUNI SITE 4 0-0.1M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	66.85
Gravel %	Sand %	Silt %	
17.94	82.06	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.52	0.78	0.78
-2.00	2.37	2.77	3.55
-1.50	6.67	6.43	9.98
-1.00	11.99	7.96	17.94
-0.50	17.50	8.24	26.18
0.00	23.16	8.47	34.64
0.50	30.24	10.59	45.24
1.00	41.07	16.20	61.44
1.50	52.58	17.22	78.65
2.00	61.61	13.51	92.16
2.50	65.21	5.39	97.55
3.00	66.53	1.97	99.52
3.50	66.80	0.40	99.93
4.00	66.85	0.07	100.00
moment mean,	sorting,	skewness,	kurtosis
0.41	1.29	-0.38	2.34
graphic mean,	sorting,	skewness,	kurtosis
0.42	1.31	-0.24	0.87
Poorly sorted Coarse-skewed Platykurtic			
D65	D35	C	Medium
1.10	0.02	-2.4	0.65

PUNI SITE 4 0.1-0.8M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	120.98
Gravel %	Sand %	Silt %	
10.91	89.09	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.71	0.59	0.59
-2.00	1.77	0.88	1.46
-1.50	5.40	3.00	4.46
-1.00	13.20	6.45	10.91
-0.50	25.26	9.97	20.88
0.00	40.93	12.95	33.83
0.50	62.13	17.52	51.36
1.00	84.58	18.56	69.91
1.50	101.69	14.14	84.06
2.00	113.24	9.55	93.60
2.50	118.48	4.33	97.93
3.00	120.37	1.56	99.50
3.50	120.83	0.38	99.88
4.00	120.98	0.12	100.00
moment mean,	sorting,	skewness,	kurtosis
0.41	1.10	-0.16	2.85
graphic mean,	sorting,	skewness,	kurtosis
0.41	1.11	-0.07	0.98
Poorly sorted Near-symmetrical Mesokurtic			
D65	D35	C	Medium
0.87	0.03	-2.26	0.46

PUNI SITE 4 0.8-1.05M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	46.88
Gravel %	Sand %	Silt %	
5.84	94.16	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.20	0.43	0.43
-2.00	0.76	1.19	1.62
-1.50	1.61	1.81	3.43
-1.00	2.74	2.41	5.84
-0.50	4.24	3.20	9.04
0.00	6.20	4.18	13.23
0.50	9.79	7.66	20.88
1.00	17.37	16.17	37.05
1.50	28.23	23.17	60.22
2.00	38.97	22.91	83.13
2.50	44.20	11.16	94.26
3.00	46.34	4.56	98.85
3.50	46.78	0.94	99.79
4.00	46.88	0.21	100.00
moment mean,	sorting,	skewness,	kurtosis
1.11	1.08	-0.99	4.28
graphic mean,	sorting,	skewness,	kurtosis
1.12	1.05	-0.25	1.29
Poorly sorted		Coarse-skewed	Leptokurtic
D65	D35	C	Medium
1.60	0.94	-2.26	1.28

PUNI SITE 4 1.05-1.35M

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	85.17
Gravel %	Sand %	Silt %	
20.92	79.08	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	1.17	1.37	1.37
-3.00	2.22	1.23	2.61
-2.50	2.42	0.23	2.84
-2.00	4.67	2.64	5.48
-1.50	10.21	6.50	11.99
-1.00	17.82	8.94	20.92
-0.50	27.14	10.94	31.87
0.00	37.28	11.91	43.77
0.50	48.73	13.44	57.21
1.00	60.34	13.63	70.85
1.50	70.13	11.49	82.34
2.00	77.76	8.96	91.30
2.50	81.90	4.86	96.16
3.00	84.25	2.76	98.92
3.50	84.90	0.76	99.68
4.00	85.17	0.32	100.00
moment mean,	sorting,	skewness,	kurtosis
0.16	1.41	-0.26	2.92
graphic mean,	sorting,	skewness,	kurtosis
0.19	1.40	-0.04	0.92
Poorly sorted		Near-symmetrical	Mesokurtic
D65	D35	C	Medium
0.79	-0.37	-3.64	0.23

PUNI SITE 4 1.35-2.1M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	56.51
Gravel %	Sand %	Silt %	
19.70	80.30	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.27	0.48	0.48
-2.00	1.94	2.96	3.43
-1.50	5.34	6.02	9.45
-1.00	11.13	10.25	19.70
-0.50	18.17	12.46	32.15
0.00	25.23	12.49	44.65
0.50	32.41	12.71	57.35
1.00	38.72	11.17	68.52
1.50	43.86	9.10	77.61
2.00	48.76	8.67	86.29
2.50	52.53	6.67	92.96
3.00	55.30	4.90	97.86
3.50	56.16	1.52	99.38
4.00	56.51	0.62	100.00
moment mean,	sorting,	skewness,	kurtosis
0.30	1.40	0.19	2.28
graphic mean,	sorting,	skewness,	kurtosis
0.30	1.43	0.09	0.88
Poorly sorted		Near-symmetrical	Platykurtic
D65	D35	C	Medium
0.84	-0.39	-2.41	0.21

PUNI SITE 4 2.1-3.45M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	73.20
Gravel %	Sand %	Silt %	
2.54	97.46	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.18	0.25	0.25
-2.00	0.18	0.00	0.25
-1.50	0.65	0.64	0.89
-1.00	1.86	1.65	2.54
-0.50	4.70	3.88	6.42
0.00	10.46	7.87	14.29
0.50	27.84	23.74	38.03
1.00	42.76	20.38	58.42
1.50	61.27	25.29	83.70
2.00	69.89	11.78	95.48
2.50	72.31	3.31	98.78
3.00	73.01	0.96	99.74
3.50	73.13	0.16	99.90
4.00	73.20	0.10	100.00
moment mean,	sorting,	skewness,	kurtosis
0.76	0.82	-0.36	3.91
graphic mean,	sorting,	skewness,	kurtosis
0.76	0.81	-0.07	-0.99
Moderately sorted		Near-symmetrical	Mesokurtic
D65	D35	C	Medium
1.13	0.44	-1.47	0.79

PUNI SITE 4 3.45-3.7M

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	68.17
Gravel %	Sand %	Silt %	
22.00	78.00	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.13	0.19	0.19
-2.50	1.08	1.39	1.58
-2.00	2.71	2.39	3.98
-1.50	6.63	5.75	9.73
-1.00	15.00	12.28	22.00
-0.50	26.53	16.91	38.92
0.00	37.50	16.09	55.01
0.50	46.17	12.72	67.73
1.00	52.55	9.36	77.09
1.50	58.67	8.98	86.06
2.00	64.91	9.15	95.22
2.50	67.11	3.23	98.45
3.00	67.86	1.10	99.55
3.50	68.04	0.26	99.81
4.00	68.17	0.19	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.03	1.23	0.20	2.57
graphic mean,	sorting,	skewness,	kurtosis
-0.03	1.24	0.14	0.89
D65 D35 C Medium			
0.39	-0.62	-2.71	-0.16

Poorly sorted Fine-skewed Platykurtic

PUNI SITE 4 3.7-4.7M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	61.12
Gravel %	Sand %	Silt %	
1.65	98.35	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.03	0.05	0.05
-2.00	0.04	0.02	0.07
-1.50	0.27	0.38	0.44
-1.00	1.01	1.21	1.85
-0.50	2.63	2.65	4.30
0.00	7.07	7.26	11.57
0.50	19.00	19.52	31.09
1.00	36.63	28.84	59.93
1.50	49.09	20.39	80.32
2.00	56.77	12.57	92.88
2.50	59.94	5.19	98.07
3.00	60.91	1.59	99.66
3.50	61.07	0.26	99.92
4.00	61.12	0.08	100.00
moment mean,	sorting,	skewness,	kurtosis
0.85	0.79	-0.08	3.64
graphic mean,	sorting,	skewness,	kurtosis
0.86	0.79	0.05	1.06
D65 D35 C Medium			
1.12	0.57	-1.27	0.83

Moderately sorted Near-symmetrical Mesokurtic

PUNI SITE 4 4.7-5.05M

start phi	phi interval	No intervals	total wgt(g)
-4.00	0.50	17	68.81
Gravel %	Sand %	Silt %	
32.38	67.62	0.00	
phi size	cum wgt	interval %	cum freq
-4.00	1.18	1.71	1.71
-3.50	1.18	0.00	1.71
-3.00	1.86	0.99	2.70
-2.50	3.63	2.57	5.28
-2.00	6.31	3.89	9.17
-1.50	13.19	10.00	19.17
-1.00	22.28	13.21	32.38
-0.50	32.41	14.72	47.10
0.00	39.05	9.65	56.75
0.50	43.89	7.03	63.78
1.00	49.61	8.31	72.10
1.50	57.36	11.26	83.36
2.00	63.65	9.14	92.50
2.50	66.52	4.17	96.67
3.00	67.89	1.99	98.66
3.50	68.44	0.80	99.46
4.00	68.81	0.54	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.16	1.55	-0.03	2.64
graphic mean,	sorting,	skewness,	kurtosis
-0.15	1.55	0.14	0.83
D65 D35 C Medium			
0.57	-3.91	-4.21	-0.35

Poorly sorted Fine-skewed Platykurtic

PUNI SITE 4 5.05-5.35M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	81.09
Gravel %	Sand %	Silt %	
1.07	98.93	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.22	0.27	0.27
-2.00	0.47	0.31	0.58
-1.50	0.55	0.10	0.68
-1.00	0.87	0.39	1.07
-0.50	1.53	0.81	1.89
0.00	2.91	1.70	3.59
0.50	6.15	4.00	7.58
1.00	13.92	9.58	17.17
1.50	28.52	18.00	35.17
2.00	52.87	30.03	65.20
2.50	72.48	24.18	89.38
3.00	79.70	8.90	98.29
3.50	80.84	1.41	99.69
4.00	81.09	0.31	100.00
moment mean,	sorting,	skewness,	kurtosis
1.65	0.83	-1.25	6.75
graphic mean,	sorting,	skewness,	kurtosis
1.67	0.77	-0.15	1.10
D65 D35 C Medium			
2.00	1.50	-1.09	1.75

Moderately sorted Coarse-skewed Mesokurtic

PUNI SITE 5 0-0.33M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	53.76
Gravel %	Sand %	Silt %	
26.47	73.53	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	2.87	5.34	5.34
-2.00	6.16	6.12	11.46
-1.50	10.23	7.57	19.03
-1.00	14.23	7.44	26.47
-0.50	19.49	9.78	36.25
0.00	26.34	12.74	49.00
0.50	34.95	16.02	65.01
1.00	43.98	16.80	81.81
1.50	49.29	9.88	91.69
2.00	51.78	4.63	96.32
2.50	52.66	1.64	97.95
3.00	53.26	1.12	99.07
3.50	53.59	0.61	99.68
4.00	53.76	0.32	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.15	1.33	-0.13	2.60
graphic mean,	sorting,	skewness,	kurtosis
-0.16	1.35	-0.20	0.95
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.50	-0.56	-2.91	0.03

PUNI SITE 5 0.33-0.75M

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	132.59
Gravel %	Sand %	Silt %	
22.38	77.62	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	1.72	1.30	1.30
-3.00	2.49	0.58	1.88
-2.50	5.81	2.50	4.38
-2.00	11.81	4.53	8.91
-1.50	20.79	6.77	15.68
-1.00	29.67	6.70	22.38
-0.50	39.42	7.35	29.73
0.00	51.17	8.86	38.59
0.50	66.73	11.74	50.33
1.00	84.90	13.70	64.03
1.50	103.70	14.18	78.21
2.00	120.79	12.89	91.10
2.50	128.21	5.60	96.70
3.00	131.36	2.38	99.07
3.50	132.22	0.65	99.72
4.00	132.59	0.28	100.00
moment mean,	sorting,	skewness,	kurtosis
0.24	1.49	-0.46	2.60
graphic mean,	sorting,	skewness,	kurtosis
0.25	1.50	-0.22	0.89
	Poorly sorted	Coarse-skewed	Platykurtic
D65	D35	C	Medium
1.03	-0.20	-3.61	0.49

PUNI SITE 5 0.75-1.05M

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	80.83
Gravel %	Sand %	Silt %	
39.58	60.42	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	2.57	3.18	3.18
-2.50	6.27	4.58	7.76
-2.00	12.65	7.89	15.65
-1.50	22.25	11.88	27.53
-1.00	31.99	12.05	39.58
-0.50	40.77	10.86	50.44
0.00	46.65	7.27	57.71
0.50	51.49	5.99	63.70
1.00	56.90	6.69	70.39
1.50	63.59	8.28	78.67
2.00	71.12	9.32	87.99
2.50	76.85	7.09	95.08
3.00	79.55	3.34	98.42
3.50	80.48	1.15	99.57
4.00	80.83	0.43	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.23	1.70	0.19	1.97
graphic mean,	sorting,	skewness,	kurtosis
-0.24	1.77	0.18	0.75
	Poorly sorted	Fine-skewed	Platykurtic
D65	D35	C	Medium
0.60	-1.19	-3.34	-0.52

PUNI SITE 5 1.05-1.3M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	106.69
Gravel %	Sand %	Silt %	
9.19	90.81	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.47	0.44	0.44
-2.00	1.56	1.02	1.46
-1.50	4.44	2.70	4.16
-1.00	9.80	5.02	9.19
-0.50	16.03	5.84	15.02
0.00	25.09	8.49	23.52
0.50	41.14	15.04	38.56
1.00	61.43	19.02	57.58
1.50	77.35	14.92	72.50
2.00	90.07	11.92	84.42
2.50	99.66	8.99	93.41
3.00	105.16	5.16	98.57
3.50	106.34	1.11	99.67
4.00	106.69	0.33	100.00
moment mean,	sorting,	skewness,	kurtosis
0.76	1.20	-0.30	2.85
graphic mean,	sorting,	skewness,	kurtosis
0.77	1.21	-0.06	1.07
	Poorly sorted	Near-symmetrical	Mesokurtic
D65	D35	C	Medium
1.25	0.38	-2.23	0.80

PUNI SITE 5 1.3-1.8M

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	64.70
Gravel %	Sand %	Silt %	
19.89	80.11	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.83	1.28	1.28
-2.50	1.83	1.55	2.83
-2.00	3.44	2.49	5.32
-1.50	7.10	5.66	10.97
-1.00	12.87	8.92	19.89
-0.50	21.53	13.38	33.28
0.00	29.89	12.92	46.20
0.50	39.86	15.41	61.61
1.00	49.63	15.10	76.71
1.50	55.57	9.18	85.89
2.00	59.97	6.80	92.69
2.50	62.84	4.44	97.13
3.00	64.15	2.02	99.15
3.50	64.42	0.42	99.57
4.00	64.70	0.43	100.00
moment mean,	sorting,	skewness,	kurtosis
0.09	1.30	-0.05	2.86
graphic mean,	sorting,	skewness,	kurtosis
0.09	1.31	-0.02	1.01
Poorly sorted		Near-symmetrical	Mesokurtic
D65	D35	C	Medium
0.61	-0.43	-3.11	0.12

PUNI SITE 5 1.8-2.15M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	53.68
Gravel %	Sand %	Silt %	
3.43	96.57	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.05	0.09	0.09
-2.00	0.43	0.71	0.80
-1.50	0.99	1.04	1.84
-1.00	1.84	1.58	3.43
-0.50	3.22	2.57	6.00
0.00	5.45	4.15	10.15
0.50	10.44	9.30	19.45
1.00	21.12	19.90	39.34
1.50	34.63	25.17	64.51
2.00	46.74	22.56	87.07
2.50	51.59	9.04	96.11
3.00	53.25	3.09	99.20
3.50	53.44	0.35	99.55
4.00	53.68	0.45	100.00
moment mean,	sorting,	skewness,	kurtosis
0.93	0.93	-0.82	4.61
graphic mean,	sorting,	skewness,	kurtosis
1.12	0.90	-0.16	1.17
Moderately sorted		Coarse-skewed	Leptokurtic
D65	D35	C	Medium
1.51	0.89	-1.90	1.21

PUNI SITE 5 2.15-2.8M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	51.43
Gravel %	Sand %	Silt %	
13.57	86.43	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.26	0.51	0.51
-2.00	0.89	1.22	1.73
-1.50	3.03	4.16	5.89
-1.00	6.98	7.68	13.57
-0.50	12.05	9.86	23.43
0.00	16.50	8.65	32.08
0.50	21.10	8.94	41.03
1.00	26.34	10.19	51.22
1.50	32.51	12.00	63.21
2.00	40.68	15.89	79.10
2.50	47.36	12.99	92.09
3.00	50.50	6.11	98.19
3.50	51.05	1.07	99.26
4.00	51.43	0.74	100.00
moment mean,	sorting,	skewness,	kurtosis
0.74	1.39	-0.28	2.15
graphic mean,	sorting,	skewness,	kurtosis
0.75	1.42	-0.18	0.78
Poorly sorted		Coarse-skewed	Platykurtic
D65	D35	C	Medium
1.56	0.16	-2.30	0.94

PUNI SITE 5 2.8-3.8M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	113.93
Gravel %	Sand %	Silt %	
1.76	98.24	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.15	0.13	0.13
-2.00	0.23	0.07	0.20
-1.50	0.74	0.45	0.65
-1.00	2.00	1.11	1.76
-0.50	5.97	3.48	5.24
0.00	16.69	9.41	14.65
0.50	39.13	19.70	34.35
1.00	68.26	25.57	59.91
1.50	92.52	21.29	81.21
2.00	106.61	12.37	93.58
2.50	111.56	4.34	97.92
3.00	113.42	1.63	99.55
3.50	113.83	0.36	99.91
4.00	113.93	0.09	100.00
moment mean,	sorting,	skewness,	kurtosis
0.80	0.83	-0.13	3.69
graphic mean,	sorting,	skewness,	kurtosis
0.82	0.82	0.01	1.01
Moderately sorted		Near-symmetrical	Mesokurtic
D65	D35	C	Medium
1.12	0.51	-1.34	0.81

PUNI SITE 5 3.8-4.25M

start phi,	phi interval,	No intervals,	total wgt(g)
-3.50	0.50	16	58.18
Gravel %	Sand %	Silt %	
16.21	83.79	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	1.87	3.21	3.21
-3.00	1.87	0.00	3.21
-2.50	2.06	0.33	3.54
-2.00	2.96	1.55	5.09
-1.50	5.37	4.14	9.23
-1.00	9.43	6.98	16.21
-0.50	15.88	11.09	27.29
0.00	22.70	11.72	39.02
0.50	29.96	12.48	51.50
1.00	37.29	12.60	64.09
1.50	45.18	13.56	77.66
2.00	52.54	12.65	90.31
2.50	56.20	6.29	96.60
3.00	57.69	2.56	99.16
3.50	58.02	0.57	99.72
4.00	58.18	0.28	100.00
moment mean,	sorting,	skewness,	kurtosis
0.32	1.43	-0.60	3.42
graphic mean,	sorting,	skewness,	kurtosis
0.36	1.49	-0.09	0.90
	Poorly sorted	Near-symmetrical	Platykurtic
D65	D35	C	Medium
1.03	-0.17	-3.84	0.44

PUNI SITE 5 4.25-5.05M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	54.12
Gravel %	Sand %	Silt %	
9.90	90.10	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.13	0.24	0.24
-2.00	0.50	0.68	0.92
-1.50	2.07	2.90	3.82
-1.00	5.36	6.08	9.90
-0.50	11.25	10.88	20.79
0.00	18.14	12.73	33.52
0.50	26.29	15.06	48.58
1.00	34.14	14.50	63.08
1.50	42.80	16.00	79.08
2.00	48.96	11.38	90.47
2.50	51.84	5.32	95.79
3.00	53.38	2.85	98.63
3.50	53.95	1.05	99.69
4.00	54.12	0.31	100.00
moment mean,	sorting,	skewness,	kurtosis
0.53	1.16	-0.02	2.60
graphic mean,	sorting,	skewness,	kurtosis
0.53	1.18	-0.03	0.92
	Poorly sorted	Near-symmetrical	Mesokurtic
D65	D35	C	Medium
1.06	0.05	-1.99	0.55

PUNI SITE 6 0-0.3M

start phi,	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	15	103.77
Gravel %	Sand %	Silt %	
20.46	79.54	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.94	0.91	0.91
-2.50	2.10	1.12	2.02
-2.00	5.94	3.70	5.72
-1.50	12.77	6.58	12.31
-1.00	21.23	8.15	20.46
-0.50	31.19	9.60	30.06
0.00	42.92	11.30	41.36
0.50	58.45	14.97	56.33
1.00	75.88	16.80	73.12
1.50	88.92	12.57	85.69
2.00	96.79	7.58	93.27
2.50	101.07	4.12	97.40
3.00	102.95	1.81	99.21
3.50	103.50	0.53	99.74
4.00	103.77	0.26	100.00
moment mean,	sorting,	skewness,	kurtosis
0.16	1.30	-0.21	2.67
graphic mean,	sorting,	skewness,	kurtosis
0.16	1.32	-0.13	0.96
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.76	-0.28	-2.96	0.29

PUNI SITE 6 0.3-1.65M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	90.08
Gravel %	Sand %	Silt %	
17.70	82.30	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.37	0.41	0.41
-2.00	3.70	3.70	4.11
-1.50	9.06	5.95	10.06
-1.00	15.94	7.64	17.70
-0.50	25.81	10.96	28.65
0.00	35.64	10.91	39.56
0.50	48.63	14.42	53.99
1.00	64.51	17.63	71.61
1.50	78.90	15.97	87.59
2.00	87.37	9.40	96.99
2.50	89.46	2.32	99.31
3.00	89.98	0.58	99.89
3.50	90.05	0.08	99.97
4.00	90.08	0.03	100.00
moment mean,	sorting,	skewness,	kurtosis
0.20	1.17	-0.33	2.39
graphic mean,	sorting,	skewness,	kurtosis
0.20	1.19	-0.19	0.88
	Poorly sorted	Coarse-skewed	Platykurtic
D65	D35	C	Medium
0.81	-0.21	-2.42	0.36

PUNI SITE 6 1.65-3.75M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	83.90
Gravel %	Sand %	Silt %	
8.67	91.33	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.09	0.11	0.11
-2.00	0.50	0.49	0.60
-1.50	3.06	3.05	3.65
-1.00	7.27	5.02	8.67
-0.50	13.86	7.85	16.52
0.00	23.16	11.08	27.60
0.50	34.14	13.09	40.69
1.00	49.58	18.40	59.09
1.50	62.90	15.88	74.97
2.00	75.14	14.59	89.56
2.50	81.53	7.62	97.18
3.00	83.47	2.31	99.49
3.50	83.82	0.42	99.90
4.00	83.90	0.10	100.00
moment mean,	sorting,	skewness,	kurtosis
0.66	1.12	-0.30	2.59
graphic mean,	sorting,	skewness,	kurtosis
0.66	1.13	-0.12	0.94
Poorly sorted Coarse-skewed Mesokurtic			
D65	D35	C	Medium
1.19	0.28	-1.93	0.75

PUNI SITE 6 3.75-4.05M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	85.00
Gravel %	Sand %	Silt %	
1.21	98.79	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.18	0.21	0.21
-2.00	0.21	0.04	0.25
-1.50	0.50	0.34	0.59
-1.00	1.03	0.62	1.21
-0.50	1.72	0.81	2.02
0.00	2.96	1.46	3.48
0.50	5.99	3.56	7.05
1.00	12.66	7.85	14.89
1.50	23.51	12.76	27.66
2.00	42.26	22.06	49.72
2.50	65.36	27.18	76.89
3.00	80.01	17.24	94.13
3.50	84.10	4.81	98.94
4.00	85.00	1.06	100.00
moment mean,	sorting,	skewness,	kurtosis
1.86	0.91	-1.10	5.46
graphic mean,	sorting,	skewness,	kurtosis
1.88	0.86	-0.20	1.10
Moderately sorted Coarse-skewed Mesokurtic			
D65	D35	C	Medium
2.28	1.67	-1.17	2.01

PUNI SITE 6 4.05-5M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	67.32
Gravel %	Sand %	Silt %	
4.26	95.74	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.08	0.12	0.12
-2.00	0.46	0.56	0.68
-1.50	1.16	1.04	1.72
-1.00	2.87	2.54	4.26
-0.50	5.98	4.62	8.88
0.00	10.58	6.83	15.72
0.50	19.06	12.60	28.31
1.00	32.52	19.99	48.31
1.50	45.91	19.89	68.20
2.00	57.93	17.86	86.05
2.50	64.13	9.21	95.26
3.00	66.46	3.46	98.72
3.50	67.05	0.88	99.60
4.00	67.32	0.40	100.00
moment mean,	sorting,	skewness,	kurtosis
0.97	1.03	-0.45	3.39
graphic mean,	sorting,	skewness,	kurtosis
0.97	1.02	-0.11	1.06
Poorly sorted Coarse-skewed Mesokurtic			
D65	D35	C	Medium
1.42	0.67	-1.85	1.04

PUNI SITE 7 0-0.45M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	118.36
Gravel %	Sand %	Silt %	
6.12	93.88	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.33	0.28	0.28
-2.00	1.18	0.72	1.00
-1.50	3.24	1.74	2.74
-1.00	7.24	3.38	6.12
-0.50	12.52	4.46	10.58
0.00	20.17	6.46	17.04
0.50	34.41	12.03	29.07
1.00	59.28	21.01	50.08
1.50	87.90	24.18	74.26
2.00	109.89	18.58	92.84
2.50	116.19	5.32	98.17
3.00	117.93	1.47	99.64
3.50	118.21	0.24	99.87
4.00	118.36	0.13	100.00
moment mean,	sorting,	skewness,	kurtosis
0.84	0.99	-0.79	3.80
graphic mean,	sorting,	skewness,	kurtosis
0.84	0.96	-0.23	1.16
Moderately sorted Coarse-skewed Leptokurtic			
D65	D35	C	Medium
1.31	0.64	-2.00	1.00

PUNI SITE 7 0.45-1.55M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	83.41
Gravel %	Sand %	Silt %	
1.53	98.47	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.67	0.80	0.80
-1.50	1.03	0.43	1.23
-1.00	1.28	0.30	1.53
-0.50	1.82	0.65	2.18
0.00	3.59	2.12	4.30
0.50	9.77	7.41	11.71
1.00	37.70	33.49	45.20
1.50	55.72	21.60	66.80
2.00	74.30	22.28	89.08
2.50	80.96	7.98	97.06
3.00	83.09	2.55	99.62
3.50	83.34	0.30	99.92
4.00	83.41	0.08	100.00
moment mean,	sorting,	skewness,	kurtosis
1.15	0.77	-0.76	6.11
graphic mean,	sorting,	skewness,	kurtosis
1.18	0.71	0.13	0.97
Moderately well sorted		Fine-skewed	Mesokurtic
D65	D35	C	Medium
1.46	0.85	-1.77	1.11

PUNI SITE 7 1.55-2.3M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	58.10
Gravel %	Sand %	Silt %	
2.44	97.56	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.20	0.34	0.34
-1.50	0.84	1.10	1.45
-1.00	1.42	1.00	2.44
-0.50	3.13	2.94	5.39
0.00	7.26	7.11	12.50
0.50	17.37	17.40	29.90
1.00	32.63	26.27	56.16
1.50	45.05	21.38	77.54
2.00	53.82	15.09	92.63
2.50	56.96	5.40	98.04
3.00	57.90	1.62	99.66
3.50	58.04	0.24	99.90
4.00	58.10	0.10	100.00
moment mean,	sorting,	skewness,	kurtosis
0.87	0.85	-0.40	3.90
graphic mean,	sorting,	skewness,	kurtosis
0.88	0.83	0.00	1.06
Moderately sorted		Near-symmetrical	Mesokurtic
D65	D35	C	Medium
1.21	0.60	-1.70	0.88

PUNI SITE 7 2.3-2.7M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	79.01
Gravel %	Sand %	Silt %	
3.92	96.08	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.11	0.14	0.14
-2.00	0.30	0.24	0.38
-1.50	2.30	2.53	2.91
-1.00	3.10	1.01	3.92
-0.50	11.12	10.15	14.07
0.00	25.18	17.80	31.87
0.50	50.71	32.31	64.18
1.00	70.12	24.57	88.75
1.50	76.06	7.52	96.27
2.00	77.78	2.18	98.44
2.50	78.49	0.90	99.34
3.00	78.80	0.39	99.73
3.50	78.90	0.13	99.86
4.00	79.01	0.14	100.00
moment mean,	sorting,	skewness,	kurtosis
0.25	0.76	-0.07	4.84
graphic mean,	sorting,	skewness,	kurtosis
0.26	0.74	-0.06	1.06
Moderately sorted		Near-symmetrical	Mesokurtic
D65	D35	C	Medium
0.52	0.05	-1.88	0.28

PUNI SITE 7 2.7-2.95M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	63.89
Gravel %	Sand %	Silt %	
11.94	88.06	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.21	0.33	0.33
-1.50	1.86	2.58	2.91
-1.00	7.63	9.03	11.94
-0.50	22.89	23.88	35.83
0.00	41.41	28.99	64.81
0.50	55.61	22.23	87.04
1.00	60.12	7.06	94.10
1.50	61.52	2.19	96.29
2.00	62.56	1.63	97.92
2.50	63.30	1.16	99.08
3.00	63.63	0.52	99.59
3.50	63.78	0.23	99.83
4.00	63.89	0.17	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.20	0.80	0.99	5.70
graphic mean,	sorting,	skewness,	kurtosis
-0.22	0.76	0.07	1.11
Moderately sorted		Near-symmetrical	Leptokurtic
D65	D35	C	Medium
0.00	-0.52	-1.87	-0.26

PUNI SITE 7 2.95-3.65M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	82.30
Gravel %	Sand %	Silt %	
28.68	71.34	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.17	0.21	0.21
-2.00	2.20	2.47	2.67
-1.50	8.91	8.15	10.83
-1.00	23.59	17.84	28.66
-0.50	47.75	29.36	58.02
0.00	60.92	16.00	74.02
0.50	66.74	7.07	81.09
1.00	72.42	6.90	88.00
1.50	76.52	4.99	92.98
2.00	79.12	3.16	96.14
2.50	80.73	1.96	98.09
3.00	81.57	1.02	99.11
3.50	82.00	0.52	99.64
4.00	82.30	0.36	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.40	1.09	1.04	4.16
graphic mean,	sorting,	skewness,	kurtosis
-0.41	1.04	0.32	1.29
Poorly sorted		Strongly fine-skewed	Leptokurtic
D65	D35	C	Medium
-0.28	-0.89	-2.34	-0.64

PUNI SITE 7 3.65-5.0M

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	50.11
Gravel %	Sand %	Silt %	
37.32	62.68	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.59	1.18	1.18
-2.50	0.96	0.74	1.92
-2.00	3.22	4.51	6.43
-1.50	9.43	12.39	18.82
-1.00	18.70	18.50	37.32
-0.50	28.17	18.90	56.22
0.00	34.09	11.81	68.03
0.50	37.67	7.14	75.17
1.00	40.44	5.53	80.70
1.50	42.91	4.93	85.63
2.00	46.15	6.47	92.10
2.50	48.33	4.35	96.45
3.00	49.57	2.47	98.92
3.50	49.91	0.68	99.60
4.00	50.11	0.40	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.34	1.39	0.66	2.83
graphic mean,	sorting,	skewness,	kurtosis
-0.34	1.37	0.35	1.01
Poorly sorted		Strongly fine-skewed	Mesokurtic
D65	D35	C	Medium
-0.13	-1.06	-3.08	-0.66

PUNI SITE 8 0.0-0.25M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	77.82
Gravel %	Sand %	Silt %	
18.84	81.16	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	1.34	1.72	1.72
-2.00	3.76	3.11	4.83
-1.50	7.54	4.86	9.69
-1.00	14.66	9.15	18.84
-0.50	25.62	14.08	32.92
0.00	36.81	14.38	47.30
0.50	47.26	13.43	60.73
1.00	57.96	13.75	74.48
1.50	66.12	10.49	84.97
2.00	71.86	7.38	92.34
2.50	75.35	4.48	96.83
3.00	77.22	2.40	99.23
3.50	77.62	0.51	99.74
4.00	77.82	0.26	100.00
moment mean,	sorting,	skewness,	kurtosis
0.13	1.27	0.06	2.60
graphic mean,	sorting,	skewness,	kurtosis
0.13	1.30	0.03	0.97
Poorly sorted		Near-symmetrical	Mesokurtic
D65	D35	C	Medium
0.66	-0.43	-2.71	0.10

PUNI SITE 8 0.25-1.1M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	88.01
Gravel %	Sand %	Silt %	
16.36	83.64	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.37	0.42	0.42
-2.00	2.14	2.01	2.43
-1.50	6.65	5.12	7.56
-1.00	14.40	8.81	16.36
-0.50	27.62	15.02	31.38
0.00	40.84	15.02	46.40
0.50	55.36	16.50	62.90
1.00	67.06	13.29	76.20
1.50	75.22	9.27	85.47
2.00	81.64	7.29	92.76
2.50	85.68	4.59	97.35
3.00	87.52	2.09	99.44
3.50	87.88	0.41	99.85
4.00	88.01	0.15	100.00
moment mean,	sorting,	skewness,	kurtosis
0.16	1.19	0.19	2.62
graphic mean,	sorting,	skewness,	kurtosis
0.15	1.21	0.07	0.98
Poorly sorted		Near-symmetrical	Mesokurtic
D65	D35	C	Medium
0.58	-0.38	-2.36	0.11

PUNI SITE 8 1.1-1.4M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	50.21
Gravel %	Sand %	Silt %	
3.37	96.63	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.12	0.24	0.24
-1.50	0.33	0.42	0.66
-1.00	1.69	2.71	3.37
-0.50	4.88	6.35	9.72
0.00	10.99	12.17	21.89
0.50	19.73	17.41	39.29
1.00	30.21	20.87	60.17
1.50	38.10	15.71	75.88
2.00	43.07	9.90	85.78
2.50	47.18	8.19	93.97
3.00	49.56	4.74	98.71
3.50	50.10	1.08	99.78
4.00	50.21	0.22	100.00
moment mean,	sorting,	skewness,	kurtosis
0.80	1.03	0.12	2.74
graphic mean,	sorting,	skewness,	kurtosis
0.80	1.04	0.07	1.03
	Poorly sorted	Near-symmetrical	Mesokurtic
D65	D35	C	Medium
1.15	0.38	-1.44	0.76

PUNI SITE 8 1.4-1.8M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	80.31
Gravel %	Sand %	Silt %	
11.22	88.78	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.45	0.56	0.56
-2.00	1.27	1.02	1.58
-1.50	3.71	3.04	4.62
-1.00	9.01	6.60	11.22
-0.50	19.70	13.31	24.53
0.00	31.36	14.52	39.05
0.50	46.52	18.88	57.93
1.00	61.72	18.93	76.85
1.50	72.03	12.84	89.69
2.00	77.83	7.22	96.91
2.50	79.50	2.08	98.99
3.00	80.13	0.78	99.78
3.50	80.23	0.12	99.90
4.00	80.31	0.10	100.00
moment mean,	sorting,	skewness,	kurtosis
0.24	1.02	-0.13	2.92
graphic mean,	sorting,	skewness,	kurtosis
0.25	1.02	-0.06	0.95
	Poorly sorted	Near-symmetrical	Mesokurtic
D65	D35	C	Medium
0.69	-0.14	-2.28	0.29

PUNI SITE 8 1.8-2.25M

start phi,	phi interval,	No intervals,	total wgt(g)
-1.50	0.50	12	58.10
Gravel %	Sand %	Silt %	
0.59	99.41	0.00	
phi size	cum wgt	interval %	cum freq
-1.50	0.10	0.17	0.17
-1.00	0.34	0.41	0.59
-0.50	0.98	1.10	1.69
0.00	2.26	2.20	3.89
0.50	5.70	5.92	9.81
1.00	16.43	18.47	28.28
1.50	36.80	35.06	63.34
2.00	52.75	27.45	90.79
2.50	57.17	7.61	98.40
3.00	58.06	1.53	99.93
3.50	58.10	0.07	100.00
4.00	58.10	0.00	100.00
moment mean,	sorting,	skewness,	kurtosis
1.27	0.65	-0.76	4.79
graphic mean,	sorting,	skewness,	kurtosis
1.28	0.63	-0.09	1.12
	Moderately well sorted	Near-symmetrical	Leptokurtic
D65	D35	C	Medium
1.53	1.10	-0.81	1.31

PUNI SITE 8 2.25-3.2M

start phi,	phi interval,	No intervals,	total wgt(g)
-1.50	0.50	12	58.28
Gravel %	Sand %	Silt %	
0.74	99.26	0.00	
phi size	cum wgt	interval %	cum freq
-1.50	0.13	0.22	0.22
-1.00	0.43	0.51	0.74
-0.50	1.66	2.11	2.85
0.00	6.64	8.54	11.39
0.50	18.90	21.04	32.43
1.00	32.68	23.64	56.07
1.50	46.22	23.23	79.31
2.00	55.40	15.75	95.06
2.50	57.80	4.12	99.18
3.00	58.19	0.67	99.85
3.50	58.25	0.10	99.95
4.00	58.28	0.05	100.00
moment mean,	sorting,	skewness,	kurtosis
0.86	0.74	-0.10	3.01
graphic mean,	sorting,	skewness,	kurtosis
0.86	0.75	-0.02	0.90
	Moderately sorted	Near-symmetrical	Platykurtic
D65	D35	C	Medium
1.19	0.55	-0.94	0.87

PUNI SITE 8 3.2-3.7M

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	88.87
Gravel %	Sand %	Silt %	
7.54	92.46	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.25	0.28	0.28
-1.50	1.91	1.87	2.15
-1.00	6.70	5.39	7.54
-0.50	18.25	13.00	20.54
0.00	39.21	23.59	44.12
0.50	56.44	19.39	63.51
1.00	69.90	15.15	78.65
1.50	79.18	10.44	89.10
2.00	86.11	7.80	96.89
2.50	88.12	2.26	99.16
3.00	88.67	0.62	99.77
3.50	88.82	0.17	99.94
4.00	88.87	0.06	100.00
moment mean,	sorting,	skewness,	kurtosis
0.24	0.93	0.27	2.85
graphic mean,	sorting,	skewness,	kurtosis
0.24	0.93	0.13	0.99
Moderately sorted		Fine-skewed	
D65	D35	C	Medium
0.55	-0.19	-1.81	0.15

PUNI SITE 8 3.7-4.45M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	54.35
Gravel %	Sand %	Silt %	
30.89	69.11	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.11	0.20	0.20
-2.00	2.20	3.85	4.05
-1.50	8.43	11.46	15.51
-1.00	16.79	15.38	30.89
-0.50	26.46	17.79	48.68
0.00	32.63	11.35	60.04
0.50	36.69	7.47	67.51
1.00	40.25	6.55	74.06
1.50	44.36	7.56	81.62
2.00	49.87	10.14	91.76
2.50	52.81	5.41	97.17
3.00	53.77	1.77	98.93
3.50	54.01	0.44	99.37
4.00	54.35	0.63	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.10	1.38	0.49	2.27
graphic mean,	sorting,	skewness,	kurtosis
-0.10	1.40	0.31	0.77
Poorly sorted		Strongly fine-skewed	
D65	D35	C	Medium
0.33	-0.88	-2.40	-0.44

PUNI SITE 8 4.45-4.95M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	58.29
Gravel %	Sand %	Silt %	
16.92	83.08	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.74	1.27	1.27
-2.00	2.25	2.59	3.86
-1.50	5.24	5.13	8.99
-1.00	9.86	7.93	16.92
-0.50	17.14	12.49	29.40
0.00	25.01	13.50	42.91
0.50	34.43	16.16	59.07
1.00	42.55	13.93	73.00
1.50	48.84	10.79	83.79
2.00	54.49	9.69	93.48
2.50	57.22	4.68	98.16
3.00	57.91	1.18	99.35
3.50	58.09	0.31	99.66
4.00	58.29	0.34	100.00
moment mean,	sorting,	skewness,	kurtosis
0.20	1.23	-0.05	2.61
graphic mean,	sorting,	skewness,	kurtosis
0.20	1.25	-0.02	0.94
Poorly sorted		Near-symmetrical	
D65	D35	C	Medium
0.71	-0.29	-2.61	0.22

PUNI SITE 8 4.95-5.2M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	79.51
Gravel %	Sand %	Silt %	
6.74	93.26	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.06	0.08	0.08
-2.00	0.55	0.62	0.69
-1.50	2.49	2.44	3.13
-1.00	5.36	3.61	6.74
-0.50	9.10	4.70	11.45
0.00	13.54	5.58	17.03
0.50	18.94	6.79	23.82
1.00	28.49	12.01	35.83
1.50	40.00	14.48	50.31
2.00	56.29	20.49	70.80
2.50	71.11	18.64	89.44
3.00	77.88	8.51	97.95
3.50	79.18	1.64	99.58
4.00	79.51	0.42	100.00
moment mean,	sorting,	skewness,	kurtosis
1.22	1.21	-0.76	3.02
graphic mean,	sorting,	skewness,	kurtosis
1.22	1.20	-0.32	1.07
Poorly sorted		Strongly coarse-skewed	
D65	D35	C	Medium
1.86	0.97	-1.94	1.49

PUNI SITE 9 0.0-0.45M

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	51.45
Gravel %	Sand %	Silt %	
6.49	93.51	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.64	1.24	1.24
-1.50	1.39	1.46	2.70
-1.00	3.34	3.79	6.49
-0.50	7.23	7.56	14.05
0.00	12.49	10.22	24.28
0.50	19.35	13.33	37.61
1.00	27.63	16.09	53.70
1.50	36.01	16.29	69.99
2.00	44.32	16.15	86.14
2.50	48.77	8.65	94.79
3.00	50.90	4.14	98.93
3.50	51.28	0.74	99.67
4.00	51.45	0.33	100.00
moment mean,	sorting,	skewness,	kurtosis
0.80	1.14	-0.29	2.72
graphic mean,	sorting,	skewness,	kurtosis
0.80	1.16	-0.11	0.94
Poorly sorted		Coarse-skewed	
D65	D35	C	Medium
1.35	0.40	-2.10	0.88

PUNI SITE 9 0.45-1.13M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	84.42
Gravel %	Sand %	Silt %	
5.02	94.98	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.06	0.07	0.07
-2.00	0.46	0.47	0.54
-1.50	1.71	1.48	2.03
-1.00	4.24	3.00	5.02
-0.50	9.31	6.01	11.03
0.00	17.04	9.16	20.18
0.50	28.86	14.00	34.19
1.00	43.99	17.92	52.11
1.50	57.67	16.20	68.31
2.00	71.86	16.81	85.12
2.50	80.30	10.00	95.12
3.00	83.37	3.64	98.76
3.50	84.31	1.11	99.87
4.00	84.42	0.13	100.00
moment mean,	sorting,	skewness,	kurtosis
0.89	1.08	-0.32	2.83
graphic mean,	sorting,	skewness,	kurtosis
0.89	1.10	-0.09	0.94
Poorly sorted		Near-symmetrical	
D65	D35	C	Medium
1.40	0.52	-1.85	0.94

PUNI SITE 9 1.13-1.65M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	53.82
Gravel %	Sand %	Silt %	
18.19	81.81	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.20	0.37	0.37
-2.00	1.66	2.71	3.08
-1.50	4.65	5.56	8.64
-1.00	9.79	9.55	18.19
-0.50	16.22	11.95	30.14
0.00	23.03	12.65	42.79
0.50	30.32	13.55	56.34
1.00	37.69	13.69	70.03
1.50	43.95	11.63	81.66
2.00	49.22	9.79	91.45
2.50	52.24	5.61	97.06
3.00	53.47	2.29	99.35
3.50	53.77	0.46	99.81
4.00	53.77	0.19	100.00
moment mean,	sorting,	skewness,	kurtosis
0.26	1.26	0.01	2.33
graphic mean,	sorting,	skewness,	kurtosis
0.25	1.29	-0.01	0.88
Poorly sorted		Near-symmetrical	
D65	D35	C	Medium
0.82	-0.31	-2.38	0.27

PUNI SITE 9 1.65-2.3M

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	87.11
Gravel %	Sand %	Silt %	
5.66	94.34	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.74	0.85	0.85
-1.50	1.75	1.16	2.01
-1.00	4.93	3.65	5.66
-0.50	12.76	8.99	14.65
0.00	25.41	14.52	29.17
0.50	41.04	17.94	47.11
1.00	57.52	18.92	66.03
1.50	70.71	15.14	81.17
2.00	81.31	12.17	93.34
2.50	85.48	4.79	98.13
3.00	86.82	1.54	99.67
3.50	87.05	0.26	99.93
4.00	87.11	0.07	100.00
moment mean,	sorting,	skewness,	kurtosis
0.56	1.00	-0.11	2.80
graphic mean,	sorting,	skewness,	kurtosis
0.57	1.02	-0.01	0.93
Poorly sorted		Near-symmetrical	
D65	D35	C	Medium
0.97	0.16	-1.94	0.58

PUNI SITE 9 2.3-2.53M

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	53.18
Gravel %	Sand %	Silt %	
24.92	75.08	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	1.50	2.82	2.82
-2.50	2.22	1.35	4.17
-2.00	3.82	3.01	7.18
-1.50	7.07	6.11	13.29
-1.00	13.25	11.62	24.92
-0.50	23.45	19.18	44.10
0.00	31.71	15.53	59.63
0.50	37.50	10.89	70.52
1.00	42.58	9.55	80.07
1.50	46.29	6.98	87.04
2.00	50.24	7.43	94.47
2.50	52.12	3.54	98.01
3.00	52.90	1.47	99.47
3.50	53.12	0.41	99.89
4.00	53.18	0.11	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.18	1.32	0.08	2.84
graphic mean,	sorting,	skewness,	kurtosis
-0.17	1.35	0.13	1.05
Poorly sorted		Fine-skewed	Mesokurtic
D65	D35	C	Medium
0.25	-0.74	-3.32	-0.31

PUNI SITE 9 2.53-2.8M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	87.81
Gravel %	Sand %	Silt %	
7.87	92.13	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.66	0.75	0.75
-2.00	1.60	1.07	1.82
-1.50	3.65	2.33	4.16
-1.00	6.91	3.71	7.87
-0.50	11.95	5.74	13.61
0.00	19.05	8.09	21.69
0.50	30.17	12.66	34.36
1.00	46.90	19.05	53.41
1.50	62.84	18.15	71.56
2.00	77.70	16.92	88.49
2.50	84.98	8.29	96.78
3.00	87.05	2.36	99.13
3.50	87.65	0.68	99.82
4.00	87.81	0.18	100.00
moment mean,	sorting,	skewness,	kurtosis
0.78	1.13	-0.60	3.29
graphic mean,	sorting,	skewness,	kurtosis
0.79	1.12	-0.18	1.05
Poorly sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.32	0.52	-2.32	0.91

PUNI SITE 9 2.8-3.1M

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	78.56
Gravel %	Sand %	Silt %	
3.51	96.49	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.48	0.61	0.61
-2.00	0.81	0.42	1.03
-1.50	1.70	1.13	2.16
-1.00	2.76	1.35	3.51
-0.50	4.34	2.01	5.52
0.00	5.68	1.71	7.23
0.50	7.67	2.53	9.76
1.00	11.24	4.54	14.31
1.50	18.59	9.36	23.66
2.00	35.82	21.93	45.60
2.50	61.81	33.08	78.68
3.00	73.28	14.60	93.28
3.50	77.03	4.77	98.05
4.00	78.56	1.95	100.00
moment mean,	sorting,	skewness,	kurtosis
1.83	1.09	-1.61	6.46
graphic mean,	sorting,	skewness,	kurtosis
1.85	0.98	-0.32	1.71
Moderately sorted		Strongly coarse-skewed	Very leptokurtic
D65	D35	C	Medium
2.29	1.76	-2.04	2.07

PUNI SITE 9 3.1-3.5M

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	74.00
Gravel %	Sand %	Silt %	
2.12	97.88	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.00	0.00	0.00
-2.50	0.36	0.49	0.49
-2.00	0.51	0.20	0.69
-1.50	0.86	0.47	1.16
-1.00	1.57	0.96	2.12
-0.50	3.37	2.43	4.55
0.00	6.57	4.32	8.88
0.50	12.14	7.53	16.41
1.00	20.34	11.08	27.49
1.50	30.14	13.24	40.73
2.00	44.68	19.65	60.38
2.50	61.61	22.88	83.26
3.00	71.09	12.81	96.07
3.50	73.05	2.65	98.72
4.00	74.00	1.28	100.00
moment mean,	sorting,	skewness,	kurtosis
1.55	1.08	-0.85	4.00
graphic mean,	sorting,	skewness,	kurtosis
1.55	1.05	-0.26	0.98
Poorly sorted		Coarse-skewed	Mesokurtic
D65	D35	C	Medium
2.10	1.28	-1.67	1.74

PUNI SITE 9 3.5-4.85M (Unit only 73% sand)

start phi,	phi interval,	No intervals,	total wgt(g)
-1.00	0.50	11	76.18
Gravel %	Sand %	Silt %	
0.00	100.00	0.00	
phi size	cum wgt	interval %	cum freq
-1.00	0.00	0.00	0.00
-0.50	0.00	0.00	0.00
0.00	0.41	0.54	0.54
0.50	0.94	0.70	1.23
1.00	1.49	0.72	1.96
1.50	1.98	0.64	2.60
2.00	2.71	0.96	3.56
2.50	11.99	12.17	15.73
3.00	50.00	49.91	65.63
3.50	67.87	23.46	89.09
4.00	76.18	10.91	100.00
moment mean,	sorting,	skewness,	kurtosis
2.85	0.58	-1.66	9.93
graphic mean,	sorting,	skewness,	kurtosis
2.89	0.51	0.16	1.16
Moderately well sorted Fine-skewed Leptokurtic			
D65	D35	C	Medium
2.99	2.69	0.33	2.84

PUNI SITE 10 0-0.35M

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	88.19
Gravel %	Sand %	Silt %	
8.62	91.38	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.73	0.83	0.83
-2.00	2.08	1.53	2.36
-1.50	4.40	2.63	4.99
-1.00	7.60	3.63	8.62
-0.50	12.19	5.20	13.82
0.00	16.74	5.16	18.98
0.50	23.36	7.51	26.49
1.00	31.83	9.60	36.09
1.50	42.21	11.77	47.86
2.00	59.00	19.04	66.90
2.50	79.41	23.14	90.04
3.00	87.01	8.62	98.66
3.50	87.99	1.11	99.77
4.00	88.19	0.23	100.00
moment mean,	sorting,	skewness,	kurtosis
1.17	1.32	-0.91	3.13
graphic mean,	sorting,	skewness,	kurtosis
1.18	1.29	-0.41	0.99
Poorly sorted Strongly coarse-skewed Mesokurtic			
D65	D35	C	Medium
1.95	0.94	-2.44	1.56

PUNI SITE 10 0.35-0.75M

start phi,	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	15	96.72
Gravel %	Sand %	Silt %	
25.64	74.36	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.20	0.21	0.21
-2.50	1.12	0.95	1.16
-2.00	4.81	3.82	4.97
-1.50	12.21	7.65	12.62
-1.00	24.80	13.02	25.64
-0.50	40.59	16.33	41.97
0.00	54.77	14.66	56.63
0.50	67.98	13.66	70.29
1.00	82.85	15.37	85.66
1.50	92.00	9.46	95.12
2.00	94.12	2.19	97.31
2.50	95.11	1.03	98.34
3.00	96.05	0.97	99.31
3.50	96.26	0.22	99.52
4.00	96.72	0.48	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.19	1.15	0.23	3.07
graphic mean,	sorting,	skewness,	kurtosis
-0.22	1.15	0.00	0.85
Poorly sorted Near-symmetrical Platykurtic			
D65	D35	C	Medium
0.31	-0.71	-2.58	-0.23

PUNI SITE 10 0.75-1.3M

start phi,	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	15	73.99
Gravel %	Sand %	Silt %	
10.35	89.65	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.69	0.93	0.93
-2.50	0.69	0.00	0.93
-2.00	1.83	1.54	2.47
-1.50	4.29	3.32	5.80
-1.00	7.66	4.55	10.35
-0.50	14.62	9.41	19.76
0.00	26.46	16.00	35.76
0.50	43.00	22.35	58.12
1.00	59.69	22.56	80.67
1.50	69.69	13.52	94.19
2.00	72.83	4.24	98.43
2.50	73.47	0.86	99.30
3.00	73.82	0.47	99.77
3.50	73.98	0.22	99.99
4.00	73.99	0.01	100.00
moment mean,	sorting,	skewness,	kurtosis
0.22	0.98	-0.61	4.06
graphic mean,	sorting,	skewness,	kurtosis
0.22	0.94	-0.16	1.09
Moderately sorted Coarse-skewed Mesokurtic			
D65	D35	C	Medium
0.65	-0.02	-2.48	0.32

PUNI SITE 10 1.3-1.5M

start phi,	phi interval,	No intervals,	total wgt(g)
-4.00	0.50	17	43.75
Gravel %	Sand %	Silt %	
44.02	55.98	0.00	
phi size	cum wgt	interval %	cum freq
-4.00	1.22	2.79	2.79
-3.50	2.05	1.90	4.69
-3.00	4.58	5.78	10.47
-2.50	6.13	3.54	14.01
-2.00	10.26	9.44	23.45
-1.50	15.48	11.93	35.38
-1.00	19.26	8.64	44.02
-0.50	23.66	10.06	54.08
0.00	28.58	11.25	65.33
0.50	34.72	14.03	79.36
1.00	39.54	11.02	90.38
1.50	41.97	5.55	95.93
2.00	43.01	2.38	98.31
2.50	43.35	0.78	99.09
3.00	43.57	0.50	99.59
3.50	43.68	0.25	99.84
4.00	43.75	0.16	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.83	1.53	-0.19	2.53
graphic mean,	sorting,	skewness,	kurtosis
-0.83	1.57	-0.11	0.89
D65 D35 C Medium			
-0.01	-1.52	-4.32	-0.70
Poorly sorted Coarse-skewed Platykurtic			

PUNI SITE 10 2.6-3.5M (Unit only 80% sand)

start phi,	phi interval,	No intervals,	total wgt(g)
-1.00	0.50	11	77.23
Gravel %	Sand %	Silt %	
0.28	99.72	0.00	
phi size	cum wgt	interval %	cum freq
-1.00	0.22	0.28	0.28
-0.50	0.45	0.30	0.58
0.00	0.66	0.27	0.85
0.50	0.94	0.36	1.22
1.00	1.27	0.43	1.64
1.50	1.63	0.47	2.11
2.00	2.38	0.97	3.08
2.50	17.46	19.53	22.61
3.00	51.48	44.05	66.66
3.50	70.57	24.72	91.38
4.00	77.23	8.62	100.00
moment mean,	sorting,	skewness,	kurtosis
2.80	0.60	-2.12	14.09
graphic mean,	sorting,	skewness,	kurtosis
2.84	0.49	0.07	1.06
D65 D35 C Medium			
2.98	2.64	0.20	2.81
Well sorted Near-symmetrical Mesokurtic			

PUNI SITE 10 1.5-2.6M (Unit only 73% sand)

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	34.05
Gravel %	Sand %	Silt %	
1.05	98.95	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.13	0.24	0.24
-1.50	0.39	0.48	0.72
-1.00	0.57	0.33	1.05
-0.50	0.98	0.76	1.81
0.00	1.56	1.07	2.89
0.50	2.25	1.28	4.16
1.00	3.43	2.18	6.35
1.50	5.57	3.96	10.31
2.00	10.98	10.01	20.31
2.50	23.60	23.35	43.66
3.00	40.03	30.40	74.06
3.50	47.68	14.15	88.21
4.00	51.05	11.79	100.00
moment mean,	sorting,	skewness,	kurtosis
2.48	0.95	-1.56	7.23
graphic mean,	sorting,	skewness,	kurtosis
2.51	0.87	-0.14	1.36
D65 D35 C Medium			
2.85	2.31	-1.08	2.60
Moderately sorted Coarse-skewed Leptokurtic			

APPENDIX 6.10 SURFACE SAMPLES TEXTURAL DATA

A6.10/1

Surface Sample A

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	14	74.60
Gravel %	Sand %	Silt %	
29.83	70.17	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.29	0.39	0.39
-2.50	0.91	0.83	1.22
-2.00	4.25	4.43	5.70
-1.50	11.78	10.09	15.79
-1.00	22.25	14.03	29.83
-0.50	34.95	17.02	46.85
0.00	45.90	14.68	61.53
0.50	55.69	13.12	74.65
1.00	63.68	10.71	85.36
1.50	69.37	7.63	92.99
2.00	73.42	5.43	98.42
2.50	74.40	1.31	99.73
3.00	74.57	0.23	99.96
3.50	74.60	0.04	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.31	1.14	0.17	2.44
graphic mean,	sorting,	skewness,	kurtosis
-0.31	1.17	0.10	0.91
D65	Poorly sorted	Near-symmetrical	Mesokurtic
0.13	D35 C Medium		

Surface Sample B

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	74.44
Gravel %	Sand %	Silt %	
8.58	91.42	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.87	1.17	1.17
-2.50	0.87	0.00	1.17
-2.00	1.78	1.22	2.39
-1.50	3.60	2.44	4.84
-1.00	6.39	3.75	8.58
-0.50	10.28	5.23	13.81
0.00	15.66	7.23	21.04
0.50	25.25	12.88	33.92
1.00	40.28	20.19	54.11
1.50	54.61	19.25	73.36
2.00	66.06	15.38	88.74
2.50	69.97	5.25	94.00
3.00	72.37	3.22	97.22
3.50	73.89	2.04	99.26
4.00	74.44	0.74	100.00
moment mean,	sorting,	skewness,	kurtosis
0.78	1.21	-0.58	3.90
graphic mean,	sorting,	skewness,	kurtosis
0.80	1.17	-0.14	1.21
D65	Poorly sorted	Coarse-skewed	Leptokurtic
1.28	D35 C Medium		

A6.10/2

Surface Sample C

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	13	89.07
Gravel %	Sand %	Silt %	
9.03	90.97	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.43	0.48	0.48
-2.00	1.24	0.91	1.39
-1.50	3.72	2.78	4.18
-1.00	8.04	4.85	9.03
-0.50	15.92	8.85	17.87
0.00	24.93	10.12	27.99
0.50	39.41	16.26	44.25
1.00	58.89	21.87	66.12
1.50	75.05	18.14	84.26
2.00	85.80	12.07	96.33
2.50	88.74	3.30	99.63
3.00	89.04	0.34	99.97
3.50	89.07	0.03	100.00
moment mean,	sorting,	skewness,	kurtosis
0.49	1.02	-0.56	2.99
graphic mean,	sorting,	skewness,	kurtosis
0.49	1.02	-0.20	0.99
D65	Poorly sorted	Coarse-skewed	Mesokurtic
0.97	D35 C Medium		

surface sample D

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	13	69.23
Gravel %	Sand %	Silt %	
6.43	93.57	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.10	0.14	0.14
-2.00	0.35	0.36	0.51
-1.50	1.84	2.15	2.66
-1.00	4.45	3.77	6.43
-0.50	9.08	6.69	13.12
0.00	15.71	9.58	22.69
0.50	27.36	16.83	39.52
1.00	43.55	23.39	62.91
1.50	57.28	19.83	82.74
2.00	66.70	13.61	96.35
2.50	68.94	3.24	99.58
3.00	69.20	0.38	99.96
3.50	69.23	0.04	100.00
moment mean,	sorting,	skewness,	kurtosis
0.62	0.94	-0.58	3.13
graphic mean,	sorting,	skewness,	kurtosis
0.62	0.94	-0.18	1.04
D65	Moderately sorted	Coarse-skewed	Mesokurtic
1.05	D35 C Medium		

surface sample E

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	71.59
Gravel %	Sand %	Silt %	
23.27	76.73	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.36	0.50	0.50
-2.50	0.72	0.50	1.01
-2.00	3.99	4.57	5.57
-1.50	10.05	8.46	14.04
-1.00	16.66	9.23	23.27
-0.50	24.66	11.17	34.45
0.00	32.41	10.83	45.27
0.50	41.63	12.88	58.15
1.00	52.25	14.83	72.99
1.50	60.45	11.45	84.44
2.00	67.52	9.88	94.31
2.50	70.41	4.04	98.35
3.00	71.34	1.30	99.65
3.50	71.53	0.27	99.92
4.00	71.59	0.08	100.00
moment mean,	sorting,	skewness,	kurtosis
0.09	1.30	-0.12	2.27
graphic mean,	sorting,	skewness,	kurtosis
0.09	1.34	-0.09	0.85
D65	Poorly sorted	Near-symmetrical	Platykurtic
0.73	D35 C Medium	-2.51	0.18

Bedload ls 2 12/10/88

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	52.87
Gravel %	Sand %	Silt %	
13.71	86.29	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	1.00	1.89	1.89
-1.50	2.97	3.73	5.62
-1.00	7.25	8.10	13.71
-0.50	13.63	12.07	25.78
0.00	19.87	11.80	37.58
0.50	26.99	13.47	51.05
1.00	34.41	14.03	65.08
1.50	41.90	14.17	79.25
2.00	49.34	14.07	93.32
2.50	52.05	5.13	98.45
3.00	52.75	1.32	99.77
3.50	52.84	0.17	99.94
4.00	52.87	0.06	100.00
moment mean,	sorting,	skewness,	kurtosis
0.39	1.18	-0.17	2.24
graphic mean,	sorting,	skewness,	kurtosis
0.40	1.22	-0.08	0.82
D65	Poorly sorted	Near-symmetrical	Platykurtic
1.00	D35 C Medium	-2.24	0.46

Bedload site 1

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	12	45.94
Gravel %	Sand %	Silt %	
14.74	85.26	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.16	0.35	0.35
-2.00	1.10	2.05	2.39
-1.50	3.04	4.22	6.62
-1.00	6.77	8.12	14.74
-0.50	12.68	12.86	27.60
0.00	18.79	13.30	40.90
0.50	26.10	15.91	56.81
1.00	33.35	15.78	72.59
1.50	39.14	12.60	85.20
2.00	44.92	12.58	97.78
2.50	45.82	1.96	99.74
3.00	45.94	0.26	100.00
moment mean,	sorting,	skewness,	kurtosis
0.23	1.10	-0.24	2.34
graphic mean,	sorting,	skewness,	kurtosis
0.23	1.13	-0.07	0.87
D65	Poorly sorted	Near-symmetrical	Platykurtic
0.76	D35 C Medium	-2.34	0.29

Bedload site 2 1/9/88

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	14	61.83
Gravel %	Sand %	Silt %	
30.42	69.58	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	1.39	2.25	2.25
-2.50	3.30	3.09	5.34
-2.00	6.93	5.87	11.21
-1.50	12.73	9.38	20.59
-1.00	18.81	9.83	30.42
-0.50	25.85	11.39	41.81
0.00	33.00	11.56	53.37
0.50	42.16	14.81	68.19
1.00	51.20	14.62	82.81
1.50	57.01	9.40	92.20
2.00	60.96	6.39	98.59
2.50	61.70	1.20	99.79
3.00	61.81	0.18	99.97
3.50	61.83	0.03	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.28	1.31	-0.26	2.31
graphic mean,	sorting,	skewness,	kurtosis
-0.28	1.35	-0.13	0.87
D65	Poorly sorted	Coarse-skewed	Platykurtic
0.39	D35 C Medium	-3.28	-0.15

Bedload ls 4 1/9/88

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	13	118.09
Gravel %	Sand %	Silt %	
11.23	88.77	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	1.82	1.54	1.54
-2.00	4.40	2.18	3.73
-1.50	7.86	2.93	6.66
-1.00	13.26	4.57	11.23
-0.50	21.96	7.37	18.60
0.00	34.49	10.61	29.21
0.50	59.00	20.76	49.96
1.00	86.94	23.66	73.62
1.50	106.51	16.57	90.19
2.00	115.41	7.54	97.73
2.50	117.67	1.91	99.64
3.00	118.07	0.34	99.98
3.50	118.09	0.02	100.00
moment mean,	sorting,	skewness,	kurtosis
0.34	1.04	-0.77	3.55
graphic mean,	sorting,	skewness,	kurtosis
0.34	1.02	-0.23	1.19
	Poorly sorted	Coarse-skewed	Leptokurtic
D65	D35	C	Medium
0.82	0.14	-2.68	0.50

Bedload Ls 3 1/9/88

start phi,	phi interval,	No intervals,	total wgt(g)
-3.00	0.50	14	75.45
Gravel %	Sand %	Silt %	
17.87	82.13	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	1.16	1.54	1.54
-2.50	2.58	1.88	3.42
-2.00	4.43	2.45	5.87
-1.50	7.74	4.39	10.26
-1.00	13.48	7.61	17.87
-0.50	21.15	10.17	28.03
0.00	28.86	10.22	38.25
0.50	39.06	13.52	51.77
1.00	52.39	17.67	69.44
1.50	64.86	16.53	85.96
2.00	74.02	12.14	98.10
2.50	75.24	1.62	99.72
3.00	75.43	0.25	99.97
3.50	75.45	0.03	100.00
moment mean,	sorting,	skewness,	kurtosis
0.20	1.24	-0.66	2.87
graphic mean,	sorting,	skewness,	kurtosis
0.21	1.25	-0.25	0.91
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.87	-0.16	-3.17	0.43

Bedload LS 5 1/9/88

start phi,	phi interval,	No intervals,	total wgt(g)
-3.50	0.50	15	69.07
Gravel %	Sand %	Silt %	
18.05	81.95	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	0.90	1.30	1.30
-3.00	0.96	0.00	1.30
-2.50	0.96	0.09	1.39
-2.00	3.23	3.29	4.68
-1.50	6.25	4.37	9.05
-1.00	12.47	9.01	18.05
-0.50	23.51	15.98	34.04
0.00	34.97	16.59	50.63
0.50	50.55	22.56	73.19
1.00	62.67	17.55	90.73
1.50	67.20	6.56	97.29
2.00	68.54	1.94	99.23
2.50	68.95	0.59	99.83
3.00	69.04	0.13	99.96
3.50	69.07	0.04	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.15	1.01	-0.64	4.05
graphic mean,	sorting,	skewness,	kurtosis
-0.14	0.97	-0.16	1.01
	Moderately sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.32	-0.47	-3.62	-0.02

Bedload LS 8 1/9/88

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	13	65.54
Gravel %	Sand %	Silt %	
1.45	98.55	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.03	0.05	0.05
-2.00	0.11	0.12	0.17
-1.50	0.37	0.40	0.56
-1.00	0.95	0.88	1.45
-0.50	2.17	1.86	3.31
0.00	4.50	3.56	6.87
0.50	9.66	7.87	14.74
1.00	25.43	24.06	38.80
1.50	47.63	33.87	72.67
2.00	63.53	24.26	96.93
2.50	65.28	2.67	99.60
3.00	65.45	0.26	99.86
3.50	65.54	0.14	100.00
moment mean,	sorting,	skewness,	kurtosis
1.07	0.69	-1.14	5.62
graphic mean,	sorting,	skewness,	kurtosis
1.09	0.65	-0.17	1.09
	Moderately well sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.39	0.92	-1.25	1.17

Wave Profile OPP L

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	13	74.57
Gravel %	Sand %	Silt %	
8.21	91.79	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.34	0.46	0.46
-2.00	0.98	0.86	1.31
-1.50	2.77	2.40	3.71
-1.00	6.12	4.49	8.21
-0.50	11.75	7.55	15.76
0.00	19.23	10.03	25.79
0.50	30.70	15.38	41.17
1.00	45.10	19.31	60.48
1.50	59.02	18.67	79.15
2.00	69.48	14.03	93.17
2.50	73.57	5.48	98.66
3.00	74.42	1.14	99.80
3.50	74.57	0.20	100.00
moment mean,	sorting,	skewness,	kurtosis
0.61	1.06	-0.50	2.99
graphic mean,	sorting,	skewness,	kurtosis
0.62	1.07	-0.15	1.01
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
1.12	0.30	-2.18	0.73

Wave Profile OPP K

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	13	72.03
Gravel %	Sand %	Silt %	
21.98	78.02	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	3.63	5.04	5.04
-2.00	6.40	3.85	8.89
-1.50	11.02	6.41	15.30
-1.00	15.83	6.68	21.98
-0.50	21.76	8.23	30.21
0.00	28.66	9.58	39.79
0.50	37.17	11.81	51.60
1.00	46.06	12.34	63.95
1.50	54.07	11.12	75.07
2.00	64.78	14.87	89.93
2.50	69.79	6.96	96.89
3.00	71.78	2.76	99.65
3.50	72.03	0.35	100.00
moment mean,	sorting,	skewness,	kurtosis
0.26	1.47	-0.36	2.22
graphic mean,	sorting,	skewness,	kurtosis
0.25	1.51	-0.18	0.86
	Poorly sorted	Coarse-skewed	Platykurtic
D65	D35	C	Medium
1.05	-0.25	-2.90	0.43

Wave Profile Peg 1

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	12	74.09
Gravel %	Sand %	Silt %	
13.66	86.34	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	1.36	1.84	1.84
-1.50	4.83	4.68	6.52
-1.00	10.12	7.14	13.66
-0.50	18.19	10.89	24.55
0.00	27.21	12.17	36.73
0.50	39.68	16.83	53.56
1.00	53.07	18.07	71.63
1.50	63.84	14.54	86.17
2.00	71.04	9.72	95.88
2.50	73.53	3.36	99.24
3.00	74.02	0.66	99.91
3.50	74.09	0.09	100.00
moment mean,	sorting,	skewness,	kurtosis
0.30	1.09	-0.24	2.47
graphic mean,	sorting,	skewness,	kurtosis
0.30	1.12	-0.12	0.93
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.82	-0.07	-2.23	0.39

Wave Profile Peg 2

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	12	65.25
Gravel %	Sand %	Silt %	
4.12	95.88	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.22	0.34	0.34
-1.50	1.12	1.38	1.72
-1.00	2.69	2.41	4.12
-0.50	6.49	5.82	9.95
0.00	13.01	9.99	19.94
0.50	25.18	18.65	38.59
1.00	39.91	22.57	61.16
1.50	52.75	19.68	80.84
2.00	61.39	13.24	94.08
2.50	64.56	4.86	98.94
3.00	65.17	0.93	99.88
3.50	65.25	0.12	100.00
moment mean,	sorting,	skewness,	kurtosis
0.91	0.91	-0.38	3.13
graphic mean,	sorting,	skewness,	kurtosis
0.71	0.91	-0.08	1.02
	Moderately sorted	Near-symmetrical	Mesokurtic
D35	C	Medium	
0.40	-1.76	0.75	

Wave Profile Peg 3

start phi, phi interval, No intervals, total wgt(g)
 -2.00 0.50 12 84.89

Gravel %	Sand %	Silt %	
6.61	93.39	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	0.57	0.67	0.67
-1.50	2.46	2.23	2.90
-1.00	5.61	3.71	6.61
-0.50	11.06	6.42	13.03
0.00	19.32	9.73	22.76
0.50	34.62	18.02	40.78
1.00	55.02	24.03	64.81
1.50	71.85	19.83	84.64
2.00	81.29	11.12	95.76
2.50	84.30	3.55	99.30
3.00	84.85	0.65	99.95
3.50	84.89	0.05	100.00

moment mean, sorting, skewness, kurtosis
 0.59 0.94 -0.52 3.19
 graphic mean, sorting, skewness, kurtosis
 0.59 0.94 -0.17 1.09
 Moderately sorted Coarse-skewed Mesokurtic
 D65 D35 C Medium
 1.00 0.34 -1.05 0.69

Wave Profile Peg 4

start phi, phi interval, No intervals, total wgt(g)
 -1.50 0.50 11 90.31

Gravel %	Sand %	Silt %	
2.09	97.91	0.00	
phi size	cum wgt	interval %	cum freq
-1.50	0.69	0.76	0.76
-1.00	1.89	1.33	2.09
-0.50	4.47	2.86	4.95
0.00	9.48	5.55	10.50
0.50	22.36	14.26	24.76
1.00	46.83	27.10	51.85
1.50	71.85	27.70	79.56
2.00	86.91	16.68	96.24
2.50	89.74	3.13	99.37
3.00	90.25	0.56	99.93
3.50	90.31	0.07	100.00

moment mean, sorting, skewness, kurtosis
 0.90 0.75 -0.68 3.97
 graphic mean, sorting, skewness, kurtosis
 0.91 0.74 -0.13 1.10
 Moderately sorted Coarse-skewed Mesokurtic
 D65 D35 C Medium
 1.24 0.69 -1.41 0.97

Wave Profile Peg 5

start phi, phi interval, No intervals, total wgt(g)
 -2.50 0.50 13 87.80

Gravel %	Sand %	Silt %	
1.17	98.83	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.20	0.23	0.23
-2.00	0.32	0.14	0.36
-1.50	0.63	0.35	0.72
-1.00	1.03	0.46	1.17
-0.50	1.97	1.07	2.24
0.00	4.58	2.97	5.22
0.50	14.82	11.66	16.88
1.00	39.48	28.09	44.97
1.50	66.98	31.32	76.29
2.00	82.27	17.41	93.70
2.50	86.98	5.36	99.07
3.00	87.71	0.83	99.90
3.50	87.80	0.10	100.00

moment mean, sorting, skewness, kurtosis
 1.05 0.70 -0.85 6.17
 graphic mean, sorting, skewness, kurtosis
 1.07 0.67 -0.01 1.06
 Moderately well sorted Near-symmetrical Mesokurtic
 D65 D35 C Medium
 1.32 0.82 -1.19 1.08

Wave Profile Crest (top)

start phi, phi interval, No intervals, total wgt(g)
 -1.50 0.50 11 62.70

Gravel %	Sand %	Silt %	
2.12	97.88	0.00	
phi size	cum wgt	interval %	cum freq
-1.50	0.32	0.51	0.51
-1.00	1.33	1.61	2.12
-0.50	3.31	3.16	5.28
0.00	6.89	5.71	10.99
0.50	15.34	13.48	24.47
1.00	27.81	19.89	44.35
1.50	43.81	25.52	69.87
2.00	56.65	20.48	90.35
2.50	61.83	8.26	98.61
3.00	62.61	1.24	99.86
3.50	62.70	0.14	100.00

moment mean, sorting, skewness, kurtosis
 1.02 0.84 -0.57 3.32
 graphic mean, sorting, skewness, kurtosis
 1.03 0.84 -0.14 1.04
 Moderately sorted Coarse-skewed Mesokurtic
 D65 D35 C Medium
 1.40 0.76 -1.35 1.11

Wave Profile Crest (bottom)

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	13	89.87
Gravel %	Sand %	Silt %	
2.10	97.90	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.36	0.40	0.40
-2.00	0.40	0.04	0.45
-1.50	0.73	0.37	0.81
-1.00	1.89	1.29	2.10
-0.50	6.06	4.64	6.74
0.00	13.73	8.53	15.28
0.50	28.18	16.08	31.36
1.00	49.05	23.22	54.58
1.50	70.43	23.79	78.37
2.00	84.33	15.47	93.84
2.50	89.08	5.29	99.12
3.00	89.79	0.79	99.91
3.50	89.87	0.09	100.00

moment mean,	sorting,	skewness,	kurtosis
0.84	0.85	-0.57	3.86
graphic mean,	sorting,	skewness,	kurtosis
0.85	0.84	-0.10	1.02
Moderately sorted Near-symmetrical Mesokurtic			
D65	D35	C	Medium
1.22	0.58	-1.43	0.90

Wave Profile Peg 6 Surface

start phi	phi interval	No intervals	total wgt(g)
-1.00	0.50	11	62.89
Gravel %	Sand %	Silt %	
0.19	99.81	0.00	
phi size	cum wgt	interval %	cum freq
-1.00	0.12	0.19	0.19
-0.50	0.34	0.35	0.54
0.00	1.05	1.13	1.67
0.50	2.75	2.70	4.37
1.00	6.90	6.60	10.97
1.50	14.94	12.78	23.76
2.00	32.48	27.89	51.65
2.50	52.13	31.25	82.89
3.00	59.44	11.62	94.51
3.50	61.85	3.83	98.35
4.00	62.89	1.65	100.00

moment mean,	sorting,	skewness,	kurtosis
1.91	0.75	-0.52	4.16
graphic mean,	sorting,	skewness,	kurtosis
1.91	0.74	-0.14	1.21
Moderately sorted Coarse-skewed Leptokurtic			
D65	D35	C	Medium
2.21	1.70	-0.30	1.97

Wave profile Peg 6 Bottom

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	100.11
Gravel %	Sand %	Silt %	
16.93	83.07	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	1.04	1.04	1.04
-2.00	3.55	2.51	3.55
-1.50	9.96	6.40	9.95
-1.00	16.95	6.98	16.93
-0.50	26.59	9.63	26.56
0.00	37.56	10.96	37.52
0.50	52.23	14.65	52.17
1.00	68.25	16.00	68.18
1.50	79.43	11.17	79.34
2.00	89.01	9.57	88.91
2.50	95.07	6.05	94.97
3.00	97.89	2.82	97.78
3.50	99.27	1.38	99.16
4.00	100.11	0.84	100.00

moment mean,	sorting,	skewness,	kurtosis
0.37	1.34	-0.03	2.58
graphic mean,	sorting,	skewness,	kurtosis
0.36	1.36	-0.06	0.95
Poorly sorted Near-symmetrical Mesokurtic			
D65	D35	C	Medium
0.90	-0.11	-2.52	0.43

Wave Profile Peg 7 bottom

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	74.29
Gravel %	Sand %	Silt %	
21.86	78.14	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.58	0.78	0.78
-2.00	3.81	4.35	5.13
-1.50	10.05	8.40	13.53
-1.00	16.24	8.33	21.86
-0.50	22.78	8.80	30.66
0.00	29.80	9.45	40.11
0.50	40.57	14.50	54.61
1.00	51.84	15.17	69.78
1.50	61.79	13.39	83.17
2.00	69.45	10.31	93.48
2.50	72.94	4.70	98.18
3.00	74.03	1.47	99.65
3.50	74.25	0.30	99.95
4.00	74.29	0.05	100.00

moment mean,	sorting,	skewness,	kurtosis
0.20	1.30	-0.21	2.23
graphic mean,	sorting,	skewness,	kurtosis
0.19	1.34	-0.15	0.85
Poorly sorted Coarse-skewed Platykurtic			
D65	D35	C	Medium
0.84	-0.27	-2.47	0.34

Wave Profile Peg 8 Surface

start phi	phi interval	No intervals	total wgt(g)
-2.00	0.50	13	48.84
Gravel %	Sand %	Silt %	
7.53	92.47	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	1.64	3.36	3.36
-1.50	2.86	2.50	5.86
-1.00	3.68	1.68	7.53
-0.50	4.65	1.99	9.52
0.00	6.94	4.69	14.21
0.50	10.66	7.62	21.83
1.00	16.04	11.02	32.84
1.50	19.90	7.90	40.75
2.00	24.26	8.93	49.67
2.50	30.22	12.20	61.88
3.00	36.77	13.41	75.29
3.50	43.01	12.78	88.06
4.00	48.84	11.94	100.00
moment mean,	sorting,	skewness,	kurtosis
1.70	1.55	-0.69	2.77
graphic mean,		skewness,	kurtosis
1.69		-0.26	0.95
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
2.62	1.14	0.01	

Wave Profile Peg 9 Surface

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	55.63
gravel %	Sand %	Silt %	
18.30	81.70	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	1.74	3.13	3.13
-2.00	4.43	4.84	7.96
-1.50	7.11	4.82	12.78
-1.00	10.18	5.52	18.30
-0.50	13.47	5.91	24.21
0.00	17.30	6.88	31.10
0.50	21.56	7.66	38.76
1.00	26.46	8.81	47.56
1.50	30.84	7.87	55.44
2.00	36.62	10.39	65.83
2.50	43.77	12.85	78.68
3.00	48.00	7.60	86.28
3.50	51.77	6.78	93.06
4.00	55.63	6.94	100.00
moment mean,	sorting,	skewness,	kurtosis
0.93	1.81	-0.31	2.09
graphic mean,		skewness,	kurtosis
0.94		-0.16	0.87
	Poorly sorted	Coarse-skewed	Platykurtic
D65	D35	C	Medium
1.96	0.25	-2.84	1.15

Wave Profile Peg 9 bottom

start phi	phi interval	No intervals	total wgt(g)
-3.50	0.50	16	103.54
Gravel %	Sand %	Silt %	
26.07	73.93	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	2.22	2.14	2.14
-3.00	3.20	0.95	3.09
-2.50	5.01	1.75	4.84
-2.00	10.92	5.71	10.55
-1.50	18.42	7.24	17.79
-1.00	26.99	8.28	26.07
-0.50	38.53	11.15	37.21
0.00	50.28	11.35	48.56
0.50	66.14	15.32	63.88
1.00	79.75	13.14	77.02
1.50	90.14	10.03	87.06
2.00	98.10	7.69	94.75
2.50	101.81	3.58	98.33
3.00	103.20	1.34	99.67
3.50	103.51	0.30	99.97
4.00	103.54	0.03	100.00
moment mean,	sorting,	skewness,	kurtosis
-0.16	1.42	-0.33	2.73
graphic mean,		skewness,	kurtosis
-0.00		-0.12	0.93
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.54	0.60	0.05	

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.50	15	158.78
Gravel %	Sand %	Silt %	
24.05	75.95	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.82	0.52	0.52
-2.50	4.72	2.46	2.97
-2.00	14.03	5.86	8.84
-1.50	25.15	7.00	15.84
-1.00	38.18	8.21	24.05
-0.50	53.62	9.72	33.77
0.00	69.98	10.30	44.07
0.50	95.11	15.83	59.90
1.00	121.35	16.53	76.43
1.50	139.97	11.73	88.15
2.00	152.66	7.99	96.15
2.50	157.03	2.75	98.90
3.00	158.48	0.91	99.81
3.50	158.76	0.18	99.99
4.00	158.78	0.01	100.00
moment mean,	sorting,	skewness,	kurtosis
0.00	1.30	-0.29	2.39
graphic mean,		skewness,	kurtosis
0.00		-0.19	0.91
	Poorly sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.65	-0.44	-2.90	0.19

Surface Sample 1/1

start phi	phi interval	No intervals	total wgt(g)
-5.50	0.50	17	951.10
Gravel %	Sand %	Silt %	
97.49	2.51	0.00	
phi size	cum wgt	interval %	cum freq
-5.50	157.60	16.56	16.56
-5.00	342.10	19.38	35.94
-4.50	455.90	11.96	47.89
-4.00	569.00	11.88	59.78
-3.50	743.90	18.37	78.15
-3.00	824.50	8.47	86.62
-2.50	880.00	5.83	92.45
-2.00	909.20	3.07	95.51
-1.50	923.30	1.48	97.00
-1.00	928.00	0.49	97.49
-0.50	931.00	0.32	97.80
0.00	933.90	0.30	98.11
0.50	940.50	0.69	98.80
1.00	945.60	0.54	99.34
1.50	949.30	0.39	99.73
2.00	951.10	0.19	99.92
2.50	951.90	0.08	100.00
moment mean,	sorting,	skewness,	kurtosis
-4.26	1.30	1.39	6.20
graphic mean,	sorting,	skewness,	kurtosis
-4.31	1.19	0.15	0.91
Poorly sorted Fine-skewed Mesokurtic			
D65	D35	C	Medium
-3.86	-5.02	-5.97	-4.41

Surface Sample 2/1

start phi	phi interval	No intervals	total wgt(g)
-5.00	0.50	17	665.20
Gravel %	Sand %	Silt %	
96.68	3.32	0.00	
phi size	cum wgt	interval %	cum freq
-5.00	78.90	11.86	11.86
-4.50	239.20	24.10	35.96
-4.00	409.30	25.57	61.53
-3.50	534.90	18.88	80.41
-3.00	586.60	7.77	88.18
-2.50	614.60	4.21	92.39
-2.00	628.80	2.13	94.53
-1.50	638.40	1.44	95.97
-1.00	643.10	0.71	96.68
-0.50	647.10	0.60	97.28
0.00	650.00	0.44	97.71
0.50	653.30	0.50	98.21
1.00	657.50	0.63	98.84
1.50	660.70	0.48	99.32
2.00	663.40	0.41	99.73
2.50	664.80	0.21	99.94
3.00	665.20	0.06	100.00
moment mean,	sorting,	skewness,	kurtosis
-3.99	1.18	2.36	10.60
graphic mean,	sorting,	skewness,	kurtosis
-4.05	1.00	0.27	1.31
Poorly sorted Fine-skewed Leptokurtic			
D65	D35	C	Medium

Surface Sample 3/1

start phi	phi interval	No intervals	total wgt(g)
-4.50	0.50	16	219.40
Gravel %	Sand %	Silt %	
95.21	4.79	0.00	
phi size	cum wgt	interval %	cum freq
-4.50	115.00	52.42	52.42
-4.00	154.00	17.78	70.19
-3.50	188.80	15.86	86.05
-3.00	198.90	4.60	90.66
-2.50	206.00	3.24	93.89
-2.00	207.00	0.46	94.35
-1.50	208.10	0.50	94.85
-1.00	208.90	0.36	95.21
-0.50	210.40	0.68	95.90
0.00	211.80	0.64	96.54
0.50	213.30	0.68	97.22
1.00	215.10	0.82	98.04
1.50	216.30	0.55	98.59
2.00	217.80	0.68	99.27
2.50	219.00	0.55	99.82
3.00	219.40	0.18	100.00
moment mean,	sorting,	skewness,	kurtosis
-4.06	1.26	3.11	13.46
graphic mean,	sorting,	skewness,	kurtosis
-4.11	0.99	0.63	1.64
Moderately sorted Strongly fine-skewed Very leptokurtic			
D65	D35	C	Medium
-4.15	-4.67	-4.99	-4.52

Surface Sample 3/2

start phi	phi interval	No intervals	total wgt(g)
-5.00	0.50	17	1839.50
Gravel %	Sand %	Silt %	
62.35	37.65	0.00	
phi size	cum wgt	interval %	cum freq
-5.00	330.40	17.96	17.96
-4.50	509.10	9.71	27.68
-4.00	656.00	7.99	35.66
-3.50	811.00	8.43	44.09
-3.00	905.20	5.12	49.21
-2.50	999.70	5.14	54.35
-2.00	1059.20	3.23	57.58
-1.50	1107.60	2.63	60.21
-1.00	1146.90	2.14	62.35
-0.50	1204.80	3.15	65.50
0.00	1282.70	4.23	69.73
0.50	1424.50	7.71	77.44
1.00	1596.00	9.32	86.76
1.50	1698.20	5.56	92.32
2.00	1794.60	5.24	97.56
2.50	1836.70	2.29	99.85
3.00	1839.50	0.15	100.00
mean,	sorting,	skewness,	kurtosis
-2.24	2.53	0.29	1.55
graphic mean,	sorting,	skewness,	kurtosis
-2.25	2.61	0.30	0.59
Very poorly sorted Fine-skewed Very platykurtic			
D65	D35	C	Medium
-0.58	-4.04	-5.47	-2.92

Surface Sample 3/3

start phi	phi interval	No intervals	total wgt(g)
-5.00	0.50	19	577.78
Gravel %	Sand %	Silt %	
54.10	45.90	0.00	
phi size	cum wgt	interval %	cum freq
-5.00	45.20	7.82	7.82
-4.50	173.40	22.19	30.01
-4.00	219.40	7.96	37.97
-3.50	248.00	4.95	42.92
-3.00	281.73	5.84	48.76
-2.50	296.80	2.61	51.37
-2.00	303.60	1.18	52.55
-1.50	308.10	0.78	53.32
-1.00	312.60	0.78	54.10
-0.50	320.90	1.44	55.54
0.00	337.60	2.89	58.43
0.50	402.80	11.28	69.72
1.00	489.90	15.07	84.79
1.50	552.20	10.78	95.57
2.00	571.80	3.39	98.96
2.50	576.90	0.88	99.85
3.00	577.60	0.12	99.97
3.50	577.70	0.02	99.99
4.00	577.78	0.01	100.00
moment mean,	sorting,	skewness,	kurtosis
-1.96	2.61	0.08	1.26
graphic mean,	sorting,	skewness,	kurtosis
-1.94	2.61	0.28	0.52
Very poorly sorted		Fine-skewed	Very platykurtic
D65	D35	C	Medium
0.29	-4.19	-5.44	-2.76

Surface Sample 4/1

start phi	phi interval	No intervals	total wgt(g)
-4.50	0.50	16	266.53
Gravel %	Sand %	Silt %	
97.84	2.16	0.00	
phi size	cum wgt	interval %	cum freq
-4.50	129.49	48.58	48.58
-4.00	200.60	26.68	75.26
-3.50	242.45	15.70	90.97
-3.00	251.17	3.27	94.24
-2.50	256.67	2.06	96.30
-2.00	258.63	0.74	97.04
-1.50	259.00	0.14	97.17
-1.00	260.77	0.66	97.84
-0.50	261.66	0.33	98.17
0.00	262.40	0.28	98.45
0.50	263.24	0.32	98.77
1.00	264.10	0.32	99.09
1.50	264.70	0.23	99.31
2.00	265.50	0.30	99.61
2.50	266.16	0.25	99.86
3.00	266.53	0.14	100.00
moment mean,	sorting,	skewness,	kurtosis
-4.20	0.96	3.87	22.10
graphic mean,	sorting,	skewness,	kurtosis
-4.28	0.64	0.45	1.19
Moderately well sorted		Strongly fine-skewed	Leptokurtic
D65	D35	C	Medium
-4.19	-4.64	-4.99	-4.47

Surface Sample 4/2

start phi	phi interval	No intervals	total wgt(g)
-5.50	0.50	17	998.00
Gravel %	Sand %	Silt %	
97.71	2.29	0.00	
phi size	cum wgt	interval %	cum freq
-5.50	192.20	19.26	19.26
-5.00	495.20	30.36	49.62
-4.50	763.30	26.86	76.48
-4.00	851.00	8.79	85.27
-3.50	927.00	7.62	92.89
-3.00	952.00	2.51	95.39
-2.50	963.00	1.10	96.49
-2.00	969.20	0.62	97.11
-1.50	972.40	0.32	97.43
-1.00	975.10	0.27	97.71
-0.50	977.60	0.25	97.96
0.00	980.10	0.25	98.21
0.50	984.00	0.39	98.60
1.00	989.20	0.52	99.12
1.50	993.00	0.38	99.50
2.00	996.20	0.32	99.82
2.50	998.00	0.18	100.00
moment mean,	sorting,	skewness,	kurtosis
-4.75	1.13	3.06	15.66
graphic mean,	sorting,	skewness,	kurtosis
-4.84	0.85	0.29	1.30
Moderately sorted		Fine-skewed	Leptokurtic
D65	D35	C	Medium
-4.71	-5.24	-5.97	-4.99

Surface Sample 4/3

start phi	phi interval	No intervals	total wgt(g)
-5.00	0.50	18	333.07
Gravel %	Sand %	Silt %	
48.06	51.94	0.00	
phi size	cum wgt	interval %	cum freq
-5.00	37.70	11.32	11.32
-4.50	37.70	0.00	11.32
-4.00	108.50	21.26	32.58
-3.50	138.57	9.03	41.60
-3.00	145.00	1.93	43.53
-2.50	146.18	0.35	43.89
-2.00	150.00	1.15	45.04
-1.50	154.00	1.20	46.24
-1.00	160.07	1.82	48.06
-0.50	171.92	3.56	51.62
0.00	198.90	8.10	59.72
0.50	253.60	16.42	76.14
1.00	304.47	15.27	91.41
1.50	322.56	5.43	96.84
2.00	329.20	1.99	98.84
2.50	332.56	1.01	99.85
3.00	333.04	0.14	99.99
3.50	333.07	0.01	100.00
moment mean,	sorting,	skewness,	kurtosis
-1.74	2.43	-0.14	1.34
graphic mean,	sorting,	skewness,	kurtosis
-1.73	2.44	-0.40	0.58
Very poorly sorted		Strongly coarse-skewed	Very platykurtic
D65	D35	C	Medium
0.16	-3.87	-5.46	-0.73

Surface Sample 5/1

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.50	14	262.80
Gravel %	Sand %	Silt %	
5.38	94.62	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	3.83	1.46	1.46
-2.00	7.00	1.21	2.66
-1.50	10.50	1.33	4.00
-1.00	14.13	1.38	5.38
-0.50	18.80	1.78	7.15
0.00	24.08	2.01	9.16
0.50	31.20	2.71	11.87
1.00	40.18	3.42	15.29
1.50	52.96	4.86	20.15
2.00	94.80	15.92	36.07
2.50	179.60	32.27	68.34
3.00	235.30	21.19	89.54
3.50	255.13	7.55	97.08
4.00	262.80	2.92	100.00
moment mean,	sorting,	skewness,	kurtosis
1.91	1.28	-1.76	6.24
graphic mean,	sorting,	skewness,	kurtosis
1.92	1.13	-0.38	1.83
Poorly sorted Strongly coarse-skewed Very leptokurtic			
D65	D35	C	Medium
2.45	1.97	-2.66	2.22

Surface Sample 5/2

start phi	phi interval	No intervals	total wgt(g)
-4.50	0.50	17	2006.60
Gravel %	Sand %	Silt %	
56.67	43.33	0.00	
phi size	cum wgt	interval %	cum freq
-4.50	18.20	0.91	0.91
-4.00	235.50	10.83	11.74
-3.50	485.20	12.44	24.18
-3.00	673.50	9.38	33.56
-2.50	858.80	9.23	42.80
-2.00	963.00	5.19	47.99
-1.50	1056.60	4.66	52.66
-1.00	1137.20	4.02	56.67
-0.50	1209.80	3.62	60.29
0.00	1275.30	3.26	63.56
0.50	1362.30	4.34	67.89
1.00	1527.30	8.22	76.11
1.50	1693.70	8.29	84.41
2.00	1862.50	8.41	92.82
2.50	1975.40	5.63	98.45
3.00	2004.90	1.47	99.92
3.50	2006.60	0.08	100.00
moment mean,	sorting,	skewness,	kurtosis
-1.32	2.28	0.22	1.55
graphic mean,	sorting,	skewness,	kurtosis
-1.32	2.35	0.23	0.61
Very poorly sorted Fine-skewed Very platykurtic			
D65	D35	C	Medium
0.17	-2.92	-4.50	-1.78

Surface Sample 5/3

start phi	phi interval	No intervals	total wgt(g)
-5.00	0.50	18	1457.80
Gravel %	Sand %	Silt %	
66.74	33.26	0.00	
phi size	cum wgt	interval %	cum .req
-5.00	56.60	3.88	3.88
-4.50	172.10	7.92	11.81
-4.00	327.80	10.68	22.49
-3.50	456.60	8.84	31.32
-3.00	575.10	8.13	39.45
-2.50	719.80	9.93	49.38
-2.00	833.30	7.79	57.16
-1.50	916.90	5.73	62.90
-1.00	972.90	3.84	66.74
-0.50	1029.70	3.90	70.63
0.00	1089.90	4.13	74.76
0.50	1169.90	5.49	80.25
1.00	1265.20	6.54	86.79
1.50	1342.30	5.29	92.08
2.00	1409.60	4.62	96.69
2.50	1447.00	2.57	99.26
3.00	1456.80	0.67	99.93
3.50	1457.80	0.07	100.00
moment mean,	sorting,	skewness,	kurtosis
-1.98	2.20	0.39	1.94
graphic mean,	sorting,	skewness,	kurtosis
-1.98	2.27	0.27	0.71
Very poorly sorted Fine-skewed Platykurtic			
D65	D35	C	Medium
-1.23	-3.27	-5.37	-2.46

Surface Sample 5/4

start phi	phi interval	No intervals	total wgt(g)
-4.50	0.50	17	1751.80
Gravel %	Sand %	Silt %	
65.85	34.15	0.00	
phi size	cum wgt	interval %	cum freq
-4.50	111.14	6.34	6.34
-4.00	258.00	8.38	14.73
-3.50	416.90	9.07	23.80
-3.00	566.71	8.55	32.35
-2.50	775.64	11.93	44.28
-2.00	946.40	9.75	54.02
-1.50	1072.35	7.19	61.21
-1.00	1153.60	4.64	65.85
-0.50	1220.60	3.82	69.68
0.00	1281.67	3.49	73.13
0.50	1383.95	5.84	79.00
1.00	1537.64	8.77	87.77
1.50	1636.96	5.67	93.44
2.00	1709.10	4.12	97.56
2.50	1742.42	1.90	99.46
3.00	1750.44	0.46	99.92
3.50	1751.80	0.08	100.00
moment mean,	sorting,	skewness,	kurtosis
-1.76	2.03	0.36	1.94
graphic mean,	sorting,	skewness,	kurtosis
-1.77	2.10	0.25	0.72
Very poorly sorted Fine-skewed Platykurtic			
D65	D35	C	Medium
-1.09	-2.89	-4.92	-2.21

Surface Sample 5/5

start phi, phi interval, No intervals, total wgt(g)
 -4.50 0.50 18 1055.50

Gravel %	Sand %	Silt %	
40.01	59.99	0.00	
phi size	cum wgt	interval %	cum freq
-4.50	31.60	2.99	2.99
-4.00	71.00	3.73	6.73
-3.50	138.20	6.37	13.09
-3.00	240.40	9.68	22.78
-2.50	327.10	8.21	30.99
-2.00	365.50	3.64	34.63
-1.50	394.10	2.71	37.34
-1.00	422.30	2.67	40.01
-0.50	461.70	3.73	43.74
0.00	510.90	4.66	48.40
0.50	613.70	9.74	58.14
1.00	853.50	22.72	80.86
1.50	970.30	11.07	91.93
2.00	1002.60	3.06	94.99
2.50	1030.00	2.60	97.58
3.00	1048.90	1.79	99.37
3.50	1054.10	0.49	99.87
4.00	1055.50	0.13	100.00

moment mean, sorting, skewness, kurtosis
 -0.77 2.09 -0.35 1.80
 graphic mean, sorting, skewness, kurtosis
 -0.77 2.14 -0.46 0.68

Very poorly sorted Strongly coarse-skewed Platykurtic
 D65 D35 C Medium
 0.65 -1.93 -4.83 0.08

Surface Sample 6/1

start phi, phi interval, No intervals, total wgt(g)
 -1.00 0.25 18 102.20

Gravel %	Sand %	Silt %	
0.23	99.77	0.00	
phi size	cum wgt	interval %	cum freq
-1.00	0.23	0.23	0.23
-0.75	0.38	0.15	0.37
-0.50	0.96	0.57	0.94
-0.25	2.00	1.02	1.96
0.00	4.17	2.12	4.08
0.25	8.64	4.37	8.45
0.50	17.17	8.35	16.80
0.75	32.36	14.86	31.66
1.00	53.45	20.64	52.30
1.25	69.69	15.89	68.19
1.50	82.53	12.56	80.75
1.75	93.63	10.86	91.61
2.00	97.02	3.32	94.93
2.25	99.75	2.67	97.60
2.50	101.65	1.86	99.46
2.75	102.13	0.47	99.93
3.00	102.18	0.05	99.98
3.25	102.20	0.02	100.00

moment mean, sorting, skewness, kurtosis
 1.00 0.58 -0.02 3.54
 graphic mean, sorting, skewness, kurtosis
 1.01 0.57 0.08 1.07

Moderately well sorted Near-symmetrical Mesokurtic
 D65 D35 C Medium
 1.20 0.79 -0.49 0.97

Surface Sample 6/3

start phi, phi interval, No intervals, total wgt(g)
 -2.75 0.25 24 13.47

Gravel %	Sand %	Silt %	
15.51	84.49	0.00	
phi size	cum wgt	interval %	cum freq
-2.75	0.67	0.59	0.59
-2.50	2.22	1.37	1.96
-2.25	2.74	0.46	2.41
-2.00	4.80	1.82	4.23
-1.75	6.88	1.83	6.06
-1.50	9.26	2.10	8.16
-1.25	12.80	3.12	11.28
-1.00	17.60	4.23	15.51
-0.75	20.74	2.77	18.28
-0.50	25.84	4.49	22.77
-0.25	32.55	5.91	28.69
0.00	41.07	7.51	36.19
0.25	53.02	10.53	46.73
0.50	65.94	11.39	58.11
0.75	79.34	11.81	69.92
1.00	92.51	11.61	81.53
1.25	100.80	7.31	88.83
1.50	106.46	4.99	93.82
1.75	110.42	3.49	97
2.00	111.77	1.19	98.50
2.25	112.79	0.90	99.40
2.50	113.25	0.41	99.81
2.75	113.44	0.17	99.97
3.00	113.47	0.03	100.00

moment mean, sorting, skewness, kurtosis
 0.15 1.03 -0.67 3.23
 graphic mean, sorting, skewness, kurtosis
 0.15 1.00 -0.26 1.13

Poorly sorted Coarse-skewed Leptokurtic
 D65 D35 C Medium
 0.65 -0.04 -2.68 0.32

Surface Sample 6/4

start phi,	phi interval,	No intervals,	total wgt(g)
-3.50	0.25	26	245.96
Gravel %	Sand %	Silt %	
84.60	15.40	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	42.00	17.08	17.08
-3.25	66.32	9.89	26.36
-3.00	92.06	10.47	37.43
-2.75	121.17	11.84	49.26
-2.50	144.30	9.40	58.67
-2.25	161.93	7.17	65.84
-2.00	176.62	5.97	71.81
-1.75	188.98	5.03	76.83
-1.50	198.59	3.91	80.74
-1.25	204.60	2.44	83.18
-1.00	208.09	1.42	84.60
-0.75	211.09	1.22	85.82
-0.50	213.55	1.00	86.82
-0.25	215.59	0.83	87.65
0.00	217.49	0.77	88.42
0.25	220.15	1.08	89.51
0.50	224.00	1.57	91.07
0.75	228.55	1.85	92.92
1.00	233.24	1.91	94.83
1.25	236.82	1.46	96.28
1.50	242.96	2.50	98.78
1.75	244.14	0.48	99.26
2.00	245.25	0.45	99.71
2.25	245.73	0.20	99.91
2.50	245.93	0.08	99.99
2.75	245.96	0.01	100.00
	sorting,	skewness,	kurtosis
	1.40	1.38	4.04
graphic mean,	sorting,	skewness,	kurtosis
-2.30	1.31	0.47	1.32
	Poorly sorted	Strongly fine-skewed	Leptokurtic
D65	D35	C	Medium
-2.28	-3.06	3.74	-2.73

Surface Sample 6/5

start phi,	phi interval,	No intervals,	total wgt(g)
-3.50	0.25	27	190.98
Gravel %	Sand %	Silt %	
89.52	10.48	0.00	
phi size	cum wgt	interval %	cum freq
-3.50	7.50	3.93	3.93
-3.25	36.04	14.94	18.87
-3.00	52.89	8.82	27.69
-2.75	81.61	15.04	42.73
-2.50	97.60	8.37	51.10
-2.25	122.07	12.81	63.92
-2.00	137.03	7.83	71.75
-1.75	150.89	7.26	79.01
-1.50	160.48	5.02	84.03
-1.25	167.32	3.58	87.61
-1.00	170.96	1.91	89.52
-0.75	173.93	1.56	91.07
-0.50	176.50	1.35	92.42
-0.25	178.12	0.85	93.27
0.00	179.33	0.63	93.90
0.25	180.53	0.63	94.53
0.50	182.09	0.82	95.35
0.75	183.70	0.84	96.19
1.00	185.49	0.94	97.13
1.25	186.98	0.78	97.91
1.50	188.48	0.79	98.69
1.75	189.96	0.77	99.47
2.00	190.41	0.24	99.70
2.25	190.79	0.20	99.90
2.50	190.91	0.06	99.96
2.75	190.97	0.03	99.99
3.00	190.98	0.01	100.00
moment mean,	sorting,	skewness,	kurtosis
-2.30	1.13	1.63	5.85
graphic mean,	sorting,	skewness,	kurtosis
-2.30	1.04	0.33	1.34
	Poorly sorted	Strongly fine-skewed	Leptokurtic
D65	D35	C	Medium
-2.22	-2.88	-3.69	-2.53

Surface Sample 7/1

start phi	phi interval	No intervals	total wgt(g)
-3.00	0.25	26	118.13
Gravel %	Sand %	Silt %	
4.33	95.67	0.00	
phi size	cum wgt	interval %	cum freq
-3.00	0.81	0.69	0.69
-2.75	0.81	0.00	0.69
-2.50	0.81	0.00	0.69
-2.25	1.45	0.54	1.23
-2.00	1.77	0.27	1.50
-1.75	2.13	0.36	1.80
-1.50	2.50	0.37	2.12
-1.25	3.89	1.18	3.79
-1.00	5.12	1.04	4.33
-0.75	7.31	1.85	6.19
-0.50	11.43	3.49	9.68
-0.25	16.10	3.95	13.63
0.00	22.44	5.37	19.00
0.25	32.02	8.11	27.11
0.50	45.18	11.14	38.25
0.75	61.72	14.00	52.25
1.00	82.00	17.17	69.42
1.25	90.86	7.50	76.92
1.50	104.42	11.48	88.39
1.75	112.69	7.00	95.39
2.00	114.67	1.68	97.07
2.25	116.3	1.66	98.73
2.50	117.31	0.58	99.31
2.75	117.77	0.39	99.70
3.00	118.06	0.25	99.94
3.25	118.13	0.06	100.00
moment mean,	sorting,	skewness,	kurtosis
0.61	0.87	-0.99	5.46
graphic mean,	sorting,	skewness,	kurtosis
0.62	0.81	-0.16	1.08
	Moderately sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.94	0.43	-2.35	0.71

Surface Sample 7/2

start phi	phi interval	No intervals	total wgt(g)
-2.25	0.25	22	81.46
Gravel %	Sand %	Silt %	
8.57	91.43	0.00	
phi size	cum wgt	interval %	cum freq
-2.25	0.52	0.64	0.64
-2.00	1.37	1.04	1.68
-1.75	1.88	0.63	2.31
-1.50	2.96	1.33	3.63
-1.25	4.61	2.03	5.66
-1.00	6.98	2.91	8.57
-0.75	9.74	3.39	11.96
-0.50	14.95	5.40	18.35
-0.25	20.61	6.95	25.30
0.00	28.25	9.38	34.68
0.25	37.71	11.61	46.29
0.50	49.27	14.19	60.48
0.75	61.04	14.45	74.93
1.00	70.61	11.75	86.68
1.25	75.22	5.66	92.34
1.50	78.65	4.21	96.55
1.75	79.84	1.46	98.01
2.00	80.87	1.26	99.28
2.25	81.15	0.34	99.62
2.50	81.31	0.20	99.82
2.75	81.42	0.14	99.95
3.00	81.46	0.05	100.00
moment mean,	sorting,	skewness,	kurtosis
0.21	0.82	-0.54	3.56
graphic mean,	sorting,	skewness,	kurtosis
0.21	0.80	-0.19	1.11
	Moderately sorted	Coarse-skewed	Mesokurtic
D65	D35	C	Medium
0.58	0.01	-2.16	0.32

Surface Sample 7/3

A6.10/27

start phi	phi interval	No intervals	total wgt(g)
-2.50	0.25	23	106.46
Gravel %	Sand %	Silt %	
2.31	97.69	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.37	0.35	0.35
-2.25	0.37	0.00	0.35
-2.00	0.68	0.29	0.64
-1.75	1.09	0.39	1.02
-1.50	1.38	0.27	1.30
-1.25	1.79	0.39	1.68
-1.00	2.46	0.63	2.31
-0.75	3.50	0.98	3.29
-0.50	5.04	1.45	4.73
-0.25	7.21	2.04	6.77
0.00	10.78	3.35	10.13
0.25	16.07	4.97	15.09
0.50	24.83	8.23	23.32
0.75	38.09	12.46	35.78
1.00	58.56	19.23	55.01
1.25	73.81	14.32	69.33
1.50	90.91	16.06	85.39
1.75	107.92	9.40	94.80
2.00	103.61	2.53	97.32
2.25	105.56	1.83	99.15
2.50	106.05	0.46	99.61
2.75	106.40	0.33	99.94
3.00	106.46	0.06	100.00
moment mean,	sorting,	skewness,	kurtosis
0.86	0.72	-1.23	6.21
graphic mean,	sorting,	skewness,	kurtosis
0.67	0.67	-0.17	1.14
Moderately well sorted Coarse-skewed Leptokurtic			
D65	D35	C	Medium
1.17	0.73	-1.77	0.93

Surface Samples 7/4

A6.10/28

start phi	phi interval	No intervals	total wgt(g)
-3.25	0.25	24	180.78
Gravel %	Sand %	Silt %	
13.72	86.25	0.03	
phi size	cum wgt	interval %	cum freq
-3.25	3.67	2.03	2.03
-3.00	4.86	0.66	2.69
-2.75	7.35	1.38	4.07
-2.50	8.02	0.37	4.44
-2.25	9.01	0.55	4.98
-2.00	9.68	0.37	5.35
-1.75	12.64	1.64	6.99
-1.50	15.60	1.64	8.63
-1.25	19.70	2.27	10.90
-1.00	24.80	2.82	13.72
-0.75	32.24	4.12	17.83
-0.50	44.33	6.69	24.52
-0.25	56.83	6.91	31.44
0.00	72.07	8.43	39.87
0.25	88.05	8.84	48.71
0.50	107.68	10.86	59.56
0.75	129.62	12.14	71.70
1.00	152.00	12.38	84.08
1.25	165.53	7.48	91.56
1.50	175.92	5.75	97.31
1.75	179.48	1.97	99.28
2.00	180.10	0.34	99.62
2.25	180.60	0.28	99.90
2.50	180.72	0.07	99.97
moment mean,	sorting,	skewness,	kurtosis
0.05	1.08	-1.16	4.43
graphic mean,	sorting,	skewness,	kurtosis
0.06	1.05	-0.31	1.15
Poorly sorted Strongly coarse-skewed Leptokurtic			
D65	D35	C	Medium
0.61	-0.14	-3.38	0.28

start phi,	phi interval,	No intervals,	total wgt(g)
-1.75	0.25	17	125.04
Gravel %	Sand %	Silt %	
1.14	98.86	0.00	
phi size	cum wgt	interval %	cum freq
-1.75	0.15	0.12	0.12
-1.50	0.33	0.14	0.26
-1.25	0.76	0.34	0.61
-1.00	1.43	0.54	1.14
-0.75	2.92	1.19	2.34
-0.50	6.93	3.21	5.54
-0.25	13.37	5.15	10.69
0.00	24.25	8.70	19.39
0.25	42.26	14.40	33.79
0.50	58.82	21.24	55.04
0.75	94.21	20.31	75.34
1.00	112.00	14.23	89.57
1.25	118.95	5.56	95.13
1.50	123.45	3.60	98.73
1.75	124.85	1.12	99.85
2.00	125.01	0.13	99.98
2.25	125.04	0.02	100.00
moment mean,	sorting,	skewness,	kurtosis
0.41	0.53	-0.47	3.85
graphic mean,	sorting,	skewness,	kurtosis
0.41	0.52	-0.09	1.13
Moderately well sorted Near-symmetrical			
D65	D35	C	Medium
0.62	0.26	-1.07	0.44

Surface Sample 17

start phi,	phi interval,	No intervals,	total wgt(g)
-2.00	0.50	13	136.05
Gravel %	Sand %	Silt %	
5.86	94.14	0.00	
phi size	cum wgt	interval %	cum freq
-2.00	1.35	0.99	0.99
-1.50	3.56	1.62	2.62
-1.00	7.97	3.24	5.86
-0.50	14.03	4.45	10.31
0.00	19.46	3.99	14.30
0.50	26.64	5.28	19.58
1.00	40.16	9.94	29.52
1.50	59.05	13.88	43.40
2.00	99.26	29.56	72.96
2.50	126.80	20.24	93.20
3.00	134.81	5.39	98.59
3.50	135.33	0.38	98.97
4.00	136.05	0.53	100.00
moment mean,	sorting,	skewness,	kurtosis
1.29	1.13	-1.08	3.77
graphic mean,	sorting,	skewness,	kurtosis
1.30	1.08	-0.41	1.21
Poorly sorted Strongly coarse-skewed Leptokurtic			
D65	D35	C	Medium
1.87	1.20	-2.00	1.61

Surface Sample 18

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	13	119.81
Gravel %	Sand %	Silt %	
8.61	91.39	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.49	0.41	0.41
-2.00	1.40	0.76	1.17
-1.50	4.56	2.64	3.81
-1.00	10.32	4.81	8.61
-0.50	19.62	7.76	16.38
0.00	31.90	10.25	26.63
0.50	50.90	15.86	42.48
1.00	77.46	22.17	64.65
1.50	101.32	29.91	84.57
2.00	116.04	12.29	96.85
2.50	119.40	2.80	99.66
3.00	119.78	0.32	99.97
3.50	119.81	0.03	100.00
moment mean,	sorting,	skewness,	kurtosis
0.52	1.00	-0.61	3.07
graphic mean,	sorting,	skewness,	kurtosis
0.53	0.99	-0.21	1.01
Moderately sorted Coarse-skewed Mesokurtic			
D65	D35	C	Medium
1.01	0.26	-2.11	0.67

Surface Sample 19

start phi,	phi interval,	No intervals,	total wgt(g)
-2.50	0.50	14	92.03
Gravel %	Sand %	Silt %	
8.75	93.25	0.00	
phi size	cum wgt	interval %	cum freq
-2.50	0.47	0.51	0.51
-2.00	1.32	0.92	1.43
-1.50	2.88	1.70	3.13
-1.00	6.21	3.62	6.75
-0.50	12.15	6.45	13.20
0.00	19.63	8.13	21.33
0.50	24.14	4.90	26.23
1.00	28.00	4.19	30.42
1.50	34.13	6.66	37.09
2.00	46.37	13.30	50.39
2.50	65.97	21.30	71.68
3.00	85.08	20.76	92.45
3.50	90.81	6.23	98.67
4.00	92.03	1.33	100.00
moment mean,	sorting,	skewness,	kurtosis
1.48	1.44	-0.81	2.66
graphic mean,	sorting,	skewness,	kurtosis
1.49	1.42	-0.47	0.83
Poorly sorted Strongly coarse-skewed Platykurtic			
D65	D35	C	Medium
2.34	1.34	-2.24	1.99

Surface Sample 21

start phi, phi interval, No intervals, total wgt(g)
 -3.00 0.50 14 175.07

Gravel %	Sand %	Silt %
30.31	69.69	0.00

phi size	cum wgt	interval %	cum freq
-3.00	3.38	1.93	1.93
-2.50	7.16	2.16	4.09
-2.00	17.04	5.64	9.73
-1.50	33.23	9.25	18.98
-1.00	53.06	11.33	30.31
-0.50	77.92	14.20	44.51
0.00	93.43	12.29	56.79
0.50	104.75	14.46	71.26
1.00	117.57	13.03	84.29
1.50	131.52	7.97	92.26
2.00	146.16	4.94	97.20
2.50	173.89	2.13	99.33
3.00	174.98	0.62	99.95
3.50	175.07	0.05	100.00

moment mean,	sorting,	skewness,	kurtosis
-0.30	1.28	-0.08	2.49

graphic mean,	sorting,	skewness,	kurtosis
-0.30	1.30	-0.03	0.92

Poorly sorted Near-symmetrical Mesokurtic

D65	D35	C	Medium
0.28	-0.83	-3.24	-0.28

Surface Sample 22

start phi, phi interval, No intervals, total wgt(g)
 -2.50 0.50 13 130.04

Gravel %	Sand %	Silt %
8.07	91.93	0.00

phi size	cum wgt	interval %	cum freq
-2.50	0.32	0.25	0.25
-2.00	1.24	0.71	0.95
-1.50	4.38	2.41	3.37
-1.00	10.49	4.70	8.07
-0.50	21.01	8.09	16.16
0.00	35.89	11.44	27.60
0.50	57.91	16.93	44.53
1.00	87.35	22.64	67.17
1.50	111.15	18.30	85.47
2.00	126.11	11.50	96.98
2.50	129.58	2.67	99.65
3.00	130.00	0.32	99.97
3.50	130.04	0.03	100.00

moment mean,	sorting,	skewness,	kurtosis
0.50	0.97	-0.52	2.99

graphic mean,	sorting,	skewness,	kurtosis
0.50	0.97	-0.17	1.00

Moderately sorted Coarse-skewed Mesokurtic

D65	D35	C	Medium
0.95	0.22	-1.99	0.62

Surface Sample 20

start phi, phi interval, No intervals, total wgt(g)
 -3.00 0.50 14 182.38

Gravel %	Sand %	Silt %
13.33	86.67	0.00

phi size	cum wgt	interval %	cum freq
-3.00	0.42	0.23	0.23
-2.50	4.06	2.00	2.23
-2.00	7.15	1.69	3.92
-1.50	13.21	3.32	7.24
-1.00	24.32	6.09	13.33
-0.50	41.22	9.27	22.60
0.00	64.44	12.73	35.33
0.50	95.34	16.94	52.28
1.00	133.46	20.99	73.27
1.50	163.68	16.57	89.84
2.00	178.11	7.91	97.75
2.50	181.92	2.09	99.84
3.00	182.34	0.23	99.98
3.50	182.38	0.02	100.00

moment mean,	sorting,	skewness,	kurtosis
0.26	1.10	-0.65	3.19

graphic mean,	sorting,	skewness,	kurtosis
0.27	1.10	-0.21	1.03

Poorly sorted Coarse-skewed Mesokurtic

D65	D35	C	Medium
0.80	-0.01	-2.81	0.43

U/S Tuakau brdg (20a)

start phi, phi interval, No intervals, total wgt(g)
 -2.50 0.50 12 156.50

Gravel %	Sand %	Silt %
11.55	88.45	0.00

phi size	cum wgt	interval %	cum freq
-2.50	0.58	0.37	0.37
-2.00	3.23	1.69	2.06
-1.50	8.81	3.57	5.63
-1.00	18.08	5.92	11.55
-0.50	34.46	10.47	22.02
0.00	52.95	11.81	33.83
0.50	77.13	15.45	49.28
1.00	110.73	21.47	70.75
1.50	138.87	17.98	88.73
2.00	152.69	8.83	97.57
2.50	155.98	2.10	99.67
3.00	156.50	0.33	100.00

moment mean,	sorting,	skewness,	kurtosis
0.34	1.04	-0.49	2.75

graphic mean,	sorting,	skewness,	kurtosis
0.35	1.05	-0.22	0.95

Poorly sorted Coarse-skewed Mesokurtic

D65	D35	C	Medium
0.87	0.04	-2.31	0.52