MARINE ECOSYSTEMS ANALYSIS PROGRAM

REPORT No. 1

Reconnaissance of Bottom Sediments on the Inner and Central New Jersey Shelf (MESA Data Report)

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MARINE ECOSYSTEMS ANALYSIS PROGRAM
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RECONNAISSANCE OF BOTTOM SEDIMENTS
ON THE INNER AND CENTRAL NEW JERSEY SHELF
(MESA DATA REPORT)

William L. Stubblefield¹

Michael Dicken²

Donald J. P. Swift¹

ABSTRACT

The petrography of samples from two areas on the New Jersey Shelf was analyzed to resolve the relation between surficial grain-size distribution, hydraulic regime, and bathymetry. Determination of this relation is essential to our understanding of the sediment flux in these areas and is a critical parameter for environmental impact problems. The sample localities are presently undergoing, or are being considered for, a variety of conflicting usages, including food resources (fishing), mineral resources (beach borrow), and waste disposal (dredge spoil and sewage).

All of the collected samples were examined for grain-size distribution in quarter-phi intervals and for related statistical parameters which include mean grain size, standard deviation, skewness, and kurtosis. A mean grain-size distribution map for each area suggests a relation between bathymetry and grain-size distribution which, in turn, defines certain features of a hydraulic regime. Selected samples were further examined for relative percent of detritus, clay pebbles, fauna content, and heavy mineral concentrations. The individual petrographical parameters are presented in tabular form.

INTRODUCTION

During the period 1972-73, the bottom sediments of two study areas (areas 1A and 1B) on the New Jersey Shelf were sampled

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and analyzed in support of the NOAA MESA (Marine Ecosystems Analysis) program (fig. 1).

The study areas were selected as: (1) areas critical to the natural system of cohesionless sediment (sand) flux; and (2) areas presently or potentially experiencing environmental impact problems. Both areas (fig. 2) lie on the Great Egg Shoal Retreat Massif, the retreat path formed during the Holocene sea level rise of a littoral-drift convergence zone associated with the Ancestral Great Egg River mouth (Swift and Sears, 1974, in press). During the near-stabilization of sea level rise in the late Holocene, a prominent inner shelf ridge field (fig. 2) developed in the Atlantic City, N.J., study area (Duane et al., 1972).

The Atlantic City area is presently experiencing environmental management problems relating to beach erosion, sewage disposal, and fishing. The first offshore nuclear powerplant, off Beach Haven Inlet (fig. 2), is scheduled to be built within the Atlantic City study area. In the Central New Jersey Shelf study area (1B), a ridge-and-swale topography has been impressed on the Great Egg Shoal Retreat Massif subsequent to the retreat of the shoreline (Swift et al., 1973). This ridged central shelf sector is believed to be representative of many areas that are potential sites for offshore waste disposal. Bottom sediment samples from the study areas are described in this report. For a more detailed and interpretative report on some of these data, see Stubblefield et al. (1974, in press).

Figure 1. Sample localities for NOAA Marine Ecosystems Analysis Program (MESA).

FIRST ORDER HIGHS
 CRESTLINES, SECOND ORDER HIGHS

PROSPECTIVE SITE OF NUCLEAR POWER PLANT

Figure 2. Sample areas 1A and 1B.

METHODS

Field Methods

The grab samples collected from the nearshore area of the New Jersey Shelf are denoted by prefix "1A" and bounded by latitudes 39°17'N and 39°30'N; longitudes 74°09'W and 74°21'W. The area, 40 km off the New Jersey shore, is denoted by prefix "1B" and bounded by latitudes 39°00'N and 39°10'N; longitudes 73°45'W and 74°00'W (fig. 2).

Navigation was provided by dual, automatic-tracking Loran A receivers for all of 1A samples and the bulk of 1B samples. Samples from 375 through 407 and from 449 through 492 were collected, using Raydist electronic control which affords much improved navigational accuracy over Loran A. The expected navigational error in the respective systems ranges from ± 600 m using Loran A to ± 10 m utilizing Raydist.

Shipek grab samples were collected every 800 m on the cruise which used Loran A coverage and every 400 m when Raydist was utilized. In each area, the sample transects were both normal and parallel to the major bathymetric features (fig. 3 and 4). In the western sector of area 1B, where a maximum ridge slope is found, a more dense sample net normal to the bathymetry was effected. The latitude and longitude coordinates for each sample station are presented in table 1.

Laboratory Techniques

Shipek grab samples were split from 1-kg to approximately 60 g by using either a sampler splitter or the random scoop method suggested

Figure 3. Sample net for area 1A superimposed on bathymetry. The solid dots denote a sample station. Bathymetry is in 1-fm. contours.

Figure 4. Bathymetry of area 1B. The Shipek grab samples are shown as dots and vibracores as squares. The sample numbers appear beside the position. (From Stubblefield *et al.*, 1974.)

by Shepard and Young (1961). The 60-g sample split was dry-sieved, using a 3-in. (76-mm) U.S. Standard Sieve to separate the material that was coarser than 2 mm. The sand-and-silt fraction was weighed on a top-loader balance and placed in an ultrasonic bath to dis-aggregate the finer particles. The samples were then wet-sieved, using a 230-mesh screen to separate the material finer than 0.0625 mm and then oven-dried. After drying, the samples were weighed to determine the weight percent of silt/clay relative to the sand fraction (table 1).

The sand fraction was reduced by additional splitting to 10-g samples and analyzed in respect to grain-size distribution by a Rapid Sediment Analyzer (RSA). This apparatus uses the fall velocity of the sediment through a 1.33-m water column. The fall velocity "W" is calculated using Stokes Law,

$$W = \sqrt{\frac{2}{9} g \frac{p_1 - p_2}{\mu}} r^2 ,$$

where p_1 is the density of the sediment, p_2 is the density of the liquid, g is the acceleration of gravity, μ is the dynamic viscosity of the liquid, and r is the radius of the sand particle. The fall times in seconds used for this study were values determined by Schlee (1966) and are contingent on the assumption that the sand consisted of quartz with a density of 2.65. The RSA was calibrated against sieves (Nelsen, 1974) and fall times were corrected accordingly.

The RSA was electronically coupled with a Hewlett-Packard 9810 calculator to derive the mean, standard deviation, skewness, and kurtosis from the grain-size distribution for each sample (table 1).

These values were developed from moment calculations, suggested by Krumbein and Pettijohn (1938), based on a sand fraction normalized to 100 percent. The silt/clay and coarse fractions were not included in the moment calculations to maintain a hydrodynamically similar sample. The grain-size distribution in quarter-phi units (negative log to the base two of the grain size in millimeters) and the corresponding metric equivalent are listed in table 2. Median diameter maps have been prepared for each area from the grain-size analysis distributions (fig. 5 and 6).

Ninety of the grab samples from area 1B were coarse-sieved (> 2 mm) before the original splitting. The coarse fraction from the 1-kg sample was examined for content of detritus, clay pebbles, and fauna. The fauna was separated into respective classes of pelecypod, gastropod, or echinoid, with further separation to whole or fragmented specimens and to size of each. A relative-number percentage for each category appears as table 3.

Heavy mineral analyses were run on 18 of the area 1B samples. Because the heavier minerals are generally finer than 0.42 mm, the sand was first sieved to this size to increase the relative-weight percentage of heavy minerals per sample (table 4).

TABULAR RESULTS

The bulk of this report consists of reduced data derived from the RSA in the form of grain-size distribution (tables 1 and 2), composition of the coarse fraction (table 3), and the relative percentage of heavy

Figure 5. Isopleth map of mean grain size of area 1A in relation to the 5- and 10-fm. contours.

Figure 6. Isopleth map of mean grain size of area 1B. The 20-fm. contour is shown. (From Stubblefield *et al.*, 1974.)

minerals (table 4). Tables 1 and 2 are labeled in respect to areas 1A or 1B, but tables 3 and 4 are confined to samples from area 1B.

In table 1, the columns reflect the following parameters of each sample.

<u>Column</u>	<u>Parameter</u>
1	Sample number
2	Latitude (North)
3	Longitude (West)
4	Water depth (in fathoms, 900 denotes a missed depth)
5	Weight percent of coarse fraction (> 2.0 mm)
6	Weight percent of sand fraction
7	Weight percent of fine fraction (< 0.0625 mm)
8	Mean grain size
9	Standard deviation
10	Sum of squares
11	Skewness
12	Kurtosis

Table 2 consists entirely of grain-size distribution.

<u>Column</u>	<u>Phi size</u>	<u>Millimeter</u>
1	sample number	
2	-0.99 through -0.75	1.999 through 1.680
3	-0.74 through -0.50	1.679 through 1.410
4	-0.49 through -0.25	1.409 through 1.190
5	-0.24 through 0.00	1.189 through 1.000
6	0.01 through 0.25	0.999 through 0.840
7	0.26 through 0.50	0.839 through 0.710
8	0.51 through 0.75	0.709 through 0.590
9	0.76 through 1.00	0.589 through 0.500
10	1.01 through 1.25	0.499 through 0.420
11	1.26 through 1.50	0.419 through 0.350
12	1.51 through 1.75	0.349 through 0.300
13	1.76 through 2.00	0.299 through 0.250
14	2.01 through 2.25	0.249 through 0.210
15	2.26 through 2.50	0.209 through 0.177
16	2.51 through 2.75	0.176 through 0.149
17	2.76 through 3.00	0.148 through 0.125
18	3.01 through 3.25	0.124 through 0.105
19	3.26 through 3.50	0.104 through 0.088
20	3.51 through 3.75	0.087 through 0.074
21	3.76 through 4.00	0.073 through 0.0625

Table 3 is a list of the 90 1B samples examined for coarse fraction (> 2.00 mm) content. Each column reflects a point-count percentage rather than a weight percentage.

<u>Column</u>	<u>Parameter (%)</u>
1	Sample number
2	Detritus > 0.5 cm
3	Detritus < 0.5 cm
4	Clay pebbles > 0.5 cm
5	Clay pebbles < 0.5 cm
6	Echinoderms, whole, > 1 cm
7	Echinoderms, whole, < 1 cm
8	Echinoderms, fragmented, > 1 cm
9	Echinoderms, fragmented, < 1 cm
10	Pelecypods, whole, > 1 cm
11	Pelecypods, whole, < 1 cm
12	Pelecypods, fragmented, > 1 cm
13	Pelecypods, fragmented, < 1 cm
14	Gastropods, whole, > 1 cm
15	Gastropods, whole, < 1 cm
16	Gastropods, fragmented, > 1 cm
17	Gastropods, fragmented, < 1 cm

Table 4 is the heavy mineral fractionation of the 19 samples from area 1B. Column 1 is the sample number, and column 2 is the weight percentage of the heavies in the sand fraction, ranging from 0.42 to 0.0625 mm.

The tabulated data are available to the reader on either digitized data cards or magnetic tape from the NOAA National Geophysical and Solar-Terrestrial Data Center, 3300 Whitehaven Street, N.W., Washington, D.C. 20235. The request should be referenced by: Project - MESA, Ship - Venture, Year - 1972, for the data collected through the utilization of Loran; and by: Project - MESA, Ship - Peirce, Year - 1973, for those samples collected using Raydist navigational control.

SUMMARY

Two areas on the New Jersey Shelf were extensively bottom-sampled. The petrography of the collected samples is presented in the form of mean-grain diameter maps (fig. 5 and 6) and in tables 1 through 4. The tables include: geographic position of each sample; water depth; relative-weight percentage of coarse, sand, and fine fraction; four statistical moments plus sum of squares; grain-size distribution in quarter-phi intervals; detritus, clay pebbles, and fauna within the coarse fraction; and heavy mineral analysis of selected samples.

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Table 1. Area 1A Positions and Statistical Parameters

1	2	3	4	5	6	7	8	9	10	11	12
1	39 17 50.00	74 11 2.99	71	.59	99.34	.07	1.27	.77	58.60	-.10	.17
2	39 18 15.00	74 11 45.00	75	.31	99.67	.02	1.36	.63	39.59	-.02	1.78
3	39 18 28.00	74 12 15.00	70	.38	99.56	.06	2.25	.52	26.79	.26	.26
4	39 18 45.00	74 12 45.00	70	.00	99.90	.10	1.68	.63	39.52	.56	.76
5	39 18 60.00	74 13 15.00	76	.00	99.55	.45	1.80	.50	24.53	.19	.98
6	39 19 24.00	74 13 40.00	69	.20	99.74	.05	.95	.69	46.61	-.33	.06
7	39 19 37.00	74 14 13.00	76	.27	99.47	.25	1.61	.69	47.27	.47	.34
8	39 19 50.00	74 14 45.00	60	.00	99.98	.02	1.81	.67	44.21	.67	.06
9	39 20 10.00	74 15 14.00	58	.00	99.95	.05	.94	.60	47.45	-.27	.46
10	39 20 27.00	74 15 42.00	57	.00	99.95	.05	1.93	.60	35.85	.07	.04
11	39 20 45.00	74 16 14.00	63	.00	99.97	.03	.93	.75	55.97	.25	.04
12	39 20 60.00	74 16 46.00	54	.00	99.96	.04	1.16	.70	48.12	-.23	.23
13	39 21 21.00	74 17 32.00	48	.00	99.97	.03	1.82	.56	31.01	-.25	1.15
14	39 21 31.00	74 17 50.00	58	1.87	97.92	.22	1.55	.73	52.37	-.03	.85
15	39 21 55.00	74 18 17.99	48	3.51	96.45	.03	1.30	.74	53.49	.31	.16
16	39 22 1.00	74 18 34.00	40	.25	99.73	.02	1.62	.56	31.29	.18	.99
17	39 22 10.00	74 18 49.00	42	1.80	98.18	.03	.35	.71	49.95	.17	.47
18	39 22 22.00	74 19 6.00	50	1.99	97.77	.24	1.32	.63	38.75	.00	.00
19	39 22 38.00	74 19 29.00	39	.00	99.78	.22	2.32	.51	25.88	.00	.00
20	39 22 45.00	74 19 37.00	41	1.97	95.38	3.82	2.52	.63	39.64	.00	.00
21	39 22 49.00	74 19 50.00	37	.57	96.69	2.74	2.82	.39	14.88	-.17	.43
22	39 23 1.00	74 20 6.00	38	.12	97.60	2.28	2.50	.44	23.43	-.71	.44
23	39 23 8.00	74 20 25.00	26	.03	96.72	3.25	2.67	.58	32.08	-.66	.27
24	39 23 19.00	74 20 32.00	24	.00	96.87	3.13	2.80	.47	21.96	-.105	1.68
25	39 23 30.00	74 20 60.00	27	.00	93.35	6.65	2.76	.66	47.61	-1.52	2.14
26	39 23 37.00	74 21 15.00	21	.07	95.76	4.17	3.16	.24	5.76	.55	.24
27	39 23 46.00	74 21 27.00	18	.21	97.59	2.20	2.98	.28	7.89	.07	.53
28	39 24 19.00	74 20 30.00	18	1.48	98.48	.03	.56	.53	27.71	1.18	2.10
29	39 24 12.00	74 20 24.00	17	.89	99.08	.03	2.23	2.27	7.07	1.39	1.56
30	39 24 9.00	74 20 15.00	17	.00	99.93	.07	2.61	1.51	26.39	.74	.53
31	39 24 4.00	74 20 5.00	18	.00	99.95	.05	2.21	.40	16.20	.55	.47
32	39 24 4.00	74 19 55.00	20	.00	98.15	1.85	2.55	.60	36.03	-.64	.40
33	39 23 57.00	74 19 40.00	22	.00	97.31	2.69	2.64	.50	25.20	-.37	.11
34	39 23 50.00	74 19 36.00	24	.08	91.58	8.33	2.96	.38	14.28	-.41	1.39
35	39 23 50.00	74 19 30.00	27	.20	94.49	5.32	2.81	.48	22.91	-.85	1.39
36	39 23 41.00	74 19 25.00	32	.08	94.45	5.47	2.93	.37	13.54	-.94	4.00
37	39 23 36.00	74 19 19.00	38	.21	99.20	.59	.40	.61	36.87	1.10	2.08
38	39 23 31.00	74 19 11.00	30	.00	99.94	.06	1.34	.52	27.09	.66	1.01
39	39 23 30.00	74 19 1.00	21	.00	99.89	.06	1.34	.52	23.98	.43	.02
40	39 23 25.00	74 18 54.99	22	.16	99.82	.03	1.86	.48	22.83	.10	.24
41	39 23 20.00	74 18 49.00	30	.34	99.32	.34	2.46	.53	27.82	-.105	2.60
42	39 23 20.00	74 18 39.99	38	.48	98.70	.82	2.77	.35	11.96	-.04	.78
43	39 23 15.00	74 18 28.99	40	.59	98.57	.85	2.60	.48	22.63	-.101	2.42
44	39 23 7.00	74 18 20.99	38	.20	99.63	.17	1.76	.53	28.05	.82	.77
45	39 23 2.00	74 18 15.00	30	.00	99.96	.04	2.10	.45	20.05	.14	1.71
46	39 22 60.00	74 18 5.00	28	.00	99.97	.03	2.25	.39	14.85	.30	.75
47	39 22 57.00	74 17 57.00	33	.21	99.71	.08	2.44	.42	17.43	.34	.75

Table 1. Area 1A Positions and Statistical Parameters

1	2	3	4	5	6	7	8	9	10	11	12
48	39 22 52.00	74 17 51.00	42	1.39	98.39	.22	2.61	.41	16.75	-.85	2.91
49	39 22 46.00	74 17 39.00	46	.51	99.04	.45	2.61	.41	16.36	-1.01	1.77
50	39 22 45.00	74 17 32.99	56	3.34	92.68	3.97	2.01	.82	66.94	-.04	.18
51	39 22 36.00	74 17 17.00	42	.26	99.71	.03	1.93	.53	27.43	.54	.24
52	39 22 22.00	74 16 55.00	60	.22	96.58	3.19	2.76	.26	6.48	.54	.82
53	39 22 21.00	74 16 49.00	63	.00	98.94	1.06	2.61	.47	21.44	-.81	2.66
54	39 22 10.00	74 16 33.00	55	.34	99.64	.03	1.81	.64	40.38	.06	.17
55	39 21 57.00	74 16 19.00	55	18.70	81.20	.11	1.08	.83	69.04	.49	.57
56	39 21 49.00	74 16 3.00	44	8.81	91.16	.03	.80	.80	63.35	.06	.48
57	39 21 49.00	74 15 48.00	51	.00	99.95	.04	2.11	.47	21.78	.18	.54
58	39 21 31.00	74 15 30.00	42	6.61	93.33	.06	.95	.75	55.39	.05	1.33
59	39 21 22.00	74 15 19.00	66	42.22	57.59	.19	.35	.83	67.48	.62	.11
60	39 21 11.00	74 15 6.00	63	16.03	83.91	.06	.82	.82	66.26	-.09	.22
61	39 21 4.00	74 14 50.99	57	.28	99.67	.06	1.74	.62	37.54	-.71	2.18
62	39 20 55.00	74 14 35.00	63	1.80	98.37	.05	1.34	.80	63.38	.33	.73
63	39 20 45.00	74 14 20.00	60	.46	99.51	.03	2.01	.50	24.54	.02	.32
64	39 20 36.00	74 13 60.00	54	.00	99.89	.11	1.38	.61	36.67	-.15	.48
65	39 20 27.00	74 13 49.00	54	.42	99.58	.00	1.58	.61	36.65	-.24	.11
66	39 20 19.00	74 13 37.00	62	.88	98.72	.40	2.20	.48	22.91	-.17	1.65
67	39 20 10.00	74 13 19.00	55	3.89	96.05	.06	.89	.82	66.31	.21	.30
68	39 20 3.00	74 13 6.00	49	4.09	95.86	.05	.81	.82	66.36	-.04	.56
69	39 19 51.00	74 12 54.00	69	.61	99.33	.05	1.76	.49	23.41	.42	1.97
70	39 19 44.00	74 12 39.00	71	.65	96.36	.05	1.94	.69	46.48	-.62	1.00
71	39 19 36.00	74 12 19.00	72	.85	99.06	.09	1.98	.41	24.21	-.41	.96
72	39 19 27.00	74 11 60.00	73	5.62	94.05	.33	2.10	.60	39.70	-.10	.50
73	39 19 13.00	74 11 37.00	74	.65	99.28	.07	1.97	.52	26.37	.90	.00
74	39 18 55.00	74 11 5.99	78	14.85	85.07	.09	1.50	.83	68.77	.26	.57
75	39 18 40.00	74 10 38.00	74	18.47	81.21	.31	1.41	.81	64.84	.08	1.35
76	39 19 24.00	74 10 2.99	86	2.31	97.60	.10	1.51	.65	42.40	.70	.53
77	39 19 44.00	74 10 39.00	82	.07	99.63	.30	2.37	.39	14.87	.93	1.19
78	39 19 56.00	74 10 60.00	74	.35	99.50	.15	2.03	.47	22.24	1.29	1.79
79	39 20 5.00	74 11 16.00	75	.57	99.34	.08	1.70	.62	37.92	-.37	1.46
80	39 20 12.00	74 11 30.00	80	.11	99.83	.06	1.74	.65	42.05	.49	1.31
81	39 20 15.00	74 11 49.00	80	.04	99.57	.40	2.37	.46	21.35	.44	.26
82	39 20 29.00	74 11 60.00	73	8.19	91.15	.06	1.10	.73	52.66	-.33	.10
83	39 20 34.00	74 12 20.00	66	.65	99.33	.03	1.59	.51	25.75	.80	1.34
84	39 20 40.00	74 12 29.00	55	2.16	97.78	.06	1.21	.75	55.89	.11	.04
85	39 20 55.00	74 12 43.00	51	1.28	98.69	.03	1.12	.68	45.81	-.48	.57
86	39 21 2.00	74 12 60.00	57	.98	98.98	.06	1.26	.84	70.24	1.47	.64
87	39 21 8.00	74 13 19.00	65	.23	99.71	.06	1.76	.62	37.70	-.06	1.01
88	39 21 21.00	74 13 29.00	67	1.95	97.97	.08	1.35	.80	63.62	-.25	.14
89	39 21 39.00	74 13 56.00	66	8.21	91.79	.00	1.06	.97	94.10	.51	.13
90	39 21 55.00	74 14 27.00	65	.57	98.05	1.38	1.38	.81	64.49	-.03	.37
91	39 22 6.00	74 15 .00	59	.00	99.52	.48	1.76	.55	29.51	-.31	1.71
92	39 22 23.00	74 15 30.00	44	1.94	96.62	1.44	1.17	.74	53.78	.30	.94
93	39 22 41.00	74 15 60.00	57	.24	98.94	.82	1.44	.66	43.47	.63	1.49
94	39 22 51.00	74 16 19.00	49	.09	97.28	2.63	1.29	.78	59.70	.46	.05

Table 1. Area 1A Positions and Statistical Parameters

1	2	3	4	5	6	7	8	9	10	11	12
95	39 22 59.00	74 16 31.00	48	.48	97.29	2.22	1.91	.91	82.44	-.16	.64
96	39 23 9.00	74 16 51.00	42	.00	98.85	1.15	2.59	.43	18.38	.18	.30
97	39 23 19.00	74 17 6.00	59	.93	96.81	2.25	2.87	.52	26.82	-1.25	2.23
98	39 23 29.00	74 17 16.00	41	.15	99.77	.08	2.70	.45	19.41	.01	.01
99	39 23 37.00	74 17 30.00	49	2.74	97.07	.10	1.14	.62	37.64	1.21	1.17
100	39 23 45.00	74 17 43.00	38	.53	99.38	.10	1.16	.84	69.50	.59	.86
101	39 23 56.00	74 18 10.99	30	.04	99.80	.15	1.85	.78	59.65	-.08	.13
102	39 23 60.00	74 18 27.00	42	5.64	93.99	.36	.36	.68	46.05	1.69	3.65
103	39 24 9.00	74 18 39.99	38	.31	97.02	2.66	2.90	.45	20.34	-.97	2.89
104	39 24 21.00	74 18 54.99	35	.77	92.18	7.03	3.09	.39	15.24	-.22	.04
105	39 24 32.00	74 19 13.00	27	.03	97.44	2.53	3.02	.43	18.29	-.77	1.52
106	39 25 19.00	74 18 19.00	27	.00	99.80	.20	1.96	.43	18.15	.99	1.67
107	39 25 6.00	74 18 6.00	32	.03	99.25	.72	2.59	.59	34.12	-.19	.34
108	39 24 55.00	74 17 55.00	38	.08	97.99	1.93	2.91	.41	16.52	-.12	.50
109	39 24 46.00	74 17 43.00	43	1.15	96.33	2.51	3.04	.34	11.50	.46	.53
110	39 24 36.00	74 17 21.00	37	4.03	95.91	.06	.87	.70	48.66	-.10	.16
111	39 24 30.00	74 17 6.00	32	.00	99.90	.10	2.02	.46	20.68	.84	.33
113	39 24 15.00	74 16 50.00	42	.48	99.44	.08	1.64	.73	53.01	-.09	.21
114	39 24 11.00	74 16 21.00	48	17.93	81.99	.08	1.82	.78	59.68	-.14	.15
115	39 24 1.00	74 15 59.00	47	5.49	94.42	.09	.62	.79	61.12	.01	.10
116	39 23 54.00	74 15 43.00	42	5.09	94.83	.07	1.12	.89	78.46	.36	.19
117	39 23 45.00	74 15 30.00	42	.03	99.91	.06	1.95	.54	28.86	.91	.99
118	39 23 37.00	74 15 12.00	66	.47	98.71	.82	2.75	.47	22.28	-1.40	.92
119	39 23 15.00	74 14 54.00	57	.80	99.01	.19	1.51	.77	58.08	-.45	1.34
120	39 22 54.00	74 14 21.00	63	.17	99.70	.14	1.95	.61	37.07	.12	.43
121	39 22 43.00	74 13 48.00	55	.00	99.93	.07	1.87	.63	39.10	-.67	3.39
122	39 22 21.00	74 13 19.00	52	3.96	95.87	.16	1.20	.83	68.33	.14	.41
123	39 22 3.00	74 12 51.00	67	.50	99.40	.10	1.94	.63	38.77	.11	.46
124	39 21 48.00	74 12 20.00	74	21.96	77.91	.13	.44	.97	94.08	1.00	1.12
125	39 21 31.00	74 11 53.00	62	.16	99.79	.05	1.57	.66	43.49	-.42	1.54
126	39 21 14.00	74 11 23.00	62	15.84	84.11	.05	.83	.83	68.11	.35	.91
127	39 20 58.00	74 10 54.99	66	2.01	97.92	.07	1.45	.72	51.33	.42	.86
128	39 20 40.00	74 10 24.00	64	.97	99.09	.04	1.15	.73	53.09	.16	.53
129	39 20 25.00	74 9 57.00	81	.20	99.61	.18	1.81	.57	32.12	.21	.08
130	39 20 7.00	74 9 27.00	92	3.85	95.43	.73	2.09	.48	22.49	.68	.35
131	39 20 55.00	74 8 55.00	67	2.93	96.91	.17	.76	.84	70.50	.41	.42
132	39 21 8.00	74 9 18.00	71	4.06	95.86	.07	.93	.77	59.04	.42	.86
133	39 21 25.00	74 9 48.00	69	1.16	98.80	.05	1.23	.81	65.06	.13	.00
134	39 21 41.00	74 10 17.99	62	1.30	98.62	.08	1.42	.73	52.23	.17	.05
135	39 21 55.00	74 10 49.00	60	.82	99.12	.06	1.42	.73	52.75	.00	.79
136	39 22 10.00	74 11 17.99	59	1.93	98.01	.06	1.40	.64	40.83	.34	.99
137	39 22 30.00	74 11 46.00	62	.11	99.77	.11	1.80	.65	41.33	-.02	1.25
138	39 22 49.00	74 12 15.00	78	.16	99.68	.16	1.94	.56	31.01	.30	.88
139	39 23 3.00	74 12 48.00	59	7.81	92.09	.10	1.19	.83	68.67	-.08	.06
140	39 23 19.00	74 13 15.00	62	.00	99.93	.07	2.04	.49	23.32	.54	.17
141	39 23 45.00	74 13 42.00	56	9.73	90.21	.06	1.40	.86	73.83	.17	.72
142	39 23 57.00	74 14 12.00	56	.00	98.90	.10	2.07	.53	27.62	.19	.13

Table 1. Area 1A Positions and Statistical Parameters

1	2	3	4	5	6	7	8	9	10	11	12
143	39 24 12.00	74 14 42.00	39	.87	99.11	.09	1.59	.73	53.38	-.50	2.13
144	39 24 21.00	74 14 57.00	36	.06	99.88	.06	1.61	.62	38.21	-.23	1.43
145	39 24 30.00	74 15 11.00	51	1.85	98.08	.07	1.25	.86	73.33	.18	1.16
146	39 24 46.00	74 15 42.00	43	.36	99.58	.06	1.25	.61	36.74	.20	.69
147	39 24 60.00	74 15 54.00	48	.00	99.94	.06	2.60	.44	18.92	-.15	.08
148	39 25 3.00	74 16 12.00	42	.64	99.30	.07	2.79	.50	24.47	-.71	.53
149	39 25 10.00	74 16 30.00	33	.98	98.99	.03	2.30	.48	22.66	.24	.14
150	39 25 21.00	74 16 48.00	42	.62	99.20	.18	2.09	.87	75.28	-.64	.02
151	39 25 35.00	74 17 16.00	31	.51	98.78	.70	2.64	.51	25.77	-.45	.73
152	39 25 57.00	74 17 42.00	24	.00	99.97	.03	2.64	2.45	20.05	.57	.34
153	39 26 48.00	74 17 23.00	28	.65	99.28	.07	.68	.79	61.66	1.48	2.88
154	39 26 42.00	74 16 60.00	27	14.85	85.07	.09	2.50	.60	36.30	-.70	.50
155	39 26 36.00	74 16 42.00	30	18.47	81.21	.31	2.15	.49	23.44	.32	.30
156	39 26 21.00	74 16 25.00	42	5.62	94.05	.33	1.22	.66	43.44	.32	.62
157	39 26 13.00	74 16 12.00	30	2.31	97.60	.10	1.47	.46	21.28	.01	2.12
158	39 25 55.00	74 15 43.00	27	.85	99.06	.09	1.47	.59	35.01	.18	.27
159	39 25 45.00	74 15 29.00	35	.61	99.33	.05	1.24	.81	65.71	-.09	.13
160	39 25 42.00	74 15 19.00	27	4.09	95.86	.05	1.58	.60	36.11	.23	2.16
161	39 25 26.00	74 15 3.00	42	3.89	96.05	.06	1.29	.70	49.05	.53	1.38
162	39 26 13.00	74 14 24.00	55	.88	98.72	.40	1.23	.80	62.95	.52	1.52
163	39 26 32.00	74 14 57.00	32	.42	99.58	.00	1.08	.72	50.73	.49	.72
164	39 26 51.00	74 15 21.00	43	.00	99.89	.11	2.27	.64	40.36	-.59	.03
165	39 27 13.00	74 15 58.00	34	.46	99.51	.03	1.70	.64	40.64	-.60	1.33
166	39 27 24.00	74 16 24.00	33	1.80	98.37	.05	1.21	.73	53.04	.34	.17
167	39 27 39.00	74 16 57.00	21	.28	99.67	.06	2.83	.48	23.04	-.47	.11
168	39 28 34.00	74 15 60.00	29	16.03	83.91	.06	3.06	.35	12.22	-.03	.73
169	39 28 17.00	74 15 54.00	34	.00	99.99	.01	1.63	.83	68.07	-.07	.24
170	39 28 7.00	74 15 45.00	36	8.81	91.16	.03	1.33	.68	45.61	.33	.31
171	39 27 60.00	74 15 39.00	36	.34	99.64	.03	.74	.64	41.14	.06	.54
172	39 27 47.00	74 15 16.00	38	.00	98.94	1.06	2.43	.38	14.19	.33	.76
173	39 27 45.00	74 14 58.99	43	.22	96.58	3.19	1.21	.65	41.87	.09	.33
174	39 27 37.00	74 14 42.00	48	.26	99.71	.03	1.44	.68	46.30	.59	.03
175	39 27 18.00	74 14 4.00	42	3.34	92.68	3.97	1.20	.69	47.36	.47	.07
176	39 26 60.00	74 13 46.00	45	1.30	98.62	.08	1.11	.61	37.21	.51	1.42
177	39 27 42.00	74 13 6.00	58	.51	99.04	.45	.52	.69	47.09	.23	.10
178	39 28 1.00	74 13 35.00	49	1.39	98.39	.22	.61	.68	46.17	.99	1.84
179	39 28 30.00	74 14 12.00	49	.21	99.71	.08	1.37	.59	34.97	1.09	1.06
180	39 28 39.00	74 14 27.00	40	.00	99.97	.03	2.00	.40	15.94	.71	.18
181	39 28 47.00	74 14 58.99	45	.00	99.96	.04	.87	.49	24.13	-.31	.73
182	39 29 5.00	74 15 15.00	39	.20	99.63	.17	2.90	.50	24.41	-.65	.23
183	39 29 9.00	74 15 36.00	32	.59	98.57	.85	2.76	.76	59.55	-.97	.45
184	39 29 58.00	74 15 2.00	35	.48	98.70	.82	3.05	.28	7.65	.51	.38
185	39 29 33.00	74 14 27.00	46	.34	99.32	.34	2.16	1.07	14.02	-.14	1.39
186	39 29 20.00	74 13 54.00	41	.16	99.82	.03	1.36	.71	49.37	-.37	.08
187	39 28 60.00	74 13 24.00	50	.06	99.89	.06	.50	.69	46.50	.23	.26
188	39 28 39.00	74 12 52.00	58	.00	99.94	.06	.12	.98	95.68	.08	.08
189	39 28 30.00	74 12 24.00	60	.21	99.20	.59	1.01	1.78	59.77	-.09	.20

Table 1. Area 1B Positions and Statistical Parameters

1	2	3	4	5	6	7	8	9	10	11	12				
1	39	2	7.80	73	45	14.04	132	3.79	95.98	.24	.84	.71	50.59	.32	.02
2	39	2	38.76	73	45	18.36	144	.33	99.40	.27	1.67	.54	29.04	1.42	1.56
3	39	6	3.60	73	44	54.24	144	.33	97.37	2.29	2.39	.33	10.49	.48	-1.27
4	39	5	39.48	73	45	6.84	147	7.63	91.87	.50	.94	.73	52.28	.29	1.07
5	39	5	9.60	73	45	8.24	129	1.50	97.68	.82	1.57	.62	38.25	.54	.76
6	39	4	42.24	73	45	15.48	132	2.47	95.78	1.76	1.67	.56	30.88	.04	1.15
7	39	4	24.24	73	45	38.16	137	.34	98.28	1.38	2.38	.33	10.66	.39	-1.96
8	39	4	.12	73	45	50.76	145	.33	97.57	2.10	2.53	.35	11.88	.25	-1.58
9	39	3	36.72	73	46	3.00	159	.07	98.79	1.15	2.44	.43	18.12	-1.38	1.38
10	39	3	14.76	73	46	21.36	157	7.01	91.69	1.30	1.12	.75	55.50	.16	.77
11	39	2	50.64	73	46	33.96	148	3.80	95.31	.88	1.15	.77	58.75	.18	.52
12	39	2	26.88	73	46	46.56	141	5.21	93.97	.82	1.04	.79	61.11	.10	.52
13	39	2	3.84	73	47	1.32	139	2.40	96.64	.97	1.27	.73	53.13	-.26	1.11
14	39	2	10.32	73	48	18.00	144	6.14	91.64	2.22	1.26	.92	83.14	.78	1.07
15	39	2	33.72	73	47	58.92	153	2.86	96.02	1.12	1.28	.81	64.41	.54	1.15
16	39	2	58.56	73	47	31.56	159	1.44	95.39	3.17	2.17	.59	35.03	-.08	-1.58
17	39	3	24.48	73	47	11.04	138	8.11	89.74	2.15	2.35	.43	18.55	.28	-1.67
18	39	3	42.12	73	47	4.20	138	.24	97.93	1.82	2.62	.49	24.19	.15	2.70
19	39	4	14.16	73	47	4.92	144	5.04	94.14	.82	2.40	.84	70.49	1.03	.64
20	39	4	36.12	73	46	53.40	142	.15	97.42	2.43	2.40	.37	13.68	-.11	.43
21	39	5	2.40	73	46	39.36	121	1.03	98.41	.57	1.68	.53	28.32	.68	1.42
22	39	5	24.00	73	46	28.20	118	.81	98.59	.59	1.72	.39	32.39	.57	.13
23	39	5	57.84	73	46	26.40	112	.56	98.71	.73	1.75	.70	28.05	.70	.00
24	39	6	21.24	73	46	18.12	111	.17	99.20	.63	1.92	.48	22.58	.47	.22
25	39	6	57.60	73	46	8.40	111	.45	98.89	.66	1.77	.48	22.48	.33	1.22
26	39	7	14.88	73	45	56.52	108	.38	98.80	.81	1.73	.53	27.51	.82	.78
27	39	7	39.00	73	45	43.02	110	.89	98.38	.74	1.47	.61	37.07	.31	.15
28	39	7	58.08	73	45	33.44	108	.59	98.93	.49	1.64	.80	37.30	.80	2.21
29	39	8	15.36	73	44	57.84	108	3.03	96.23	.74	1.36	.70	48.88	-.21	.57
30	39	8	15.36	73	44	58.20	110	.51	98.75	.74	1.70	.51	26.21	.43	.81
31	39	11	54.96	73	44	56.04	140	.87	97.83	1.31	1.63	.53	27.42	.15	1.72
32	39	11	30.84	73	45	14.04	132	1.09	97.14	1.77	1.87	.49	23.79	.92	1.69
33	39	11	3.84	73	45	21.60	134	3.92	94.93	1.15	1.58	.53	27.88	.25	.02
34	39	10	39.72	73	45	34.56	128	1.77	97.03	1.20	1.76	.49	23.63	.51	1.51
35	39	10	15.60	73	45	47.16	126	.68	98.21	1.11	1.76	.58	33.41	-.37	2.48
36	39	9	54.00	73	45	59.40	122	.28	98.41	1.31	2.15	.46	20.75	1.14	1.56
37	39	9	30.24	73	46	18.12	120	.37	98.72	.91	2.04	.55	30.17	.41	.22
38	39	9	6.12	73	46	31.04	117	.25	98.07	.68	1.57	.54	28.77	.21	-1.17
39	39	8	42.00	73	46	43.68	114	.92	98.28	.80	1.37	.61	37.03	.27	-.01
40	39	8	20.76	73	47	2.04	112	2.31	96.62	1.08	1.24	.79	61.28	.03	.30
41	39	7	59.84	73	47	20.04	127	.25	98.56	1.19	2.06	.42	17.40	.71	.69
42	39	7	38.64	73	47	38.04	121	.19	98.52	1.29	2.18	.44	19.17	.85	.29
43	39	7	14.88	73	47	51.36	129	.44	97.90	1.61	2.20	.48	22.44	-.50	1.18
44	39	6	48.96	73	48	1.04	126	.44	98.19	1.37	2.12	.50	24.39	.25	.90
45	39	6	21.96	73	48	6.44	114	.71	98.50	.79	1.88	.53	28.21	.40	-.09

Table 1. Area 1B Positions and Statistical Parameters

1	2	3	4	5	6	7	8	9	10	11	12
46	39	5 53.88	73 48 14.76	112	1.42	97.31	1.27	.38	14.47	.43	.14
47	39	5 28.32	73 48 24.49	114	.79	97.94	1.27	.48	23.23	-.28	.27
48	39	5 3.12	73 48 35.64	108	.14	99.43	1.94	.49	23.80	1.41	2.10
49	39	4 43.68	73 48 59.76	110	.51	98.67	.83	.41	16.84	1.18	1.03
50	39	4 15.24	73 49 1.56	117	.12	99.76	.12	.56	30.76	.37	.42
51	39	3 51.48	73 49 14.89	120	.31	98.63	1.06	.39	15.10	-.02	.54
52	39	3 27.36	73 49 27.84	134	.30	97.97	1.72	.34	11.36	.11	-.74
53	39	3 3.60	73 49 40.80	139	.58	96.71	2.71	.52	27.95	-1.07	1.31
54	39	2 39.84	73 49 54.12	132	1.05	98.12	.83	.70	48.93	-.01	.18
55	39	2 17.88	73 50 9.24	133	1.19	97.70	1.11	.72	50.82	.42	1.24
56	39	2 5.28	73 51 38.16	123	2.84	96.46	.72	.59	34.14	1.05	1.49
57	39	2 29.04	73 51 25.20	120	3.90	95.39	.70	.65	42.13	.46	.04
58	39	2 51.72	73 51 9.72	129	.03	99.08	.90	.42	17.82	.31	.74
59	39	3 13.32	73 50 53.16	126	.25	98.18	1.57	.38	13.93	.41	-.22
60	39	3 38.52	73 50 42.00	120	.04	98.36	1.60	.38	14.05	.56	.18
61	39	4 .84	73 50 26.52	124	6.00	92.91	1.08	.67	44.71	.65	.12
62	39	4 26.40	73 50 17.88	120	.41	98.50	1.09	.39	14.89	-.03	-.71
63	39	5 .60	73 50 .24	105	.63	98.53	.84	.55	30.11	.71	.82
64	39	5 15.36	73 49 51.96	112	.39	98.59	1.02	.48	23.11	.32	.31
65	39	5 37.68	73 49 32.52	114	.24	98.59	1.17	.55	29.66	-.68	2.63
66	39	5 57.12	73 49 14.89	112	.17	98.64	1.19	.41	16.51	.11	.10
67	39	6 27.36	73 49 5.16	112	.12	98.90	.98	.46	20.58	.73	1.45
68	39	6 45.00	73 48 48.60	122	.44	98.64	.93	.51	25.46	.31	-.10
69	39	7 8.76	73 48 35.28	121	1.23	97.28	1.49	.49	23.97	-.21	2.05
70	39	7 43.32	73 48 30.24	123	.24	98.77	.99	.52	27.12	-.31	2.10
71	39	8 3.12	73 48 19.44	118	2.99	96.13	.89	.68	45.53	.10	.21
72	39	8 25.44	73 48 4.32	117	.03	99.11	.86	.45	19.89	.35	-.17
73	39	7 56.28	73 49 58.08	108	.17	99.00	.83	.48	22.68	.66	.15
74	39	7 32.88	73 50 12.12	111	.09	99.07	.84	.46	21.01	-.02	1.52
75	39	7 10.20	73 50 27.96	117	.66	98.20	1.14	.44	18.77	.34	-.13
76	39	6 42.48	73 50 34.08	145	27.25	70.44	2.31	1.03	5.62	-.38	-.72
77	39	6 9.36	73 50 31.56	127	.44	98.10	1.46	.53	27.30	-.25	1.65
78	39	5 48.84	73 50 50.28	122	.98	98.17	.86	.62	37.47	.24	-.08
79	39	5 27.24	73 51 2.52	119	2.05	98.25	.70	.62	38.51	.76	.65
80	39	5 6.72	73 51 21.24	107	.75	98.56	.69	.47	28.82	.68	.37
81	39	4 40.44	73 51 36.00	95	.51	98.93	.56	.53	28.03	.90	2.40
82	39	4 22.44	73 51 53.64	118	1.68	96.81	1.51	.53	27.68	-.61	1.47
83	39	3 54.00	73 52 9.84	129	1.19	97.59	1.21	.40	15.98	.27	-.13
84	39	3 41.04	73 52 31.44	127	.08	98.25	1.67	.37	13.35	.13	-.10
85	39	3 17.64	73 52 45.12	130	4.72	93.33	1.95	.34	11.77	.01	.29
86	39	2 48.48	73 52 54.84	125	.55	98.53	.92	.59	34.45	.21	.51
87	39	2 21.84	73 53 2.76	123	1.63	98.20	.17	.46	21.13	.63	.17
88	39	1 51.96	73 53 5.64	117	.86	98.26	.88	.47	21.70	1.13	.65
89	39	1 55.92	73 54 52.20	138	.53	96.45	3.02	.45	20.29	-.47	1.05
90	39	2 17.52	73 54 40.32	140	1.92	95.43	2.65	.60	36.03	-.20	-.44

Table 1. Area 1B Positions and Statistical Parameters

1	2	3	4	5	6	7	8	9	10	11	12
91	39	2 3A.76	138	.34	98.20	1.46	2.18	.43	18.52	.27	.21
92	39	3 4.32	126	1.58	97.55	.87	1.43	.66	43.60	.35	.11
93	39	3 22.68	127	.80	98.38	.82	1.53	.74	54.11	.48	.80
94	39	3 46.08	123	.28	98.29	1.43	2.42	.43	18.60	.60	-.15
95	39	4 6.60	117	.34	98.77	.89	1.96	.46	21.23	.30	-.28
96	39	4 30.00	117	.44	98.23	1.33	2.28	.52	26.90	-.01	.68
97	39	4 56.64	122	.36	98.47	1.17	2.24	.58	33.55	-.80	2.58
98	39	5 23.28	126	1.01	97.35	1.64	2.40	.53	27.79	-.39	.20
99	39	5 47.04	113	.11	98.59	1.30	2.39	.43	18.16	.61	1.02
100	39	6 12.96	129	.23	98.79	.98	2.16	.44	19.18	.39	.40
101	39	6 37.44	123	.31	98.53	1.15	2.19	.45	20.05	.75	.65
102	39	6 57.96	104	.04	99.14	.82	1.94	.39	14.75	.99	1.85
103	39	7 21.72	103	.88	98.51	.61	1.74	.57	30.70	-.75	5.09
104	39	7 45.48	104	.08	99.13	.79	1.95	.40	15.95	.63	1.76
105	39	7 10.56	117	.14	98.96	.90	2.18	.41	16.97	.51	-.41
106	39	6 50.40	108	.16	98.35	1.49	1.84	.47	21.55	.82	2.38
107	39	6 32.40	109	.22	98.94	.84	1.85	.42	17.31	.47	.74
108	39	7 32.88	111	.09	98.32	.79	1.57	.73	52.22	.08	1.53
109	39	6 6.12	114	.90	98.51	1.40	2.02	.45	20.78	.85	.37
110	39	5 43.08	116	.20	97.91	1.89	2.43	.43	18.05	.34	.97
111	39	5 19.32	126	.41	97.34	2.25	2.41	.37	13.47	.21	-.33
112	39	4 57.36	124	2.48	95.43	2.04	2.51	1.00	15.77	-.11	-.02
113	39	4 32.52	129	.36	96.79	2.84	2.60	.44	19.58	-.23	.52
114	39	4 9.84	129	.83	98.02	1.16	1.59	.62	38.49	.54	-.05
115	39	3 45.72	130	11.57	88.03	1.41	1.18	.84	70.30	.64	.56
116	39	3 25.92	127	.35	98.84	.81	1.93	.51	25.91	.66	.51
117	39	3 1.44	120	.07	98.86	1.07	1.87	.50	24.37	.57	.63
118	39	2 39.12	127	.11	98.50	1.38	2.36	.36	13.17	.15	.12
119	39	2 12.12	123	1.60	97.42	.98	1.85	.68	45.49	.24	1.08
120	39	2 9.24	138	.31	97.40	2.29	2.57	.37	13.27	-.13	.99
121	39	2 33.36	111	.79	99.21	.00	1.94	.59	34.17	-.73	2.03
122	39	2 57.12	110	.63	98.32	1.05	2.17	.41	16.83	.96	.90
123	39	3 23.76	111	.50	98.56	.94	1.82	.59	34.68	.38	.18
124	39	3 42.84	118	.54	97.53	1.93	2.44	.40	18.24	-.20	.18
125	39	4 8.40	128	2.01	97.04	.95	1.10	.70	46.30	-.07	1.46
126	39	4 40.08	123	.17	98.59	1.24	1.83	.50	24.94	.39	.92
127	39	4 56.28	117	.61	98.63	.77	1.64	.76	57.60	-.19	1.15
128	39	5 25.44	114	1.67	97.68	.65	1.50	.67	44.81	.24	.10
129	39	5 45.60	114	3.66	95.44	.90	1.51	.78	59.75	-.67	1.14
130	39	6 10.44	111	.68	98.50	.82	1.85	.52	26.92	.55	1.15
131	39	6 33.84	111	.51	98.33	1.16	1.85	.47	21.96	.62	.01
132	39	6 52.56	112	1.48	97.98	.54	1.18	.60	35.05	.25	2.90
133	39	7 13.08	112	2.16	97.00	.85	1.94	.41	16.70	.28	1.15
134	39	6 49.68	108	.03	99.22	.75	1.94	.49	24.02	.05	1.52
135	39	4 27.12	111	.33	98.21	1.45	2.09	.51	25.42	1.12	1.11

Table 1. Area 1B Positions and Statistical Parameters

1	2	3	4	5	6	7	8	9	10	11	12
136	39	3 39.60	73 57 11.16	114	.10	98.59	1.31	2.22	.46	-.03	.68
137	39	3 27.72	73 56 56.04	120	.40	98.03	1.57	2.23	.48	.63	.53
138	39	3 22.32	73 56 44.16	129	.98	97.71	1.32	1.55	.70	.05	.10
139	39	3 15.12	73 56 33.72	123	4.40	95.46	.14	1.40	.68	.20	.54
140	39	3 9.36	73 56 22.20	120	.17	98.16	1.67	1.94	.52	.43	2.04
141	39	3 5.04	73 56 9.96	129	.14	97.89	1.97	2.38	.39	.80	.21
142	39	3 56.52	73 55 39.00	111	1.21	98.15	.64	1.28	14.86	.20	.92
143	39	4 1.20	73 55 50.84	121	.13	98.76	.93	1.61	36.34	-.20	1.87
144	39	4 7.32	73 56 9.24	126	18.29	79.15	2.55	1.84	55.12	-.08	-.67
145	39	4 5.88	73 56 17.84	121	.65	98.50	.85	2.41	17.74	-.16	.27
146	39	4 13.08	73 56 28.32	119	.11	99.08	.81	2.40	14.88	-.02	-.24
147	39	3 36.36	73 57 5.40	123	.44	99.07	.49	2.40	21.34	.10	-.05
148	39	5 12.12	73 56 6.72	129	.57	98.65	.78	2.24	24.04	-.41	1.76
149	39	5 6.00	73 55 55.92	126	.33	99.07	.60	1.92	36.16	-.55	2.04
150	39	4 55.56	73 55 43.32	126	2.96	96.09	.95	2.28	24.21	-.79	1.65
151	39	4 46.56	73 55 38.28	116	.29	98.84	.87	2.35	24.73	.18	.53
152	39	4 40.08	73 55 27.44	126	.25	98.13	1.62	2.36	18.09	-.19	.53
153	39	4 28.92	73 55 4.80	139	18.80	80.37	.69	1.68	42.82	.26	-.20
154	39	5 21.84	73 54 47.84	122	.85	97.74	1.41	2.37	14.24	.32	-.19
155	39	5 31.92	73 54 56.52	118	.15	99.22	.63	2.14	21.48	.53	.43
156	39	5 38.04	73 55 7.32	144	17.09	82.20	.63	.72	52.84	.41	.57
157	39	5 49.56	73 55 22.04	114	.56	98.75	.69	2.29	19.17	.44	.17
158	39	5 54.96	73 55 26.04	106	.45	98.79	.77	1.97	26.09	.08	1.77
159	39	6 1.08	73 55 37.20	109	.49	98.43	1.08	1.62	28.56	.65	1.56
160	39	6 48.24	73 55 8.76	112	.64	98.66	.70	2.11	19.46	.76	-.28
161	39	6 41.76	73 54 57.96	104	3.58	96.26	.16	1.48	61.47	-.03	.86
162	39	6 33.48	73 54 48.24	93	.08	99.92	.00	1.82	30.45	.32	1.69
163	39	6 25.92	73 54 38.52	112	.45	99.04	.51	2.38	18.06	.40	.46
164	39	6 20.16	73 54 30.24	143	.08	98.39	1.53	2.30	18.42	.37	-.88
165	39	6 15.84	73 54 22.64	120	1.54	97.29	1.18	1.95	31.99	.23	.13
166	39	6 55.80	73 53 36.96	114	1.33	98.32	.65	1.64	36.57	-.20	1.64
167	39	7 8.76	73 53 58.56	119	1.86	96.39	1.75	2.12	26.48	.77	1.37
168	39	7 16.32	73 54 11.16	116	.80	98.02	1.18	1.46	29.89	.24	.90
169	39	7 23.88	73 54 25.20	120	.90	98.31	.79	1.42	36.10	.33	1.57
170	39	7 27.12	73 54 32.04	112	.45	97.77	1.78	1.70	34.98	.48	.60
171	39	7 35.40	73 54 42.84	110	.40	97.80	1.80	1.70	26.11	.75	1.71
172	39	7 42.72	73 55 .84	120	.49	98.79	.72	1.07	36.18	.15	.77
173	39	7 48.60	73 56 12.84	141	.18	96.48	3.34	2.29	22.79	.24	-.38
174	39	7 21.72	73 56 18.96	136	2.49	95.21	2.30	1.57	54.41	-.16	-.04
175	39	7 2.28	73 56 39.84	131	.16	98.14	1.66	2.17	15.81	.74	.63
176	39	6 36.72	73 56 58.56	116	2.50	95.41	2.09	1.64	43.28	-.65	2.19
177	39	6 16.92	73 57 10.80	117	5.20	97.07	2.45	1.40	42.36	-.09	1.05
178	39	6 1.44	73 57 30.96	115	2.07	97.16	.76	1.45	45.12	.13	.70
179	39	5 30.12	73 57 39.96	113	1.07	98.13	.80	1.31	48.34	.09	.20
181	39	4 46.56	73 58 7.32	114	3.07	96.16	.77	1.58	39.47	-.20	2.22

Table 1. Area 1B Positions and Statistical Parameters

1	2	3	4	5	6	7	8	9	10	11	12
182	39 4 20.64	73 58 23.52	121	.57	98.56	.87	1.99	.45	19.78	.59	.43
183	39 4 .12	73 58 36.48	125	.72	97.55	1.73	2.33	.42	17.43	.45	.35
184	39 3 34.20	73 58 52.68	126	.17	97.98	1.85	2.36	.41	16.28	.79	.92
185	39 3 12.60	73 59 6.36	126	.15	97.83	2.03	2.12	.46	20.56	.71	.40
186	39 2 52.44	73 59 23.64	133	2.41	96.67	.92	.95	.42	17.35	-.26	.60
187	39 3 35.64	74 0 39.24	118	.16	98.72	1.08	1.99	.55	30.31	.01	.17
188	39 3 56.16	74 0 27.72	114	.12	97.10	2.78	1.74	.61	37.31	.36	.06
189	39 4 14.16	73 59 59.64	107	3.75	95.67	.58	1.11	.75	55.49	.26	.53
190	39 4 40.08	73 59 45.61	105	1.42	98.58	.00	1.15	.73	52.31	.23	.56
191	39 5 6.72	73 59 45.60	105	.26	98.86	.89	1.64	.64	40.70	.12	.75
192	39 6 10.80	73 58 29.24	999	1.92	95.72	2.36	1.98	.70	49.05	-.51	.51
375	39 3 42.35	73 49 27.69	119	.00	97.00	3.00	2.51	.32	10.64	.37	-.29
376	39 3 48.56	73 49 35.68	111	.00	98.00	2.00	2.39	.39	15.34	.22	-.45
377	39 3 52.03	73 49 43.56	115	.00	90.80	9.20	2.17	.41	16.23	.19	-.72
378	39 4 .99	73 50 3.00	122	.00	98.00	2.00	2.32	.37	13.18	.43	-.38
380	39 4 16.94	73 50 31.97	108	15.00	84.60	.43	1.66	.48	23.61	-.03	-.21
381	39 4 26.65	73 50 46.72	109	2.00	97.80	.20	1.32	.57	32.31	.71	.65
382	39 4 34.83	73 51 .65	108	.00	98.00	2.00	2.09	.44	19.06	.45	-.74
383	39 4 42.61	73 51 17.73	97	.00	99.00	1.00	2.05	.46	21.21	.73	.26
384	39 4 45.63	73 51 21.63	101	2.00	97.80	.20	1.84	.48	22.97	.00	-.51
385	39 4 52.79	73 51 32.46	105	.00	99.80	.20	2.22	.36	12.90	.47	-.66
386	39 5 1.35	73 51 47.45	123	.00	98.00	2.00	2.27	.43	19.15	-.37	.19
387	39 5 5.54	73 51 54.47	119	.00	98.00	2.00	1.97	.42	17.87	.61	-.17
388	39 5 9.93	73 52 4.18	125	5.00	93.00	2.00	1.73	.66	43.15	.13	.46
389	39 5 18.69	73 52 17.16	127	.00	98.00	2.00	2.27	.43	18.40	-.99	1.57
390	39 5 25.00	73 52 35.02	115	.00	96.00	4.00	2.38	.38	14.66	-.24	-.42
391	39 5 37.25	73 52 51.07	128	.00	98.00	2.00	2.32	.40	16.17	.78	.21
392	39 5 41.15	73 52 58.14	133	.00	98.00	2.00	2.48	.46	21.31	.52	-.13
393	39 5 43.19	73 53 4.94	129	.00	97.00	3.00	2.37	.40	15.85	-.58	-.52
394	39 5 53.48	73 53 20.69	112	.00	96.00	4.00	2.28	.31	9.69	.62	-.57
395	39 5 57.46	73 53 25.83	102	.00	98.00	2.00	2.50	.31	9.38	.82	.78
396	39 6 2.06	73 53 35.04	108	.00	97.00	3.00	1.87	.43	17.88	.29	-.73
397	39 6 11.89	73 53 42.89	113	.00	99.00	1.00	1.83	.34	11.22	.72	.29
398	39 6 18.61	73 54 11.69	122	12.00	85.00	1.00	1.50	.52	27.63	.39	-.37
399	39 6 29.59	73 54 22.45	120	2.00	97.00	2.00	1.32	.63	40.09	.28	-.01
400	39 6 37.31	73 54 39.41	117	.00	98.00	2.00	2.42	.36	13.19	.04	-.98
401	39 6 40.05	73 54 42.84	105	2.00	97.00	1.00	2.17	.49	23.29	.30	.18
402	39 6 43.98	73 54 52.13	92	.00	99.00	1.00	2.11	.33	10.92	.30	-.53
403	39 6 53.04	73 55 8.26	106	.00	99.00	1.00	2.00	.39	14.90	.62	.34
404	39 6 59.74	73 55 23.37	122	1.00	98.80	.20	.68	.65	41.65	-.20	-.09
405	39 7 9.92	73 55 38.64	130	3.00	75.00	22.00	1.95	.64	40.85	.20	-.59
406	39 7 18.39	73 55 54.74	135	.00	97.50	2.50	2.14	.47	22.05	.55	-.74
407	39 7 25.21	73 56 6.35	141	1.00	97.00	2.00	1.43	.54	29.43	.70	.92
449	39 4 46.07	73 57 32.65	129	.00	97.00	3.00	2.36	.43	18.42	.05	-.28
450	39 4 31.07	73 54 9.46	127	.00	97.00	3.00	2.40	.35	12.24	.17	-.84

Table 1. Area 1B Positions and Statistical Parameters

1	2	3	4	5	6	7	8	9	10	11	12				
451	39	4	22.41	73	53	53.67	121	.00	98.00	2.00	2.07	.49	23.98	.58	-.97
452	39	4	13.62	73	53	41.57	127	.00	98.00	2.00	2.55	.38	14.23	-.21	-.37
453	39	4	3.45	73	53	24.01	127	.00	98.00	2.00	2.40	.40	13.30	.30	-.90
454	39	3	56.75	73	53	10.81	121	2.00	96.00	2.00	1.95	.44	19.03	.39	-.45
455	39	3	47.90	73	52	53.12	123	.00	99.00	1.00	2.25	.38	14.37	.60	-.64
456	39	3	38.41	73	52	39.30	132	.00	98.00	2.00	2.55	.29	8.27	.21	-1.13
457	39	3	28.76	73	52	25.81	126	.00	97.00	3.00	2.60	.27	7.48	.62	-.36
458	39	3	18.24	73	52	7.51	131	.00	95.00	5.00	2.54	.31	9.68	.24	-.71
459	39	3	10.61	73	51	50.47	125	.00	97.00	3.00	2.53	.37	14.16	-.24	-.17
460	39	3	3.08	73	51	37.55	128	.00	97.00	3.00	2.51	.30	9.05	.08	-.90
461	39	2	56.91	73	51	21.40	125	.00	98.00	2.00	1.83	.55	30.66	.92	.62
462	39	2	50.34	73	50	56.37	119	.00	96.00	4.00	2.22	.43	17.88	.75	-.46
463	39	2	39.11	73	50	53.63	131	.00	98.00	2.00	2.26	.47	21.44	.08	-.06
464	39	2	31.97	73	50	36.05	125	1.00	99.00	.00	1.51	.58	32.99	.85	.75
465	39	2	20.39	73	50	24.39	128	.00	99.00	1.00	1.43	.53	27.86	.41	.94
466	39	2	9.85	73	50	6.10	137	1.00	97.00	2.00	1.47	.54	28.59	-.24	.01
467	39	2	3.35	73	49	51.99	141	1.00	97.00	3.00	1.69	.51	26.12	.24	-.47
468	39	1	54.26	73	49	37.42	143	2.00	96.00	2.00	1.20	.60	35.71	.68	.01
469	39	1	4.00	73	49	36.47	125	1.00	99.99	.00	1.85	.52	26.58	.76	.35
470	39	1	12.71	73	49	51.55	128	11.00	88.10	.90	.98	.85	71.51	.00	.61
471	39	1	24.16	73	50	2.81	137	9.00	90.00	1.00	.78	.72	50.26	.24	.32
472	39	1	31.52	73	50	24.39	141	2.00	96.00	2.00	1.53	.45	19.93	.56	.21
473	39	1	37.89	73	50	28.26	140	2.00	94.00	4.00	1.13	.64	40.45	-.16	-.05
474	39	1	44.35	73	50	35.87	138	4.00	95.40	.60	1.36	.49	23.27	.22	-.23
475	39	1	56.40	73	50	44.69	131	27.00	72.50	.50	1.59	.49	24.23	-.89	1.49
476	39	1	59.92	73	51	4.69	124	23.00	76.80	.20	1.65	.54	28.40	.33	.02
477	39	2	4.89	73	51	21.99	120	13.00	86.50	.50	1.55	.47	21.67	.00	-.32
478	39	2	13.02	73	51	36.59	118	1.00	97.00	2.00	1.58	.52	27.08	.44	.21
479	39	2	19.89	73	51	52.03	119	.00	99.00	1.00	2.09	.45	20.46	.70	.46
480	39	2	30.74	73	52	11.88	121	.00	99.00	1.00	2.18	.52	26.84	.76	.13
481	39	2	38.38	73	52	23.10	124	.00	98.00	2.00	2.37	.52	27.20	.19	-.29
482	39	2	48.18	73	52	37.12	127	.00	99.00	1.00	2.08	.55	29.48	.03	-.73
483	39	2	54.47	73	52	42.75	132	.00	97.00	3.00	2.62	.29	8.22	-.45	-.56
484	39	3	.25	73	52	54.40	131	.00	97.00	3.00	2.33	.51	25.79	-.16	-.73
485	39	3	3.77	73	53	8.59	130	.00	95.00	5.00	2.63	.38	14.33	-.89	1.85
486	39	3	12.99	73	53	24.69	130	.00	97.00	3.00	2.61	.37	13.42	.09	1.01
487	39	3	22.52	73	53	39.35	127	.00	97.00	3.00	2.46	.46	20.77	-.32	-.57
488	39	3	32.59	73	53	55.45	121	1.00	98.90	.10	1.66	.47	21.78	.83	.79
489	39	3	41.32	73	54	8.20	126	.00	98.00	2.00	2.39	.46	20.99	-.63	.01
490	39	3	48.31	73	54	25.07	127	2.00	96.00	2.00	1.65	.67	44.17	.74	.16
491	39	3	55.79	73	54	38.64	131	.00	96.00	4.00	2.50	.37	13.50	.10	-.17
492	39	4	7.05	73	54	55.72	129	1.00	97.00	2.00	1.45	.72	51.98	.53	-.02

Table 2. Area 1A Grain Size in ¼ Phi Units

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	.86	1.03	2.24	2.41	3.44	8.61	11.88	11.70	13.42	1.70	11.88	6.71	5.34	2.5A	6.02	.00	.00	.00	.00	.00	.00
2	.00	.88	1.54	1.32	1.32	6.83	18.72	23.13	17.62	11.89	5.29	4.18	1.54	1.54	6.66	3.52	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.32	.48	1.77	12.42	20.81	19.20	16.94	14.03	12.42	6.29	.97	4.03	.00	.00	.00
4	.00	.00	.00	.00	1.00	1.00	2.83	10.98	10.15	16.97	14.98	16.14	8.32	7.32	3.00	2.66	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	2.96	.00	2.96	8.28	20.71	27.81	15.38	8.88	8.28	2.37	.59	1.77	.00	.00	.00
6	.56	1.68	4.21	3.65	4.49	9.27	19.10	14.89	14.89	8.99	8.15	3.09	5.06	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	1.87	4.12	6.37	10.86	18.73	15.73	13.86	6.74	7.12	3.00	2.62	8.99	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	5.48	9.13	10.05	14.62	23.74	10.96	18.50	3.20	1.37	.46	10.05	.00	.00	.00	.00
9	.72	2.16	2.52	1.80	3.96	5.40	10.43	17.63	15.47	15.39	13.31	4.68	2.88	2.52	1.44	.72	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.86	1.14	.86	4.86	8.86	14.00	18.29	15.14	14.00	10.29	5.43	1.71	4.57	.00	.00	.00
11	.49	.25	2.95	3.93	6.39	7.62	13.51	13.76	13.27	11.30	8.84	7.86	4.18	1.72	1.97	.49	1.47	.00	.00	.00	.00
12	.40	1.21	1.61	.40	3.21	4.02	7.23	16.06	14.06	14.06	12.45	10.84	6.02	3.21	5.22	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.46	.69	.69	.23	1.85	3.01	9.26	18.98	23.15	14.58	10.65	8.33	5.56	1.39	1.16	.00	.00
14	.00	.84	.00	1.05	.00	.84	3.36	8.40	12.81	10.71	14.92	16.39	9.45	9.45	5.25	1.68	1.68	.21	2.10	.00	.00
15	.32	.00	.00	.32	.96	2.56	3.85	7.69	12.18	16.67	12.82	12.50	9.94	7.69	4.49	2.24	.64	5.13	.00	.00	.00
16	.00	.00	.00	.00	.43	.43	.21	2.37	3.87	9.89	14.84	18.06	21.29	12.69	8.60	3.87	1.07	.00	2.37	.00	.00
17	.00	.00	.00	.45	.68	1.81	3.61	9.26	11.96	13.09	12.87	10.61	14.67	6.55	4.29	3.84	6.32	.00	.00	.00	.00
18	.00	.00	1.31	.65	.65	.00	1.96	4.25	10.13	18.95	21.90	16.34	9.80	4.58	1.31	1.63	6.54	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.40	2.01	2.41	14.86	18.07	20.48	15.66	11.65	6.43	4.42	3.61	.00	.00
20	.00	.00	.00	.00	.00	.69	.00	.23	1.38	.46	1.15	2.99	4.37	12.64	15.40	15.17	12.64	17.47	8.28	5.52	1.61
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.56	21.67	17.22	31.67	8.89	9.44	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	1.53	1.53	1.91	4.96	7.63	22.14	16.03	19.08	19.08	6.49	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	1.24	1.86	2.17	6.81	4.33	8.36	13.31	22.29	19.50	12.38	4.64	3.04	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.05	1.36	1.71	2.05	7.51	11.26	25.26	26.62	13.99	7.51	.6A
25	.00	.00	.00	.00	.00	.00	.66	.66	.00	3.31	1.32	1.99	3.97	2.65	3.97	9.27	13.24	29.80	17.22	11.92	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.69	5.52	45.52	31.04	12.41	4.83	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.39	1.18	6.27	27.84	37.25	19.61	5.88	1.57	.00
28	.30	1.20	3.30	9.00	24.92	27.03	16.22	6.31	3.90	2.40	1.50	.90	3.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	41.38	39.66	9.77	4.02	5.17	.00	.00	.00	.00
30	.00	.00	.00	.00	.00	.00	1.22	2.44	10.16	22.76	18.70	20.73	10.98	4.06	2.03	4.06	2.85	.00	.00	.00	.00
31	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.40	1.40	18.14	24.19	24.65	16.74	6.51	4.65	1.40	.93	.00
32	.00	.00	.00	.00	.00	.00	.41	.41	2.46	1.23	3.28	2.05	11.88	18.03	10.25	14.34	21.72	8.20	4.51	1.23	.00
33	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.07	2.49	4.63	6.76	10.68	20.99	21.35	14.95	9.25	7.83	.00
34	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.56	2.79	4.47	31.28	29.05	17.32	7.26	5.03	.00
35	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.99	1.14	1.42	3.41	5.40	17.61	17.05	30.40	13.07	5.68	2.84
36	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.37	2.77	38.34	27.67	15.81	7.90	2.37	.00
37	1.01	1.51	2.51	9.55	16.58	24.62	19.10	11.56	4.02	2.51	2.01	.00	1.00	4.02	.00	.00	.00	.00	.00	.00	.00
38	.00	.00	.00	.00	.00	.79	.79	2.10	15.49	17.06	19.42	18.37	14.17	5.77	1.58	1.58	1.31	1.57	.00	.00	.00
39	.00	.00	.00	.00	.00	.00	.00	1.51	2.01	5.78	18.09	17.34	22.61	16.08	9.30	3.77	1.76	1.01	.00	.75	.00
40	.00	.00	.00	.00	.00	.00	.00	.94	.70	4.21	8.41	14.25	25.47	19.39	14.02	6.08	3.27	3.27	.00	.00	.00
41	.00	.00	.00	.00	.00	.31	.00	1.22	.00	.61	1.84	.31	5.20	12.54	15.29	26.30	11.31	20.18	2.45	1.35	2.03
42	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.35	1.35	7.77	22.63	29.05	26.01	8.45	1.35	.00
43	.00	.00	.00	.00	.00	.00	.00	.00	1.07	.80	1.07	.27	2.68	4.02	19.03	20.37	19.84	22.25	7.24	.27	1.07
44	.00	.00	.00	.00	.00	.00	.00	.00	14.16	21.57	22.02	12.13	8.99	5.17	2.70	2.70	1.91	1.35	.00	.45	.00
45	.00	.00	.00	.00	.00	.00	.00	.00	.38	.38	1.53	31.30	24.05	17.56	11.45	6.49	1.91	3.44	.00	.00	.00
46	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.06	15.46	25.26	20.88	17.78	10.57	7.99	.00	.00	.00	.00
47	.00	.00	.00	.00	.00	.00	.00	.37	.00	.00	1.11	3.33	12.22	28.89	20.37	15.56	12.22	4.44	.00	.00	.00

Table 2. Area 1A Grain Size in 1/4 Phi Units

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
48	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	1.00	1.67	.00	1.67	17.73	28.09	23.75	20.40	1.67	2.34	.67
49	.00	.00	.00	.00	.00	.00	.00	.00	.00	.64	.64	1.27	3.50	1.59	19.43	14.01	32.17	22.93	3.18	.32	.32
50	.00	.00	.00	.00	.00	2.16	.54	2.16	3.24	4.86	5.95	10.81	17.30	10.81	10.27	9.19	5.40	8.11	3.24	2.70	2.70
51	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.11	11.87	18.73	19.79	14.78	11.35	10.55	5.54	2.64	.00	.00	.00
52	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.47	38.39	30.33	19.91	10.90	.00
53	.00	.00	.00	.00	.00	.00	.00	.00	1.21	.00	.00	.91	3.33	3.94	11.82	30.30	19.09	20.91	3.64	2.73	1.51
54	.00	.00	.00	.00	.00	.98	.74	1.47	2.21	6.37	10.29	16.18	21.32	11.27	10.05	8.33	4.41	3.19	3.19	.00	.00
55	.00	1.20	.00	2.40	3.60	4.40	4.00	10.80	15.60	10.00	13.20	8.80	7.20	6.80	1.60	.00	1.60	.80	4.00	.00	.00
56	.64	3.18	.00	4.13	5.08	7.30	8.49	12.38	13.97	10.48	9.21	8.25	7.94	2.54	3.49	.00	.00	.00	.00	.00	.00
57	.00	.00	.00	.00	.00	.00	.00	.00	.00	.80	4.02	7.63	23.29	16.47	19.68	13.66	5.62	8.83	.00	.00	.00
58	.90	2.41	.00	2.11	2.71	5.12	4.82	10.84	13.55	17.17	12.65	10.24	10.84	3.61	1.81	.00	.00	.00	.30	.00	.90
59	4.60	7.53	.00	8.79	7.11	13.81	12.97	11.30	7.11	3.77	2.09	.00	.42	7.53	.00	.00	.00	.00	.00	.00	.00
60	1.39	5.56	.00	2.08	4.17	6.94	5.90	11.46	12.85	14.58	12.85	7.99	5.21	2.78	1.04	5.21	6.47	3.23	.00	.00	.00
61	.00	.00	.00	1.74	2.25	.00	.25	1.99	1.49	3.98	13.68	13.43	24.88	15.17	9.70	6.47	3.23	3.73	.00	.00	.00
62	.64	.00	.00	.00	1.72	2.36	3.00	5.15	10.73	15.66	15.66	13.73	11.16	5.58	4.51	2.36	.64	.00	6.01	.00	.00
63	.00	.00	.00	.00	.00	.00	.00	.00	1.67	1.99	4.17	17.22	14.72	21.67	16.11	10.56	7.22	5.28	.00	.00	.00
64	.00	.00	.00	.00	1.44	1.91	2.87	3.83	9.57	9.09	17.70	21.05	15.31	8.13	4.78	2.39	.00	1.91	.00	.00	.00
65	.00	.00	.00	.00	.82	.82	1.24	4.12	4.12	9.05	15.23	17.28	19.75	8.64	8.23	6.17	4.53	.00	.00	.00	.00
66	.00	.00	.00	.00	.00	.00	.00	1.35	.00	.68	3.04	18.58	17.91	25.34	15.54	10.14	3.72	1.01	2.03	.00	.00
67	1.31	2.36	.00	2.36	4.99	5.25	8.92	11.81	13.12	11.29	12.34	10.50	7.09	3.67	1.05	.00	.52	3.41	.00	.00	.00
68	.74	4.41	.00	3.43	5.15	6.37	11.03	9.31	12.01	11.03	9.31	11.03	7.11	3.43	2.21	3.43	.00	.00	.00	.00	.00
69	.00	.00	.00	.00	.00	.00	.75	.50	2.01	3.02	12.81	17.09	29.65	16.08	8.04	5.53	3.27	.25	.25	.75	.75
70	.00	.00	.00	.00	1.68	.48	1.20	.48	2.39	2.63	6.70	13.40	18.18	11.00	12.68	13.88	10.29	3.35	.72	.48	.48
71	.00	.00	.00	.00	.00	.00	.27	.27	1.36	.27	3.79	13.82	27.10	21.14	14.36	7.05	5.42	1.08	4.06	.00	.00
72	.00	.00	.00	.00	.00	.00	1.50	.60	1.80	1.80	3.00	9.70	25.20	13.60	12.10	10.90	9.10	6.70	1.50	.90	.90
73	.00	.00	.00	.00	.00	.00	.00	.00	.00	.76	.92	29.73	28.35	5.03	12.65	10.06	5.49	2.44	4.57	.00	.00
74	.63	1.74	.00	.79	1.10	1.74	1.10	2.37	8.99	9.46	17.35	14.98	11.67	5.99	6.15	5.36	5.68	3.47	.79	.32	.32
75	1.22	.00	.00	.81	2.43	2.43	2.02	3.24	4.86	10.93	21.86	17.81	12.55	5.26	2.43	2.02	.81	.00	.00	4.05	.00
76	.00	.00	.00	.00	.00	.44	1.99	1.99	10.18	13.94	17.26	16.37	15.71	7.08	4.87	2.88	2.66	.89	3.76	.00	.00
77	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	35.06	27.27	14.29	10.06	6.17	7.14	.00	.00
78	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.07	12.14	31.01	23.51	13.44	7.49	3.88	2.58	1.00	3.88	.00	.00
79	.00	.00	.00	.00	.00	.34	.34	.67	2.35	10.07	10.74	14.77	24.50	13.76	8.39	5.71	1.34	5.37	.00	.00	.00
80	.00	.00	.00	.00	.25	.75	1.75	.50	2.25	7.25	11.00	20.00	24.00	12.00	6.25	5.50	3.25	.00	1.25	4.00	.00
81	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.03	.00	16.55	9.66	27.59	17.59	14.48	7.93	2.07	1.72	1.38
82	.32	1.26	.00	1.58	4.11	2.85	4.75	7.28	12.98	14.56	14.24	11.39	11.08	6.01	3.80	3.80	.00	.00	.00	.00	.00
83	.00	.00	.00	.00	.00	.00	.00	.97	4.61	10.92	17.72	21.84	20.63	12.38	4.13	3.16	.97	.48	2.18	.00	.00
84	.00	.00	.00	1.53	3.58	2.81	3.58	8.18	14.83	13.04	11.51	9.97	15.09	5.88	4.35	2.05	.00	3.58	.00	.00	.00
85	.61	.61	.00	1.83	3.05	2.44	4.57	6.10	12.80	12.20	17.68	14.63	15.55	4.88	.61	.00	2.44	.00	.00	.00	.00
86	.00	1.05	.00	1.40	1.05	3.85	4.20	8.04	12.59	14.69	12.24	11.19	10.14	5.60	6.64	1.75	.35	1.05	.35	3.85	.00
87	.00	.00	.00	.00	.00	1.88	.80	1.07	1.88	6.70	9.92	15.82	22.25	16.35	9.38	5.36	4.83	2.41	.27	.54	.54
88	1.02	.41	.00	1.22	1.63	2.85	2.65	5.09	12.83	10.39	13.04	11.20	13.85	6.92	8.15	2.24	3.87	2.65	.00	.00	.00
89	.62	2.47	.00	2.26	4.94	4.94	.23	10.29	13.17	9.67	11.32	7.82	7.82	3.29	3.09	2.06	1.44	2.67	.62	3.29	.00
90	.00	1.02	.00	2.03	.68	3.73	3.05	2.71	10.17	10.51	16.27	15.93	11.53	5.76	6.44	3.73	2.37	.96	3.73	.00	.00
91	.00	.00	.00	.48	.24	.48	.00	1.68	.72	1.91	18.18	17.46	19.86	14.12	13.40	5.98	4.07	.34	.00	.48	.00
92	.68	.68	.00	.91	1.14	2.51	3.20	8.45	19.18	15.75	13.47	8.90	10.05	6.39	3.65	1.37	.58	.68	2.28	.00	.00
93	.00	.00	.00	.00	1.34	.67	1.56	4.01	7.35	16.93	16.93	16.04	16.70	6.68	4.90	1.78	1.56	.67	.44	2.45	.00
94	.20	.20	.20	.00	.98	2.17	3.94	12.60	15.75	12.01	10.04	9.05	11.22	7.87	8.92	3.74	.59	2.16	2.56	.00	.00

Table 2. Area 1A Grain Size in 1/4 Phi Units

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
95	.00	.00	.00	.76	.50	1.01	1.76	3.78	6.80	6.30	8.31	8.56	12.34	9.07	6.30	7.30	9.07	10.58	3.53	2.77	1.26
96	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.34	.00	4.11	5.14	25.34	24.66	11.99	16.44	8.22	3.42	.34
97	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.06	1.06	2.12	2.83	1.77	1.77	10.95	10.73	31.80	16.61	7.07	4.24
98	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.53	.35	1.58	4.56	16.67	24.56	13.16	22.46	9.65	4.21	2.24
99	.00	.00	.00	.00	1.23	1.72	3.69	5.17	22.41	19.95	18.97	12.32	6.90	2.46	.98	.49	.00	1.44	1.72	.25	.25
100	.00	.88	2.21	2.43	2.21	5.30	11.92	13.47	12.14	15.23	9.93	9.05	4.64	4.64	3.09	1.99	1.10	.44	.66	3.31	.00
101	.00	.00	.00	.00	1.12	1.49	1.86	1.86	1.49	5.20	9.67	12.64	24.91	10.41	1.86	9.67	5.20	7.43	3.72	.74	.74
102	.50	1.24	4.21	11.63	25.50	20.30	14.36	8.42	3.71	1.20	.30	.00	.25	.25	.50	.50	.32	.00	.00	.00	.00
103	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.20	.30	.00	.30	2.41	3.61	17.17	18.37	27.41	17.17	8.13	3.92
104	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.52	6.22	2.07	15.54	34.20	17.10	13.47	10.84
105	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.31	.33	2.62	2.62	6.23	14.43	35.41	18.69	10.16	8.20
106	.00	.00	.00	.00	.00	.00	.00	.00	.88	.00	.58	15.16	34.99	20.99	12.54	7.87	2.92	.29	3.79	.00	.00
107	.00	.00	.00	.00	.00	.00	.00	.00	.27	1.08	.27	2.15	7.26	11.29	16.13	12.63	12.90	16.93	10.75	5.11	3.23
108	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.55	1.11	.83	3.05	16.34	28.25	21.05	15.23	4.94
109	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.67	28.46	27.37	18.16	7.04
110	1.62	1.35	1.62	2.97	3.77	3.77	9.16	14.56	17.79	14.29	11.32	7.01	6.74	1.04	6.74	.00	.00	.00	.00	.00	.00
111	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.36	13.00	30.04	20.63	12.78	8.97	5.61	2.24	3.36	.00	.00
112	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.50	13.96	16.70	10.98	10.07	3.43	3.66	3.43	2.75	.00	.00
113	.00	.00	.00	.23	1.60	1.60	1.37	2.29	5.72	8.70	13.50	13.96	16.70	10.98	10.07	3.43	3.66	3.43	2.75	.00	.00
114	.00	.00	.00	.00	.219	.00	1.88	1.57	3.14	7.52	11.91	10.03	15.05	13.79	9.40	8.46	5.96	5.33	.00	3.76	.00
115	.00	.22	.66	.66	1.54	1.75	3.29	9.43	7.68	13.82	11.40	15.79	9.21	7.46	7.46	5.70	4.17	3.29	3.95	.00	.00
116	.50	1.75	1.00	2.74	4.49	6.73	13.72	15.21	10.22	8.48	7.48	7.73	6.73	2.74	2.74	3.49	2.24	2.99	1.75	.00	.00
117	.00	.00	.00	.00	.00	.00	.00	.00	.79	1.06	7.39	20.32	25.07	14.25	12.14	7.65	4.49	3.96	1.32	.00	1.54
118	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.66	1.04	1.45	.00	16.98	16.36	20.91	23.60	9.94	4.14	3.94
119	.36	2.15	.36	.36	.36	2.15	2.15	2.15	5.38	9.68	13.98	13.62	21.15	9.68	7.53	3.58	1.43	1.79	1.79	.36	.36
120	.00	.00	.00	.00	.00	.99	.20	.40	.40	1.19	14.23	11.66	24.90	8.10	13.64	8.50	9.29	3.95	1.19	.79	.59
121	.63	.00	.32	.32	.32	.63	.32	.32	1.90	2.22	7.62	11.75	29.84	15.56	13.02	5.08	3.49	3.49	3.49	.00	.00
122	.91	.91	1.13	3.18	3.18	2.72	4.08	8.16	14.29	10.66	13.83	10.88	13.15	5.22	3.18	2.27	1.13	.91	3.40	.00	.00
123	.00	.00	.00	.00	.00	1.09	.00	1.53	1.75	1.75	10.92	10.70	21.18	14.63	11.57	10.48	7.86	4.54	.66	.87	.44
124	4.05	7.13	9.08	11.83	12.64	12.64	10.05	7.13	9.56	8.27	4.86	5.02	3.24	1.94	1.30	.16	.32	.49	2.43	.00	.00
125	.00	.00	.00	.00	.00	1.42	.71	1.43	4.75	8.55	12.11	22.57	21.85	9.26	4.75	3.80	1.90	4.51	.00	.00	.00
126	1.64	2.45	3.48	5.32	5.32	5.52	8.59	12.06	13.50	13.09	11.04	7.97	7.16	3.64	1.84	.82	.20	.20	.61	.82	.82
127	.19	.19	.19	.19	.19	1.17	2.54	4.88	8.98	15.43	13.67	12.89	16.02	8.20	6.84	2.54	1.76	.98	.00	2.93	.00
128	.69	.52	1.21	2.08	1.90	1.90	3.98	7.61	18.86	17.47	12.28	9.34	9.17	6.23	1.90	3.11	1.38	2.25	.00	.00	.00
129	.00	.00	.00	.00	.00	.00	.00	2.13	1.16	7.35	11.61	12.57	25.73	12.57	9.86	7.35	5.80	2.90	.58	.39	.00
130	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.36	.78	8.14	30.43	18.99	14.92	10.66	7.56	4.46	1.74	.58	.39
131	1.61	3.22	4.03	6.76	6.60	6.60	8.05	11.92	14.82	14.33	12.24	3.22	4.83	1.93	1.77	.97	.48	3.22	.00	.00	.00
132	.56	.93	3.17	4.11	4.11	6.53	14.37	12.13	16.47	13.99	5.04	7.65	3.17	1.49	.75	.75	.93	.93	1.68	.00	.00
133	.58	1.16	.39	2.13	2.90	3.47	10.83	13.15	12.96	11.99	9.67	10.83	6.19	4.45	2.32	2.32	2.51	4.06	.00	.00	.00
134	.00	.45	2.69	.45	2.69	2.39	6.72	9.55	12.09	12.69	12.69	12.69	13.58	6.27	1.49	2.69	.75	2.84	.00	.00	.00
135	.00	.55	1.36	.82	2.45	1.09	3.82	7.08	15.26	15.80	14.44	.00	.54	1.36	.82	.82	2.45	1.09	3.82	7.08	15.26
136	.00	.00	.00	.00	.58	2.03	3.49	3.78	7.27	13.66	18.89	19.48	11.63	7.85	4.36	3.20	2.04	.87	.00	.29	.54
137	.00	.00	.00	.25	.51	1.27	1.02	.25	1.78	3.31	10.94	19.34	23.66	12.72	8.91	5.85	3.82	.51	5.85	.00	.00
138	.00	.00	.00	.00	.00	.30	.30	.90	.60	2.41	6.02	13.25	29.82	15.96	9.64	7.53	7.53	3.01	1.21	1.21	.30
139	.99	.99	1.65	2.80	2.80	6.77	6.11	11.72	14.52	9.74	10.89	13.20	4.95	4.62	3.30	1.82	7.82	5.10	.80	.64	.00
140	.00	.00	.00	.00	.00	.00	.00	.32	.80	1.60	16.43	26.48	15.95	14.20	9.89	2.66	1.77	.30	.00	5.02	.00
141	1.18	.00	1.77	.30	3.54	3.54	3.24	4.42	11.50	10.32	12.39	12.98	15.34	7.37	5.90	2.66	1.77	.30	.00	5.02	.00
142	.00	.00	.00	.00	.00	.00	.00	.90	.67	.67	2.91	11.19	26.40	16.78	12.08	11.63	8.95	5.59	1.79	.22	.22

Table 2. Area 1A Grain Size in ¼ Phi Units

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
143	.77	1.54	.51	.51	.26	1.03	2.06	1.29	10.80	14.14	20.31	21.59	5.66	7.71	7.71	4.11	4.11	1.54	.00	2.06	.01
144	.00	.56	.37	.19	1.30	.93	.74	1.68	10.61	18.99	19.74	16.39	10.06	7.82	7.82	4.10	3.17	3.35	.00	.00	.01
145	.64	.86	.86	1.94	2.80	5.81	10.54	14.19	9.25	10.75	8.82	12.04	4.52	5.81	4.09	3.44	3.44	2.58	.22	.64	.22
146	.00	.00	.00	.00	.00	.00	.27	1.37	.00	3.83	15.62	21.37	10.14	11.23	8.49	12.33	11.78	1.37	1.92	1.92	.27
147	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.60	3.28	10.15	15.22	20.90	22.09	17.61	5.67	3.58	3.58	.30
148	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	1.98	2.64	4.29	7.92	12.54	19.80	25.74	14.85	6.93	6.93	2.31
149	.00	.00	.00	.00	.00	.00	.00	.23	.23	1.17	3.73	13.29	20.51	18.65	17.25	13.29	7.93	2.10	.70	.93	2.31
150	.00	.00	.36	1.43	2.14	1.43	.00	3.74	4.28	4.10	6.95	9.45	14.08	9.80	9.27	11.05	12.48	4.99	2.67	.54	.54
151	.00	.00	.00	.00	.00	.00	.00	.00	1.09	.87	1.75	3.28	5.25	14.00	20.79	21.01	16.85	8.75	3.94	2.41	2.41
152	.00	.00	.00	.00	.00	.00	.00	.00	1.36	1.13	13.83	20.18	26.76	15.65	10.43	5.90	1.36	3.40	.00	.00	.00
153	.69	.69	1.37	3.09	14.93	18.35	19.73	13.38	8.58	5.83	2.14	3.09	1.20	1.37	.52	1.20	1.72	.00	1.03	.52	.52
154	.00	.00	.00	.00	.00	.00	.30	.00	1.20	.50	2.10	3.70	8.40	5.20	15.00	17.80	12.70	19.00	10.50	2.40	1.20
155	.00	.00	.00	.00	.00	.00	.00	.28	.28	.14	10.75	20.79	24.33	12.31	10.18	11.88	6.22	2.69	.00	.00	.00
156	.00	.00	.86	1.92	1.71	2.14	9.62	12.82	17.73	16.24	12.39	11.97	4.70	2.35	2.35	.21	2.94	.00	.00	.00	.00
157	.00	.00	.00	.00	1.07	.18	.53	.71	1.78	12.43	30.55	19.54	18.65	7.28	3.20	1.78	2.31	.00	.00	.00	.00
158	.00	.00	.63	.38	.38	.51	.38	1.27	4.94	25.70	16.71	12.66	13.54	6.71	8.23	3.67	4.68	.00	.00	.00	.00
159	.67	2.33	.00	.00	.00	.00	.00	7.67	14.00	12.67	10.67	12.67	10.33	7.00	9.33	2.33	2.33	3.33	.00	.00	.00
160	.00	.00	.75	.25	.25	.75	1.50	1.00	2.99	7.98	17.71	23.44	21.45	9.23	5.49	2.74	.50	.00	4.24	.00	.00
161	.45	.00	.30	1.05	1.20	2.85	7.80	14.09	15.74	16.34	11.39	12.59	6.60	3.75	1.80	1.05	.75	.15	2.10	.00	.00
162	.78	.00	1.37	1.96	1.76	4.90	9.61	11.57	11.18	14.31	16.08	13.92	5.29	1.57	.78	.20	.39	.00	.00	.00	.00
163	.00	.68	1.20	2.22	2.91	4.61	12.31	17.61	16.58	13.33	9.23	7.86	4.27	1.88	1.03	1.03	1.03	.00	.00	.00	.00
164	.00	.00	.00	.00	.00	.00	.00	1.79	1.19	2.98	3.27	6.25	8.33	13.99	15.18	15.48	11.91	13.10	.00	.00	.00
165	.00	.00	.77	.51	.51	1.03	.77	1.80	10.26	12.82	12.31	27.18	11.54	8.97	3.59	3.08	3.25	.81	.00	.27	.00
166	.00	.00	.00	.00	.00	.00	.00	12.20	15.99	12.47	12.47	10.57	10.30	4.88	4.34	3.52	3.25	.00	.00	.00	.00
167	.00	.00	.00	.00	.00	.00	.00	.00	.00	.33	.66	.17	.66	1.16	23.59	5.94	12.62	25.91	18.27	8.14	2.49
168	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.62	11.83	18.46	25.31	23.86	14.52	5.39
169	.17	.68	.17	.51	.68	2.72	7.13	7.81	6.96	10.87	11.54	14.77	8.66	8.32	5.94	4.58	4.41	4.07	.00	.00	.00
170	.00	.28	.00	1.13	1.27	3.24	6.21	12.55	14.53	16.78	13.40	13.12	6.06	3.67	2.54	1.55	3.67	.00	.00	.00	.00
171	.17	1.19	1.54	5.12	9.90	12.80	13.14	14.85	12.80	11.77	5.97	5.46	5.29	.00	.00	.00	.00	.00	.00	.00	.00
172	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.53	1.41	23.14	27.03	15.02	17.31	13.07	2.12	.35	.00
173	.17	.51	1.02	1.70	3.73	11.04	11.38	15.28	16.13	14.77	10.87	10.87	5.43	2.38	2.04	3.40	.00	.00	.00	.00	.00
174	.00	.00	.00	.00	1.47	1.96	3.91	11.25	14.67	22.98	11.25	9.78	5.38	6.36	2.93	2.44	5.62	.00	.00	.00	.00
175	.00	.27	.80	1.99	1.46	3.06	12.77	9.84	16.62	17.55	13.30	10.90	2.79	3.59	1.60	.80	.00	.00	2.66	.00	.00
176	.15	.30	.45	1.34	1.64	2.98	9.37	20.83	20.54	14.73	9.97	8.48	4.17	1.79	.60	.45	2.23	.00	.00	.00	.00
177	1.16	3.49	4.65	7.91	11.86	14.19	13.02	14.88	10.70	6.74	4.88	4.65	.00	.93	.93	.00	.00	.00	.00	.00	.00
178	1.07	1.20	1.20	4.41	11.36	20.72	18.43	16.04	9.22	4.95	3.61	2.81	.67	.40	1.07	2.81	.00	.00	.00	.00	.00
179	.00	.00	.00	.00	.00	.13	.89	2.66	10.14	30.16	16.98	12.93	7.98	6.21	4.31	3.17	1.77	.76	1.90	.00	.00
180	.00	.00	.00	.00	.00	.00	.00	.00	.12	.51	15.17	32.24	19.72	13.40	10.24	5.18	3.41	.00	.00	.00	.00
181	.29	.44	1.17	1.17	2.20	4.98	18.16	26.06	16.54	13.32	6.59	9.08	.00	.00	.00	.00	.00	.00	.00	.00	.00
182	.00	.00	.00	.00	.00	.00	.00	.00	.16	.48	.32	1.11	6.36	10.97	4.61	4.61	13.67	28.30	19.56	9.70	4.77
183	.00	.00	.00	.00	.00	.00	.00	.00	.80	.42	3.81	4.02	.00	.00	.00	.00	7.43	13.66	20.08	12.45	8.84
184	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	32.32	22.98	10.61	3.24	3.24
185	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.26	13.48	6.52	7.83	6.96
186	.58	.67	.87	.58	.58	2.91	3.49	9.30	12.50	14.83	16.86	15.12	8.72	5.52	2.33	.58	2.91	.00	.00	.00	.00
187	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
188	1.62	3.42	3.96	7.37	13.85	14.75	15.11	14.75	7.01	5.94	5.22	2.88	4.14	.00	.00	.00	.00	.00	.00	.00	.00
189	.76	3.82	1.02	5.09	4.84	7.12	9.67	11.70	9.41	7.12	7.63	7.12	6.11	7.12	4.58	3.05	2.54	1.02	.25	.00	.00
189	.60	1.81	2.42	3.32	4.23	5.14	11.78	15.11	11.48	12.39	10.88	8.76	3.02	2.42	6.65	.00	.00	.00	.00	.00	.00

Table 2. Area 1B Grain Size in 1/4 Phi Units

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	.44	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.87	1.09	1.52	3.91	3.91	6.52	11.30	17.17	15.65	14.78	10.87	6.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
5	.00	.00	.00	.00	.00	1.12	.93	6.36	14.95	16.82	17.01	16.26	7.66	7.29	5.23	2.80	1.12	1.12	1.12	1.12	1.12
6	.00	.00	.00	.00	.00	1.17	1.25	.71	2.31	5.34	16.73	21.89	21.53	10.14	8.90	4.45	3.74	.89	1.25	1.25	1.25
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	1.22	.61	1.22	1.83	2.64	3.05	8.33	17.48	18.29	14.23	11.99	7.31	2.44	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
11	.98	.78	1.56	1.37	2.54	3.71	5.86	19.14	17.77	14.65	10.16	7.42	2.73	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37
12	1.08	1.80	1.62	3.06	2.88	3.96	11.15	17.99	13.67	12.41	9.35	9.17	4.32	2.70	1.08	1.08	1.08	1.08	1.08	1.08	1.08
13	.18	1.82	2.37	.00	2.37	2.37	3.10	12.20	17.85	14.57	12.93	12.20	7.47	5.46	3.10	1.09	1.09	1.09	1.09	1.09	1.09
14	.40	1.20	1.20	1.20	2.40	2.59	3.59	5.40	14.57	19.56	14.17	10.38	9.18	3.39	1.80	.80	1.00	.00	.80	7.58	.00
15	.71	.71	.89	1.06	1.06	1.05	3.01	4.60	14.51	19.82	15.40	10.62	12.04	3.54	2.12	1.06	.53	.53	6.90	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	1.32	2.86	5.06	8.81	15.42	13.88	16.08	10.79	11.67	11.67	2.20	2.20	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.11	13.26	23.20	16.57	15.47	17.13	11.60	1.11	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.66	.88	2.86	27.09	32.16	19.60	15.10	.00	1.10
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.88	6.17	3.29	2.06	1.65	.82	9.05	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.19	14.37	28.74	22.75	18.56	7.78	1.19	.60	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.20	.60	4.19	14.37	28.74	22.75	18.56	7.78	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.20	.60	4.19	14.37	28.74	22.75	18.56	7.78	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.20	.60	4.19	14.37	28.74	22.75	18.56	7.78	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.20	.60	4.19	14.37	28.74	22.75	18.56	7.78	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.20	.60	4.19	14.37	28.74	22.75	18.56	7.78	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.20	.60	4.19	14.37	28.74	22.75	18.56	7.78	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.20	.60	4.19	14.37	28.74	22.75	18.56	7.78	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.20	.60	4.19	14.37	28.74	22.75	18.56	7.78	.00
29	.51	.34	.69	1.72	1.54	1.72	3.43	9.61	18.87	15.78	10.29	15.09	7.38	4.97	1.72	6.35	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.42	5.13	4.49	2.60	7.80	.00	.00	.00	.00
31	.18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.42	5.13	4.49	2.60	7.80	.00	.00	.00	.00
32	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.42	5.13	4.49	2.60	7.80	.00	.00	.00	.00
33	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.42	5.13	4.49	2.60	7.80	.00	.00	.00	.00
34	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.42	5.13	4.49	2.60	7.80	.00	.00	.00	.00
35	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.42	5.13	4.49	2.60	7.80	.00	.00	.00	.00
36	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.42	5.13	4.49	2.60	7.80	.00	.00	.00	.00
37	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.42	5.13	4.49	2.60	7.80	.00	.00	.00	.00
38	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.42	5.13	4.49	2.60	7.80	.00	.00	.00	.00
39	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.42	5.13	4.49	2.60	7.80	.00	.00	.00	.00
40	.34	.86	1.88	1.88	1.88	2.57	3.94	6.51	13.01	12.50	14.21	13.70	13.01	3.25	4.62	1.71	1.37	4.62	.00	.00	.00
41	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	13.70	13.01	3.25	4.62	1.71	1.37	4.62	.00	.00
42	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	13.70	13.01	3.25	4.62	1.71	1.37	4.62	.00	.00
43	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	13.70	13.01	3.25	4.62	1.71	1.37	4.62	.00	.00
44	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	13.70	13.01	3.25	4.62	1.71	1.37	4.62	.00	.00
45	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	13.70	13.01	3.25	4.62	1.71	1.37	4.62	.00	.00

Table 2. Area 1B Grain Size in 1/4 Phi Units

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
46	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.66	1.33	15.04	25.89	23.89	16.59	11.06	4.64	.44	.22	.22
47	.00	.00	.00	.00	.00	.00	.00	.00	1.25	.42	1.66	1.46	14.55	19.33	16.71	15.80	16.42	6.65	3.74	.00	.00
48	.00	.00	.00	.00	.00	.00	.00	.00	.00	.40	3.41	20.48	34.14	17.27	7.23	8.63	2.81	1.81	.00	3.82	.00
49	.00	.00	.00	.00	.00	.00	.00	.00	.40	.00	.20	1.42	4.67	19.72	25.20	21.34	17.28	5.89	1.02	2.85	.00
50	.00	.00	.00	.00	.00	.21	1.05	1.05	1.89	7.76	16.56	20.75	20.34	11.32	7.97	4.40	1.47	5.24	.00	.00	.00
51	.00	.00	.00	.00	.00	.00	.00	.00	.45	.00	.67	.67	1.11	16.48	28.95	19.60	19.82	6.24	6.01	.00	.00
52	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.44	16.84	24.44	21.77	23.41	11.29	.41	.41	.00
53	.00	.00	.00	.00	.00	.00	.00	.88	.66	.44	2.41	3.51	6.80	5.70	16.45	18.20	24.78	15.35	4.82	.00	.00
54	.23	.23	.00	.00	2.78	2.55	3.47	4.63	13.19	14.35	15.51	12.27	12.96	6.48	5.09	3.01	1.16	2.04	.00	.00	.00
55	.63	.63	.00	.21	.00	2.51	1.26	4.60	13.81	14.64	15.48	14.85	11.30	7.53	5.02	3.14	2.30	.00	.21	2.51	.00
56	.00	.00	.00	.00	.00	.00	.91	1.83	7.72	15.85	20.94	18.29	19.92	2.24	3.66	3.05	1.83	.20	3.66	.00	.00
57	.00	.00	.42	.00	.42	.42	1.05	2.93	9.00	16.32	18.20	13.39	16.32	7.95	4.39	3.56	1.88	.63	3.14	.00	.00
58	.00	.00	.00	.00	.00	.00	.00	.00	1.25	.00	.84	5.43	30.06	24.43	14.61	12.53	6.89	3.13	.42	.42	.00
59	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.22	23.11	22.89	17.56	21.11	11.78	.22	.44	.67
60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.30	13.78	30.06	18.79	21.29	9.39	1.88	2.88	.42
61	.00	.00	.00	.00	.00	.00	1.01	1.40	7.24	18.11	15.69	10.87	14.49	7.65	10.66	5.23	3.42	1.61	.00	2.62	.00
62	.00	.00	.00	.00	.00	.00	.00	.00	.65	.00	1.09	9.15	20.04	23.53	21.35	15.90	7.19	1.09	.00	.00	.00
63	.00	.00	.00	.00	.00	.00	.61	.82	2.25	8.20	19.67	20.70	20.08	9.22	7.99	4.92	1.64	1.02	2.87	.00	.00
64	.00	.00	.00	.00	.00	.00	.00	.00	.66	.44	.66	3.49	22.27	20.31	14.19	17.90	12.44	4.59	.00	3.06	.00
65	.00	.00	.00	.00	.73	.24	.73	.00	.73	.24	.98	.73	21.71	27.31	13.66	13.90	11.71	3.66	.98	2.68	.00
66	.00	.00	.00	.00	.00	.00	.00	.00	.64	.43	1.49	12.76	23.40	20.85	18.72	15.11	5.11	5.11	1.06	.21	.21
67	.00	.00	.00	.00	.00	.00	.00	.23	.45	.45	.23	.68	26.98	27.66	17.01	11.11	8.39	3.40	.23	3.17	.00
68	.00	.00	.00	.00	.00	.00	.78	.39	1.37	6.84	19.53	20.51	20.31	10.55	8.01	5.27	6.45	.00	.00	.00	.00
69	.00	.00	.00	.00	.00	.20	.59	.20	.20	.39	.78	2.54	17.38	24.02	18.95	15.23	11.33	4.69	1.56	1.95	.00
70	.00	.00	.00	.00	.43	.43	.43	.21	.21	.21	3.41	13.65	27.29	12.54	18.76	11.51	6.18	1.71	2.99	.00	.00
71	.00	.00	.00	.00	.00	.00	.00	.00	.36	1.09	5.64	13.27	27.64	18.91	14.36	9.82	4.91	4.00	.00	.00	.00
72	.00	.00	.00	.00	.00	.00	.00	.00	.66	2.20	13.85	23.30	24.39	13.85	8.13	5.71	4.18	3.52	.00	.00	.00
73	.00	.00	.00	.00	.00	.23	.23	1.16	.23	.69	3.47	15.97	30.32	19.91	13.43	6.94	3.24	4.17	.00	.00	.00
74	.00	.00	.00	.00	.00	.00	.00	.00	.68	.23	1.13	9.50	29.41	19.68	15.38	12.22	6.33	5.43	.00	.00	.00
75	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
76	.43	1.50	.64	.23	3.00	2.36	2.58	5.15	8.15	9.66	6.22	4.72	6.22	8.80	8.80	9.44	9.01	7.94	5.36	.00	.00
77	.00	.00	.00	.00	.00	.68	.00	.23	.45	.23	5.64	20.09	19.19	16.03	14.67	11.29	8.80	8.80	1.58	.00	.90
78	.00	.00	.00	.00	.22	.44	.66	.88	3.75	7.95	19.43	16.11	15.45	10.82	9.71	5.52	3.31	5.74	.00	.00	.00
79	.00	.00	.00	.00	.00	.00	.99	.19	1.93	8.90	11.61	18.57	19.92	12.38	10.06	6.19	3.87	.97	4.06	.00	.00
80	.00	.00	.00	.00	.00	.00	.00	.00	1.03	.52	5.94	18.86	31.01	17.31	7.75	7.49	4.66	2.07	1.55	.00	.00
81	.00	.00	.00	.00	.00	.39	.99	.39	1.56	1.17	11.13	28.12	28.13	8.79	8.20	4.69	3.52	.59	.00	2.93	.00
82	.00	.00	.00	.00	.41	.00	.41	.61	.00	.20	1.22	11.56	16.23	15.42	18.05	14.60	11.56	9.74	.00	.00	.00
83	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.19	.38	1.13	12.62	26.18	13.94	26.37	13.94	4.52	.00	.00
84	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.20	.60	21.37	20.56	19.76	20.77	14.31	2.42	.00	.00	.00
85	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.62	2.07	2.70	25.10	26.14	23.86	15.77	2.07	1.66	.00	.00
86	.00	.00	.00	.00	.00	.00	1.11	.22	2.91	3.13	11.86	12.98	23.04	13.42	11.86	8.72	6.71	2.68	.22	.00	1.11
87	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.56	3.57	22.54	24.78	14.73	14.51	8.93	6.47	2.01	.42	.22	.22
88	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.01	5.30	31.16	28.92	12.83	6.72	4.28	2.24	7.54	.00	.00	.00
89	.00	.00	.00	.00	.00	.00	.00	.00	1.08	.65	.65	.65	1.51	17.49	23.54	19.44	18.79	12.96	1.73	.43	1.04
90	.00	.00	.00	.00	.00	.00	.21	.43	1.08	1.52	2.82	4.77	20.39	16.70	10.85	8.68	12.58	14.32	5.64	.00	.00

Table 2. Area 1B Grain Size in 1/4 Phi Units

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
91	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.17	1.40	1.17	21.44	25.41	17.95	14.45	10.49	5.36	.70	.23	.23
92	.00	.00	.00	.00	.61	1.43	1.83	4.68	10.59	14.87	15.68	13.44	15.48	7.94	4.89	2.44	1.63	4.44	.00	.00	.00
93	.00	.22	.90	.22	.67	.90	2.25	2.70	9.21	13.03	14.83	14.61	14.38	9.44	6.97	2.92	2.70	.90	.00	4.04	.00
94	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.41	4.29	27.76	17.76	18.57	16.12	10.20	.20	4.70	.00
95	.00	.00	.00	.00	.00	.00	.00	.22	.44	.88	4.86	18.76	25.61	14.57	14.35	10.60	7.28	1.99	.44	.00	.00
96	.00	.00	.00	.00	.00	.00	.00	.44	1.10	.22	.88	2.43	16.78	18.54	17.00	18.10	13.02	6.84	.44	4.19	.00
97	.00	.40	.00	.20	.00	.00	.00	.00	1.00	.60	.60	9.38	17.17	14.57	8.18	20.16	14.97	8.18	4.59	.00	.00
98	.00	.00	.00	.00	.00	.00	.00	.00	.88	1.53	1.31	.88	9.84	17.29	14.44	15.10	20.35	13.57	1.31	3.50	.00
99	.00	.00	.00	.00	.00	.00	.00	.00	.00	.66	.22	.44	2.18	26.86	23.58	21.40	13.54	5.46	.44	5.24	.00
100	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.07	.85	3.63	25.00	19.44	19.44	14.53	10.90	4.06	.21	.21	.64
101	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.14	.00	.00	25.29	29.47	13.12	13.31	10.08	4.56	.38	2.66	.00
102	.00	.00	.00	.00	.00	.00	.00	.00	.00	.65	1.94	13.11	36.56	21.29	13.33	8.17	2.58	1.29	.64	.21	.21
103	.40	.41	.00	.20	.41	.00	.81	.41	.61	2.64	11.18	22.15	26.22	15.24	10.16	4.67	2.23	1.02	.20	.41	.41
104	.00	.00	.00	.00	.00	.00	.00	.20	.79	.20	7.07	18.27	33.01	18.07	13.56	4.91	2.55	.79	.20	.20	.20
105	.00	.00	.00	.00	.00	.00	.00	.00	.00	.57	.19	.38	25.52	27.24	16.38	12.95	7.04	9.71	.00	.00	.00
106	.00	.00	.00	.00	.00	.00	.40	.40	.40	1.19	7.54	21.03	31.94	16.67	8.73	5.95	2.97	.99	.00	1.79	.00
107	.00	.00	.00	.00	.00	.00	.00	.00	1.03	1.44	6.57	21.36	29.16	17.25	11.70	6.99	3.70	.62	.00	.00	.21
108	.40	1.01	.00	.00	1.01	.00	1.01	1.01	6.27	11.13	18.42	18.62	17.21	6.07	5.47	3.64	2.63	.20	5.87	.00	.00
109	.00	.00	.00	.00	.00	.00	.00	.00	.19	.56	.75	14.21	31.78	21.87	9.16	9.53	6.17	2.62	3.18	.00	.00
110	.00	.00	.00	.00	.00	.00	.00	.00	.20	.20	.82	.40	1.43	21.84	25.31	19.39	18.57	6.12	1.02	4.69	.00
111	.00	.00	.00	.00	.00	.00	.00	.00	.00	.67	.22	1.56	20.04	33.85	12.25	17.82	12.25	1.11	.22	.00	.00
112	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.63	1.05	1.05	14.88	20.75	20.97	19.92	17.19	2.73	.42	.42
113	.00	.00	.00	.00	.00	.00	.00	.00	.00	.20	1.00	1.00	2.56	6.11	19.33	20.71	23.08	17.16	2.56	6.31	.00
114	.00	.00	.43	.21	1.95	2.60	5.64	9.98	17.79	13.88	19.32	16.77	13.80	9.34	6.16	3.61	2.97	5.73	.00	.00	.00
115	.00	.00	.00	.00	.00	.42	.64	1.49	6.37	13.38	11.06	9.98	7.16	4.34	3.47	3.04	1.74	1.74	.22	2.82	.00
116	.00	.00	.00	.00	.00	.00	.78	.00	.19	.95	7.20	20.64	25.57	15.34	11.74	7.58	4.55	2.04	3.79	.00	.00
117	.00	.00	.00	.00	.00	.00	.00	.00	1.33	2.88	11.50	12.39	27.43	20.35	10.84	5.53	3.54	1.33	2.88	.00	.00
118	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.11	.67	1.56	24.89	29.78	17.11	15.78	7.33	1.78	.00	.00
119	.00	.00	.00	.00	.00	1.73	1.73	.43	1.51	1.07	10.80	21.17	21.17	13.61	7.99	5.83	5.40	2.59	2.16	1.30	1.51
120	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.97	.19	.78	4.28	27.24	24.71	18.68	19.65	.00	.78	.00
121	.00	.00	.00	.60	.20	.80	.00	1.00	1.01	2.21	6.04	13.28	21.33	16.50	13.28	11.87	5.65	2.82	.20	.00	.20
122	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.26	28.21	23.58	18.74	13.89	8.63	4.00	.21	.84	.63
123	.00	.00	.00	.00	.00	.21	.85	.42	1.91	4.66	13.14	18.22	20.55	12.92	11.02	6.99	3.18	1.48	4.45	.00	.00
124	.00	.00	.00	.00	.00	.00	.00	.00	.00	.22	1.52	.00	3.46	17.71	22.03	21.60	19.65	9.50	4.32	.00	.67
125	.89	1.12	.00	1.79	2.90	.00	3.15	6.03	13.17	19.42	18.30	13.84	8.93	4.02	.89	1.34	1.12	.45	.00	.00	.00
126	.00	.00	.00	.00	.00	.00	.63	.42	1.25	1.04	12.94	18.16	26.10	15.45	11.06	6.05	3.34	2.51	.42	.63	.00
127	.00	.43	.00	.00	.85	1.92	.85	.21	2.77	8.53	15.79	15.35	20.47	10.23	7.68	4.69	1.92	2.13	1.28	2.99	.00
128	.00	.00	.00	.00	.00	.00	1.24	2.69	10.95	13.64	14.46	13.42	16.74	8.68	6.41	2.89	1.45	5.37	.00	.00	.00
129	.63	1.27	.00	1.48	1.69	.84	1.90	3.59	4.22	6.96	10.55	18.99	20.89	9.92	6.75	4.64	3.38	.63	.84	.63	.21
130	.00	.00	.00	.00	.00	.00	.47	.65	.65	.43	9.31	22.73	24.68	16.88	9.96	6.71	2.16	.43	4.55	.00	.00
131	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.14	10.98	19.61	25.29	17.65	9.61	5.10	4.71	3.92	.00	.00	.00
132	.00	.66	.00	1.10	1.10	1.55	2.43	1.10	17.88	23.84	18.98	11.04	11.92	3.97	2.21	.66	.66	.00	.00	.44	.44
133	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.76	28.36	34.16	14.91	7.04	3.73	2.28	4.76	.00	.00	.00
134	.00	.00	.00	.00	.43	.00	.22	.22	1.08	.22	.65	22.03	30.86	14.25	9.29	10.80	4.32	5.62	.00	.00	.00
135	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.56	10.25	31.85	18.71	13.14	10.69	4.90	4.90	.89	1.56	1.56

Table 2. Area 1B Grain Size in 1/4 Phi Units

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
136	.00	.00	.00	.00	.00	.00	.79	.00	.39	.39	.99	24.85	14.20	27.02	10.06	11.83	7.69	1.3A	.39	.00
137	.00	.00	.00	.00	.00	.00	.00	.39	.20	.79	1.96	21.02	24.17	18.66	13.57	9.82	4.91	.9A	3.54	.00
138	.00	.20	.59	.59	.20	1.95	2.73	10.16	11.91	12.89	13.87	16.21	10.16	6.25	4.30	2.73	5.27	.00	.00	.00
139	.00	.00	.00	2.36	1.28	1.93	4.50	10.06	13.70	13.49	17.77	16.70	5.35	5.78	1.50	2.14	1.71	1.71	.00	.00
140	.00	.00	.00	.22	.22	.00	.43	.00	.65	.22	24.07	35.70	8.82	8.39	7.96	8.39	2.5A	.22	1.94	.00
141	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.92	.00	29.97	30.89	10.40	15.29	9.48	1.22	1.53	.31
142	.00	.23	.92	1.37	1.61	1.83	7.57	12.39	18.12	10.09	15.83	16.97	6.19	1.83	1.83	.92	.46	1.83	.00	.00
143	.23	.67	.45	.00	.00	.45	.67	3.82	10.34	16.85	19.10	19.77	11.24	4.94	4.72	2.70	3.60	.00	.00	.00
144	.00	.00	.00	.22	.00	1.09	1.30	1.52	4.78	7.61	11.74	13.48	14.13	9.57	6.74	6.96	11.52	.00	.00	.00
145	.00	.00	.00	.00	.00	.00	.00	.00	.84	.42	1.27	5.27	16.03	25.74	19.83	16.46	9.07	5.06	.00	.00
146	.00	.00	.00	.00	.00	.00	.00	.00	.20	.41	.80	4.87	20.69	23.53	18.46	20.69	7.71	2.64	.00	.00
147	.00	.00	.00	.00	.00	.00	.00	.00	.40	.60	2.41	8.25	17.91	19.52	18.11	18.31	10.06	.80	3.62	.00
148	.00	.00	.00	.00	.00	.00	1.13	1.36	.00	1.36	2.72	10.43	24.49	21.54	14.06	14.06	7.4A	.23	.00	1.13
149	.00	.78	.20	.20	.00	.59	.20	.39	.98	8.40	19.34	21.88	11.52	14.84	7.42	8.00	4.10	.59	3.50	.30
150	.00	.00	.00	.00	.00	.00	.40	.60	1.60	1.80	2.80	8.40	13.60	31.20	14.40	14.20	8.80	1.60	.20	.00
151	.00	.00	.00	.00	.00	.00	.22	.00	1.12	1.12	.45	11.01	18.65	25.84	11.91	15.73	8.31	.00	5.61	.00
152	.00	.00	.00	.00	.00	.00	.00	.63	.21	.84	1.47	4.21	26.53	20.00	14.32	19.37	10.74	.42	1.26	.00
153	.00	.00	.00	.00	.00	.82	1.23	1.64	3.29	12.55	15.84	15.23	16.05	8.44	6.38	5.35	4.32	.00	.62	.00
154	.00	.00	.00	.00	.00	.00	.00	.00	.00	.20	.20	2.58	26.84	24.65	15.31	18.89	8.95	.99	.00	.40
155	.00	.00	.00	.00	.00	.00	.00	.42	.42	1.48	4.23	25.79	25.58	12.69	11.21	12.05	4.01	1.06	.42	.63
156	1.02	2.46	.00	4.92	5.94	11.07	17.62	19.06	11.48	9.43	5.12	2.46	.00	1.43	5.33	.00	.00	.00	.00	.00
157	.00	.00	.00	.00	.00	.00	.00	.00	1.11	.00	.00	13.69	24.30	27.10	10.89	12.29	3.91	5.70	.00	.00
158	.00	.00	.00	.18	.18	.73	.18	1.09	.73	2.55	14.03	31.69	15.12	14.21	8.01	6.56	2.37	1.64	.36	.36
159	.00	.00	.00	.00	.00	.65	.65	2.38	11.90	17.32	19.26	23.81	9.09	6.93	3.03	2.16	.43	1.30	.43	.23
160	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.30	3.90	35.14	24.95	4.56	14.53	8.90	4.12	2.60	.00
161	.40	.40	.40	1.00	1.60	.60	3.79	5.19	6.79	13.97	16.57	17.37	9.5A	6.39	2.99	2.00	1.00	.60	2.90	.00
162	.00	.00	.00	.00	.21	.83	.41	.62	1.04	.41	10.37	21.58	29.88	12.66	7.88	4.9A	3.11	2.07	3.94	.00
163	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.26	.63	6.10	22.32	23.16	19.79	16.21	6.53	.21	3.79	.00
164	.00	.00	.00	.00	.00	.19	.19	.77	.77	.00	.00	19.22	27.21	7.99	19.22	16.41	8.21	.86	.86	.00
165	.00	.00	.00	.00	.00	.40	1.60	3.60	8.00	14.80	18.60	23.00	9.80	10.70	5.95	8.25	3.65	3.26	.00	.00
166	.20	.20	.20	1.20	.00	.00	.00	.00	.00	.22	11.76	17.86	25.93	19.61	8.50	5.23	5.45	.44	1.31	1.94
167	.00	.00	.00	.00	.00	.00	.00	1.08	.65	.65	11.61	14.62	15.49	19.35	19.61	8.50	5.23	.44	.44	.00
168	.00	.00	.00	.43	.00	.65	.43	.65	11.61	14.62	15.49	19.35	18.06	7.74	4.73	1.08	.20	2.66	.00	.00
169	.00	.00	.00	.00	1.23	.82	2.66	1.84	8.40	11.68	19.26	20.49	19.06	4.92	4.71	1.23	.82	.00	.00	.00
170	.00	.00	.00	.00	.42	.64	.64	1.06	5.31	30.36	13.38	16.14	8.92	9.13	7.01	3.40	.64	3.18	.00	.00
171	.00	.00	.00	.00	.00	.86	1.08	.43	5.16	15.70	24.95	25.38	10.97	6.45	3.23	2.58	.00	3.23	.00	.00
172	.61	.00	.00	.41	1.22	2.44	3.26	12.42	18.13	18.74	15.68	11.20	7.54	2.44	1.22	4.68	.00	.00	.00	.00
173	.00	.00	.00	.00	.00	.00	.00	.20	.60	.79	.98	18.31	20.28	20.67	11.81	12.80	7.09	6.50	.00	.00
174	.00	.00	.47	.70	.23	1.16	2.79	9.53	10.23	11.16	12.33	16.05	11.40	5.81	6.51	4.19	4.65	.00	.00	.00
175	.00	.00	.00	.00	.00	.42	.00	.00	.00	1.08	1.30	21.43	28.57	21.43	12.34	7.14	5.41	.87	.00	.43
176	.00	.00	1.48	.21	.42	.42	1.69	.84	4.01	6.12	14.77	14.98	21.10	14.77	9.92	4.64	1.27	2.11	.00	.00
177	.00	.58	.58	1.35	.39	.58	1.16	2.71	10.83	14.70	18.18	14.89	7.35	5.80	2.51	.97	3.09	.00	.00	.00
178	.00	.00	.00	.21	2.10	1.05	1.47	4.20	8.39	11.74	16.35	16.56	18.03	6.29	6.08	2.31	.84	2.31	.00	.00
179	.00	.00	.00	.85	2.33	1.69	2.75	5.71	12.47	15.86	13.32	12.69	14.80	6.34	4.44	3.17	.42	3.17	.00	.00
181	.00	.00	.00	1.31	.79	.52	1.57	3.15	8.14	13.39	22.57	22.57	9.19	8.92	2.10	1.05	1.31	.52	1.05	.24

Table 2. Area 1B Grain Size in 1/4 Phi Units

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
182	.00	.00	.00	.00	.00	.41	.21	.63	.00	.00	12.45	33.20	20.75	16.60	8.09	3.32	1.66	1.24	.00	.00
183	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.10	1.11	8.63	23.45	23.89	19.25	12.17	.89	2.65	.00	.00
184	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.13	5.25	26.27	25.33	17.64	14.26	6.86	1.31	.38	1.50
185	.00	.00	.00	.00	.00	.00	.00	.00	.42	.42	.85	4.59	14.65	6.16	14.65	12.10	4.46	1.27	.21	.21
186	.20	.40	.40	.40	1.19	1.58	13.07	32.87	19.01	15.25	8.51	7.52	.00	.00	.00	.00	.00	.00	.00	.00
187	.00	.00	.00	.20	.00	.59	.20	.99	.59	6.37	18.61	20.00	16.63	10.30	10.50	6.53	8.51	.00	.00	.00
188	.00	.00	.00	.00	.00	.87	1.31	3.71	6.77	15.28	20.31	13.54	14.19	7.21	7.42	5.24	1.09	3.06	.00	.00
189	.00	.39	2.17	3.74	3.15	4.13	8.46	13.58	15.35	15.35	13.39	10.24	2.36	1.38	1.38	.98	3.94	.00	.00	.00
190	.40	.40	1.40	1.40	3.19	3.19	12.18	13.37	16.17	12.38	9.58	15.57	2.99	2.59	.99	.40	3.70	.00	.00	.00
191	.00	.60	.40	.60	.00	.40	2.61	10.62	20.84	17.03	16.23	13.43	4.00	6.61	1.40	1.40	.60	4.21	.00	.00
192	.21	.00	.62	.00	.41	.41	1.03	1.85	4.12	10.70	13.79	13.79	8.23	8.85	16.05	12.14	4.94	5.84	.00	.00
375	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.41	.00	.00	.00
376	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.74	2.34	.00	.00
377	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.11	21.62	13.51	27.03	16.22	8.11	5.41	.00	.00	.00
378	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	9.52	23.81	26.19	19.05	14.29	.00	.00	.00	.00
380	.00	.00	.00	.00	.00	.00	2.50	2.50	7.50	15.00	20.00	20.00	15.00	10.00	5.00	2.50	.00	.00	.00	.00
381	.00	.00	.00	.00	.00	2.70	5.41	13.51	18.92	18.92	13.51	13.51	5.41	2.70	2.70	.00	2.70	.00	.00	.00
382	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.56	5.13	35.90	15.38	12.82	12.82	10.26	5.13	.00	.00	.00
383	.00	.00	.00	.00	.00	.00	.00	.00	.21	3.63	9.83	28.63	20.73	14.96	10.68	5.13	2.14	4.06	.00	.00
384	.00	.00	.00	.00	.00	.00	.00	2.78	2.78	11.11	16.67	22.22	16.67	11.11	11.11	5.56	.00	.00	.00	.00
385	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	19.44	27.78	19.44	19.44	8.33	5.56	.00	.00	.00
386	.00	.00	.00	.00	.00	.00	.00	.00	2.44	.00	2.44	12.20	19.51	21.95	19.51	12.20	9.76	.00	.00	.00
387	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.17	16.67	29.17	16.67	16.67	8.33	4.17	4.17	.00	.00	.00
388	.00	.00	.00	.00	.62	1.24	2.48	7.12	6.81	8.05	13.00	20.43	15.48	12.38	4.64	2.78	2.78	.92	.00	1.24
389	.00	.00	.00	.00	.00	.00	.00	.00	4.76	.00	.00	9.52	14.28	28.57	23.81	14.29	4.77	.00	.00	.00
390	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.33	6.67	13.33	26.67	23.33	16.67	10.00	.00	.00	.00
391	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.00	30.00	22.50	15.00	12.50	7.50	.00	.00	.00
392	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.33	16.67	16.67	25.00	16.67	8.33	.00	.00	.00
393	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.76	9.52	9.52	23.81	23.81	19.05	9.52	.00	.00	.00
394	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.57	32.14	35.71	7.14	17.86	3.57	.00	.00	.00
395	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.33	25.00	41.67	16.67	.00	8.33	.00	.00
396	.00	.00	.00	.00	.00	.00	.00	.00	.00	13.89	16.67	22.22	19.44	13.89	8.33	5.56	.00	.00	.00	.00
397	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.26	21.05	39.47	15.79	10.53	5.26	2.63	.00	.00	.00	.00
398	.00	.00	.00	.00	.00	.00	2.63	7.89	15.79	18.42	15.79	18.42	7.89	5.26	5.26	2.63	.00	.00	.00	.00
399	.00	.00	.00	.00	1.52	3.04	7.09	12.15	14.68	16.71	13.92	14.17	6.04	2.79	1.52	5.57	.00	.00	.00	.00
400	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.00	20.00	20.00	15.00	.00	.00	.00	.00
401	.00	.00	.00	.00	.00	.00	.00	.00	2.38	.00	4.76	23.81	19.05	16.67	14.29	11.90	4.76	.00	.00	.00
402	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.00	20.00	30.00	25.00	10.00	10.00	.00	.00	.00	.00
403	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.85	7.69	30.76	26.92	15.38	7.69	3.85	.00	.00	.00	.00
404	.00	.00	2.56	.00	5.13	7.69	12.82	15.34	17.95	10.25	7.69	5.12	2.56	.00	.00	.00	.00	.00	.00	.00
405	.00	.00	.00	.00	.00	.00	.00	.00	4.76	4.76	9.52	23.81	9.52	14.29	4.76	9.52	4.76	.00	.00	.00
406	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.25	28.20	17.95	12.82	10.25	12.82	5.12	2.56	.00	.00
407	.00	.00	.00	.00	.00	.24	7.3	2.43	10.22	16.55	18.98	19.22	14.60	7.79	2.92	2.43	2.67	.73	.00	.00
449	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.00	10.00	10.00	25.00	30.00	5.00	10.00	.00	.00	.00
450	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.55	18.14	27.27	22.72	13.64	13.64	.00	.00	.00

Table 2. Area 1B Grain Size in 1/4 Phi Units

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
451	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	18.38	31.37	10.78	9.56	12.00	8.01	9.81	.00	.00	.00
452	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.25	6.25	18.75	25.00	25.00	12.50	6.25	.00	.00
453	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.30	18.60	30.20	16.30	16.30	14.00	2.30	.00	.00
454	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.33	16.67	22.22	19.44	16.67	8.33	5.56	2.78	.00	.00	.00
455	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	15.00	30.00	25.00	10.00	10.00	10.00	.00	.00	.00
456	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.63	31.58	26.32	21.05	18.42	.00	.00	.00
457	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	19.05	42.86	19.05	14.29	4.76	.00	.00
458	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.27	5.00	30.56	23.89	22.50	15.83	1.67	.28	.00
459	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.14	7.14	14.29	28.57	28.57	7.14	7.14	.00	.00
460	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.00	25.00	30.00	20.00	15.00	.00	.00	.00
461	.00	.00	.00	.00	.00	.00	.00	.00	.24	4.79	14.39	23.50	20.38	11.51	8.15	6.71	4.80	3.60	.00	1.44	.48
462	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
463	.00	.00	.00	.00	.00	.00	.00	.00	.26	.53	1.06	3.99	14.09	20.47	21.28	13.30	13.83	9.57	1.06	.00	.51
464	.00	.00	.00	.00	.00	.00	.00	2.56	7.69	15.38	20.51	17.95	15.38	5.13	7.69	2.56	.00	2.63	.00	.00	.00
465	.00	.00	.00	.00	.00	.00	2.63	2.63	7.89	13.16	18.42	21.05	21.05	5.26	2.63	2.63	.00	2.63	.00	.00	.00
466	.00	.00	.00	.00	.00	.00	5.88	.00	5.88	11.76	17.65	17.65	23.53	5.88	5.88	5.88	.00	.00	.00	.00	.00
467	.00	.00	.00	.00	.00	.00	.00	.00	5.88	5.88	17.65	17.65	17.65	17.65	5.88	5.88	5.88	.00	.00	.00	.00
468	.00	.00	.00	.00	.00	1.18	5.20	9.46	15.37	15.60	17.26	15.13	10.40	3.78	2.36	1.65	.95	.95	.47	.24	.00
469	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.14	13.35	24.35	16.49	14.66	11.26	8.90	4.71	.79	1.05	1.31	.00
470	2.63	2.63	2.63	2.63	2.63	2.63	5.26	10.53	13.16	15.79	13.16	10.53	7.89	2.63	2.63	2.63	.00	.00	2.63	.00	.00
471	.00	.00	2.63	2.63	5.26	7.89	7.89	13.16	13.16	10.53	7.89	5.26	2.63	.00	.00	.00	2.63	.00	.00	.00	.00
472	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.56	.00	.00	.00	.00
473	.00	.00	.00	.00	.00	2.78	5.56	8.33	16.67	13.89	13.89	11.11	5.57	2.78	2.78	.00	.00	.00	.00	.00	.00
474	.00	.00	.00	.00	.00	.00	.00	.00	10.53	21.05	18.42	13.16	7.89	5.26	2.63	.00	.00	.00	.00	.00	.00
475	.00	.00	.00	.00	2.50	.00	.00	2.50	5.00	17.50	22.50	30.00	10.00	5.00	5.00	2.50	2.50	.00	.00	.00	.00
476	.00	.00	.00	.00	.00	.00	.00	2.56	10.26	15.38	17.95	23.08	10.26	7.69	5.13	2.56	.00	.00	.00	.00	.00
477	.00	.00	.00	.00	.00	.00	.00	2.63	5.26	10.52	15.79	23.68	18.42	13.16	5.26	5.26	.00	.00	.00	.00	.00
478	.00	.00	.00	.00	.00	.00	.00	2.78	2.78	13.89	16.67	19.44	19.44	11.11	5.56	5.56	.00	.00	.00	.00	.00
479	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.75	11.50	24.25	19.00	18.75	12.75	.00	2.78	.25	.00	.00
480	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	9.76	29.27	14.63	9.76	14.63	12.20	7.32	.00	2.44	.00
481	.00	.00	.00	.00	.00	.00	.00	.00	.00	.40	1.19	4.76	13.49	13.09	17.46	20.24	13.89	7.94	1.98	5.56	.00
482	.00	.00	.00	.00	.00	.00	.00	.26	.52	.77	9.02	10.05	21.13	11.34	14.18	13.66	11.86	5.67	1.55	.00	.00
483	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.67	13.33	26.67	33.33	.00	.00	.00
484	.00	.00	.00	.00	.00	.00	.00	.00	.57	.28	.57	3.93	19.21	14.41	12.99	12.15	18.93	14.97	1.41	.57	.00
485	.00	.00	.00	.00	.00	.00	.00	.00	.36	1.09	.36	1.82	4.73	13.09	25.45	27.27	19.27	6.91	.00	.00	.00
486	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.25	.50	1.74	3.47	18.86	29.78	20.84	19.85	2.48	.74	1.42
487	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.88	11.76	17.65	17.65	23.53	11.76	5.88	.00	.00	.00
488	.00	.00	.00	.00	.00	.00	.00	.00	2.50	5.00	22.50	20.00	27.50	10.00	2.50	2.50	2.50	.00	.00	.00	.00
489	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.56	16.67	16.67	22.22	16.67	16.67	16.67	.00	.00	.00	.00
490	.00	.00	.00	.00	.00	.00	.00	2.10	8.40	12.07	14.70	16.27	17.59	9.19	6.30	3.94	1.84	5.77	.00	.00	.00
491	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.46	3.22	11.26	23.45	25.75	18.62	2.07	.69	.21	.00
492	.00	.00	.00	.00	.00	2.56	2.56	2.56	12.82	15.38	17.95	10.26	12.82	5.13	5.13	5.13	2.56	2.56	2.56	.00	.00

Table 3. Area 1B Coarse Fraction Population

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
2	01	11	00	02	00	00	00	60	00	01	01	22	00	00	00	00
4	01	65	00	02	00	00	00	07	00	01	02	22	00	00	00	00
7	00	01	00	00	00	03	03	65	00	06	00	21	00	00	00	03
8	00	03	32	03	01	03	02	29	00	07	00	17	00	01	00	01
9	00	16	00	16	00	05	00	05	00	42	05	11	00	00	00	00
10	00	36	01	05	00	00	00	39	00	00	00	17	00	00	00	00
16	01	30	00	23	00	01	00	17	00	00	06	21	00	00	01	01
18	00	03	00	06	00	00	01	74	00	04	00	13	00	00	01	00
20	00	00	00	00	01	04	00	70	00	06	00	13	00	00	00	04
24	00	00	00	00	00	01	01	78	00	00	00	19	00	00	00	00
26	00	05	00	00	00	02	05	79	00	00	00	10	00	00	00	00
27	00	07	00	00	00	00	02	82	00	01	00	08	00	00	00	00
28	00	01	00	00	00	01	05	76	00	02	01	13	00	00	00	00
30	00	02	00	00	01	01	02	89	00	00	02	04	00	00	00	00
31	00	09	00	04	01	03	00	66	00	02	03	15	00	00	00	01
41	00	00	00	00	02	00	07	71	00	05	00	15	00	00	00	00
48	00	00	00	00	00	02	05	81	00	00	02	11	00	00	00	01
49	00	04	00	00	00	00	02	79	00	00	00	14	00	00	00	00
50	00	00	00	00	00	03	03	74	00	00	03	15	00	00	00	03
51	00	02	00	00	00	00	01	87	00	01	00	08	00	01	00	00
58	00	04	00	00	00	04	00	62	00	00	00	31	00	00	00	00
60	00	00	00	00	00	02	00	69	00	06	00	23	00	00	00	00
65	00	00	00	00	00	00	02	68	00	00	04	24	00	00	02	00
67	00	00	00	00	00	02	00	63	00	10	00	23	00	00	00	02
69	00	04	00	00	01	00	04	21	00	06	02	59	00	01	00	02
72	00	03	00	00	00	00	00	81	00	00	00	16	00	00	00	00
73	00	04	00	00	01	00	00	76	00	01	00	18	00	00	00	01
75	00	06	00	00	01	00	05	65	00	01	00	21	00	01	00	00
76	19	48	00	00	00	00	00	06	00	01	07	18	00	00	00	00
77	00	13	00	00	00	02	00	35	00	05	02	44	00	00	00	00
78	00	10	00	00	00	00	00	35	00	02	01	52	00	00	00	02
79	00	13	00	00	00	00	02	44	00	03	03	34	00	00	00	00
80	00	01	00	00	02	00	02	62	00	03	00	29	00	00	00	01
81	00	02	00	00	02	00	02	42	00	00	00	51	00	00	00	00
84	00	00	00	00	00	00	00	40	00	11	11	74	00	00	00	05
85	00	00	00	00	00	00	00	20	00	00	11	66	00	01	00	02
100	00	01	00	00	01	03	01	63	01	09	04	16	00	00	00	00
102	00	00	00	00	03	03	00	72	00	06	00	16	00	00	00	03
104	00	00	00	00	03	00	00	82	00	08	00	05	00	00	00	00
105	00	00	00	00	00	00	00	72	00	05	00	21	00	00	00	03
107	00	02	00	00	08	00	00	40	00	06	00	42	00	00	00	02
109	00	00	00	00	00	03	00	74	00	09	00	14	00	00	00	00
110	00	00	00	00	00	02	02	69	00	11	00	13	00	00	00	02
111	00	04	00	04	00	07	06	12	00	00	09	49	00	00	04	02
112	00	00	00	00	00	03	01	64	00	03	09	19	00	00	00	02
113	00	04	00	00	00	01	00	47	00	01	06	40	00	00	00	01

Table 3. Area 1B Coarse Fraction Population

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
122	00	00	00	00	08	00	00	74	00	03	00	13	00	00	00	03
126	00	00	00	00	00	08	00	64	00	08	03	11	00	00	00	03
129	00	20	00	00	00	00	01	43	00	02	02	32	00	00	00	00
130	00	01	00	00	00	00	00	65	00	02	00	28	00	00	00	00
133	00	03	00	00	03	00	00	03	03	00	06	83	00	00	00	00
134	00	00	00	00	00	00	00	00	00	00	00	36	00	00	00	00
136	00	00	00	00	00	00	00	62	00	03	00	28	00	00	00	07
137	00	03	00	00	05	03	00	00	00	00	00	13	00	00	00	00
140	00	00	00	00	00	05	00	54	03	00	00	37	00	00	00	03
141	00	02	00	00	00	07	02	60	00	09	00	20	00	00	00	00
142	00	04	00	00	00	00	01	32	00	01	02	54	00	00	00	01
143	00	13	00	00	00	04	00	40	00	06	00	37	00	00	00	00
144	02	20	00	00	00	00	00	34	00	01	04	33	00	00	00	02
145	00	00	00	00	00	05	00	75	00	07	00	13	00	00	00	00
146	00	04	00	00	00	07	00	67	00	00	11	11	00	00	00	00
147	00	00	00	00	00	01	00	63	00	03	00	29	00	00	00	03
148	00	02	00	00	01	02	01	11	00	04	00	20	00	01	00	01
149	00	04	00	00	00	00	02	40	00	00	02	52	00	00	00	00
150	00	14	00	00	00	01	01	57	00	01	03	20	00	00	01	02
152	00	01	00	00	00	03	01	70	00	01	01	17	00	01	01	03
153	00	05	00	00	00	00	00	01	01	00	20	71	00	00	01	01
154	00	00	00	00	02	02	10	72	00	00	00	14	00	00	00	00
155	00	00	00	13	00	06	04	54	00	00	00	17	00	00	00	02
156	01	31	00	00	00	00	01	14	00	00	04	49	00	00	00	00
157	00	00	00	00	00	00	02	72	00	00	01	24	00	00	00	00
158	00	03	00	00	00	00	00	45	00	05	00	44	00	00	00	01
159	00	04	00	00	05	01	00	49	00	00	00	39	00	00	00	01
160	00	01	00	00	00	00	07	80	00	03	01	07	00	00	00	00
162	00	03	00	00	00	00	03	63	00	00	00	31	00	00	00	00
163	00	07	00	00	00	05	01	64	00	04	00	16	00	00	00	02
164	00	00	00	00	00	02	00	17	00	11	00	21	00	00	00	00
167	00	00	00	00	08	00	00	64	00	04	00	17	00	00	00	00
170	01	15	00	00	02	00	01	57	00	01	00	22	00	00	00	00
171	00	10	00	00	01	01	02	66	00	00	01	19	00	00	00	00
172	01	69	00	00	00	00	00	17	00	00	03	10	00	00	00	00
173	00	23	00	03	00	13	00	13	00	07	00	37	00	03	00	00
177	00	20	00	00	00	01	00	43	00	03	00	32	00	00	00	00
182	00	00	00	00	01	01	07	57	00	01	03	27	00	00	00	01
183	00	01	00	00	00	01	05	86	00	00	00	08	00	00	00	00
185	00	07	00	00	00	02	03	25	00	04	00	57	00	00	00	01
186	01	23	05	40	00	00	00	09	00	02	02	14	00	01	00	00
188	00	04	00	00	00	01	00	43	00	02	00	47	00	00	00	02
191	01	14	00	00	00	00	01	32	00	07	01	40	00	00	00	05

Table 4. Area 1B Heavy Mineral Percentage

1	2
19	15.16
22	3.92
24	4.34
26	7.99
28	4.21
30	5.34
38	4.50
40	3.90
42	4.99
48	22.09
58	3.94
73	6.18
76	5.59
80	4.54
102	6.09
103	6.46
104	6.10
112	5.39

PENN STATE UNIVERSITY LIBRARIES

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