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FRACTURES IN OUTCROPS IN THE VICINITY OF DRILL HOLE USW G-4, YUCCA MOUNTAIN, NEVADA

DATA ANALYSIS AND COMPILATION

by

Christopher C. Barton, William R. Page,
and Terrance L. Morgan

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ABSTRACT

Fractures on outcrops in the vicinity of drill hole USW G-4, Yucca Mountain, Nevada, were studied in order to contribute to characterization of fractures for hydrologic, geomechanical, and tectonic modeling of the Yucca Mountain block and to characterize fractures prior to the excavation of a proposed exploratory shaft located near USW G-4. Yucca Mountain is a prospective site for the construction of an underground repository for high-level nuclear waste .

Measurements were taken and recorded on 5,000 fractures at 50 outcrop stations primarily in the upper lithophysal unit of the Tiva Canyon Member of the Miocene Paintbrush Tuff. Fracture orientation and surface roughness were recorded for each fracture. Additionally, notes were taken on fracture abutting, crossing, and offsetting relations, swarming, curvature, brecciation, slickensides, and fracture fillings.

Frequency distributions of orientation and roughness were plotted and analyzed. Fractures with low roughness coefficients (0-4) group tightly into two sets based on orientation. We conclude that such fractures are cooling joints and that all other fractures are tectonic.

The development of small-scale fractures adjacent, subparallel, and possibly related to the Ghost Dance fault has been addressed in a preliminary way based on data collected in this study. Such sympathetic fractures are abundant in the upper cliff unit but not in the upper lithophysal unit.

INTRODUCTION

The systematic study of surface fractures exposed in the vicinity of drill hole USW G-4 at Yucca Mountain, Nevada, the site of a potential high-level nuclear waste repository, has been undertaken in the upper-lithophysal unit of the Tiva Canyon Member of the Miocene Paintbrush Tuff. This study provides a preliminary analysis of the fractures in that unit, which is broadly exposed at the surface of the mountain, and provides a data set to compare with the fractures in the subsurface units observed in the proposed exploratory shaft. These data will also contribute to the characterization of fractures for hydrologic modeling of the mountain (Montazer and Wilson, 1984; Long and others, 1985), design of the repository, and relating fractures to the tectonic history of the Yucca Mountain block (Barton, 1984).

GEOLOGIC SETTING

Yucca Mountain lies within the southern part of the Great Basin subprovince of the Basin and Range province in southwestern Nevada and includes a series of north-trending, eastward-dipping elongate blocks bounded by normal faults along which the blocks have been pulled apart and tilted. The study area is located in the east-central part of Yucca Mountain (fig. 1).

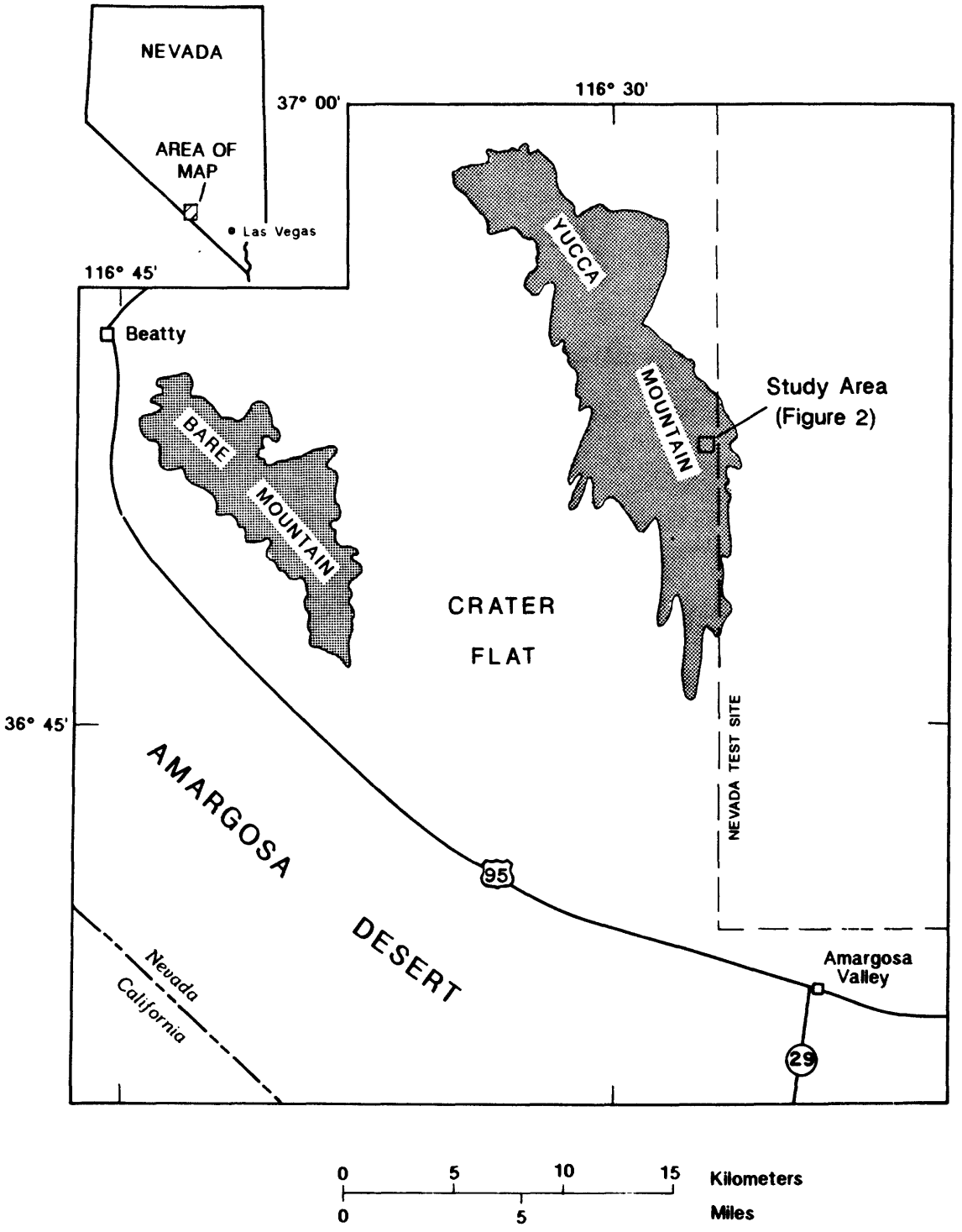


Figure 1. Location of Yucca Mountain study area.

Yucca Mountain is composed of a 1 to 4 km thick section of Miocene ash-flow and ash-fall tuffs, thought by Byers and others (1976) to have erupted from the Claim Canyon caldera, the south rim of which is located approximately 2 km north of Yucca Mountain. The volcanic section locally rests unconformably on, or possibly in fault contact (Scott, 1986) with, Paleozoic sedimentary rocks. The uppermost volcanic unit is the Paintbrush Tuff which is divided into four members; in ascending order they are: the Topopah Spring, Pah Canyon, Yucca Mountain, and the Tiva Canyon (Scott and Bonk, 1984). This study is focused on the Tiva Canyon Member, a 12.5-m.y.-old multiple-flow, compound cooling unit, which is 90-140 m thick in outcrop. This member is extensively exposed within the study area, and has been further subdivided into eight units by Scott and Bonk (1984) based on physical characteristics such as proportional amount and shape of lithophysae, degree of welding, mineralogy, and type of weathering. These units in ascending order include: the basal, columnar, hackly, lower lithophysal, rounded step, upper lithophysal, upper cliff, and caprock. In the study area, the tuff foliation strikes 18° and dips 8° SE. The study has been conducted within the upper lithophysal unit except for station 27, which is in the the upper cliff unit.

We remapped the volcanic stratigraphy of Scott and Bonk (1984) in the study area using altimeters to accurately plot stratigraphic contacts directly on a metric base. Figure 2 shows the geology of the site and the location of stations where fractures were studied. The proposed exploratory shaft will be located in the immediate vicinity of drill hole USW G-4, probably near the location shown on figure 2. Our remapping reassigns the elevation of some of the contacts between units and identifies outcropping of the upper cliff unit, not shown on the map by Scott and Bonk (1984), at the eastern end of Dead Yucca Ridge. The dominant structural feature is the north-striking, steeply west-dipping Ghost Dance fault. The vertical offset along this normal fault decreases from south to north from 8 m on the south side of Live Yucca Ridge to 4 m on the south side of Dead Yucca Ridge.

METHOD OF STUDY

Measurements were taken and recorded on 5000 fractures at 50 stations. The station size ranged from approximately 200 m^2 to 1500 m^2, and was determined by the area within which 100 fractures could be studied by randomly moving from one fracture to the next. The area of a station is a function of both the abundance of fractures and the proportion of the area not covered by colluvium. The stations are approximately rectangular and are immediately adjacent to each other as shown on figure 2. Experience studying fractures in other regions (Barton 1983), has shown that 100 fractures per station provides a statistically adequate sample. All of the stations are located in the upper lithophysal unit except for station 27 which is in the upper cliff unit.

Each fracture was assigned a number and its orientation and surface-roughness profile were recorded. Small saucer-shaped fractures due to surface weathering were not included in this study. Strike and dip were measured with a brunton compass and are accurate to $\pm 2°$. Strike was measured by holding the compass against the fracture surface and then raising it to waist level before reading in order to avoid deflection of the compass needle due to local magnetization of the ash-flow tuffs. Strike was recorded in azimuthal form (0° to 359°). Dip was measured using the right-hand rule with the compass held against the fracture surface. On curved and s-shaped fractures, the strike and dip were measured at a place on the fracture that best represented a straight line approximation of the strike.

Fracture-surface roughness is an important characteristic in hydrologic-flow modeling because it contributes to the aperture variation, and thereby to the channeling of fluids flowing between the fracture walls. Roughness is also important in geomechanics for calculating the shear strength of a fracture (Barton and Choubey, 1977). Fracture-surface roughness was determined for each fracture by a linear profile obtained by pressing a 15-cm-long "shape copier" against an unweathered part of the fracture surface. The shape copier is made of a series of 1 mm diameter pins held in place by frictional force between two rigid plates. The pins are movable so that when the copier is pressed against the fracture surface, the pins slide to mimic the fracture surface. The profile was then carefully traced into

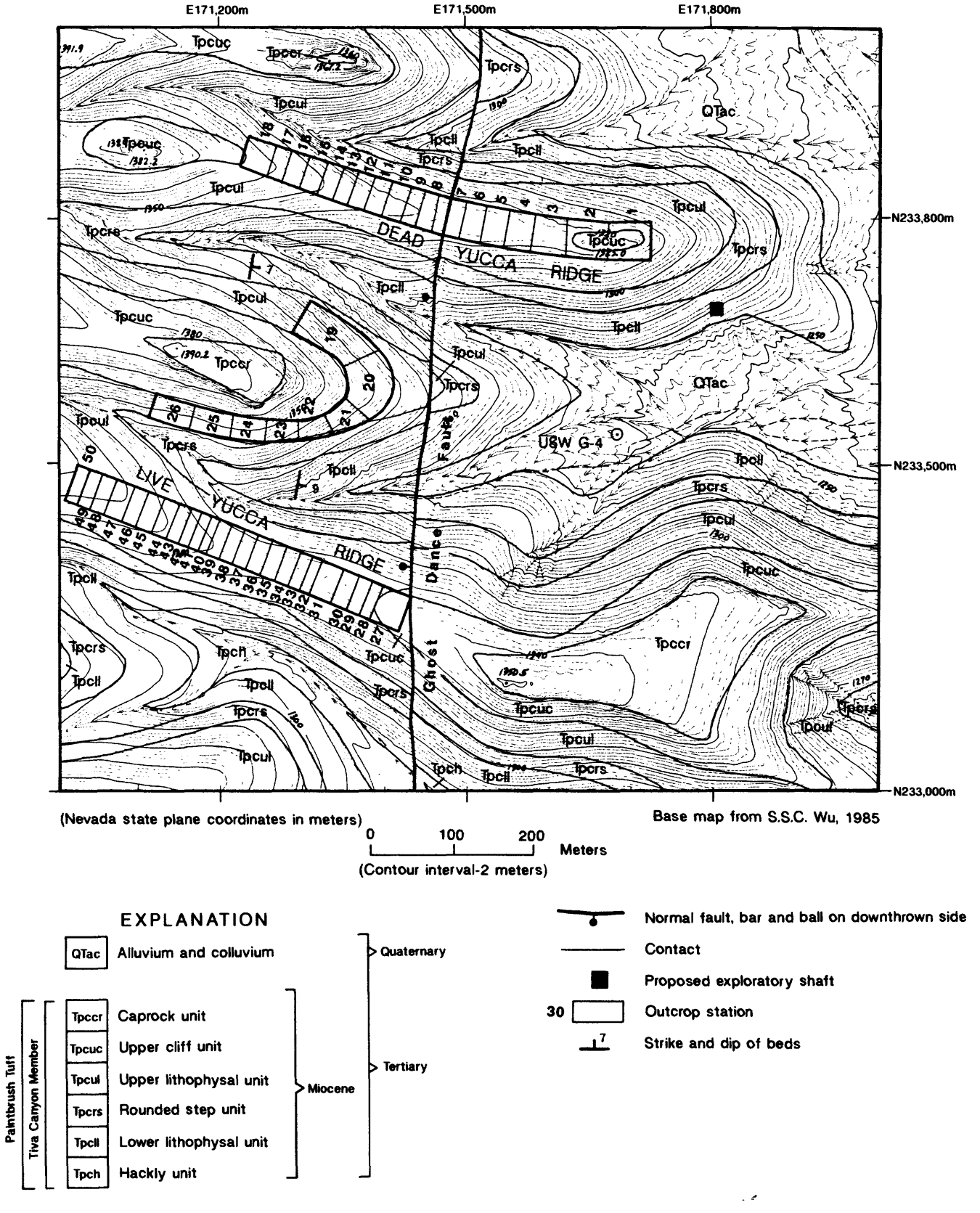


Figure 2. The area immediately surrounding drill hole USW G-4 and the exploratory shaft site showing the locations of stations where fractures were studied.

the field notebook (fig. 3). The roughness is expressed by the roughness coefficient (RC) which was determined by visual comparison with a standard set of profiles of known RC that range from 0 to 20, with the smaller coefficients representing smoother fracture surfaces (fig. 4).

Characteristics of fracture swarming, abutting and offsetting relations, curvature, brecciation, slickensides, and fracture fillings were also recorded. A complete listing of the data is compiled in Appendix 1.

DATA ANALYSIS

Fracture orientation and surface-roughness frequencies have been plotted for each station (Appendix 2). Poles to fracture orientations are plotted on lower-hemisphere equal-area projections and contoured using the kernal method (Diggle and Fisher, 1985) to show the density probabilities. On these plots, 33.3 percent of the total distribution falls within each of the contour intervals. The frequency maxima for all the plots range between 31° to 60° and between 311° to 359°.

Surface roughness is analyzed by best fitting normal, exponential, logarithmic, and power-law curves to histograms of roughness coefficient frequency for each station. Roughness frequency is normally distributed at 44 stations, exponentially curve-fitted at 4 stations (8, 14, 15, and 33), and logarithmically curve-fitted at 2 stations (9 and 18). In order to facilitate comparisons between stations, normal distributions were fitted to each histogram, including those best fit by exponential and logarithmic curves and the statistical mean and standard deviation calculated for each station. We recognize that a single normal distribution is not the best fit for some stations, but it does provide a uniformly determined statistical mean and standard deviation. The means for all stations ranged from 3.58 to 8.18 and the standard deviation from 1.85 to 4.70, and the roughness coefficients are skewed toward the smooth end of the roughness scale. The mean and standard deviation for normal distribution fits and type of best fit curve for each station are listed in table 1.

In order to determine whether there is any relation between fracture orientation and roughness coefficient, lower-hemisphere equal-area projections of poles to fractures at all 50 stations have been grouped into ten roughness coefficient categories (fig. 5). The plots for the smoothest roughness category (0-2) show tight clusters that define two fracture sets. Plots of category 2-4 show more diffuse clusters defining the same two fracture sets. For roughnesses greater than 4, orientations are progressively more scattered. RC categories 14-16, 16-18, and 18-20 were combined into a single plot in figure 5, because there are few fractures in those categories.

In another study, Barton and Larsen (1985) prepared detailed maps of fracture-trace networks in the upper lithophysal unit in the same study area. Pavement 100 is located on Live Yucca Ridge near stations 34 and 35 and pavement 300 is located on Dead Yucca Ridge near stations 10 and 11. Comprehensive study of these pavements extends the work reported by Barton (1984) and Barton and others (1984), and indicates that all the fractures with roughness coefficients of 0 to 4 exhibit anastomosing tubular structures that characterized them as cooling joints. Fractures with higher roughness coefficients, ranging from 5 to 20, did not exhibit tubular structures, and are most likely due to tectonic stresses. The orientations of cooling joints cluster into the same two sets as do those in the present study with the same roughness coefficients (fig. 6). The orientations of tectonic fractures were also dispersed for roughness coefficients greater than 4.

Although tubular structures are present at the study site, their presence or absence on each fracture was not recorded in this study. However, based on smoothness and orientation, we suggest that fractures in the present study with roughness coefficients between 0 and 4 are cooling fractures, and the others are tectonic. Subtle clustering for fractures with roughnesses of 4 to-6 on figure 5 suggests the possibility of cooling fractures in those ranges.

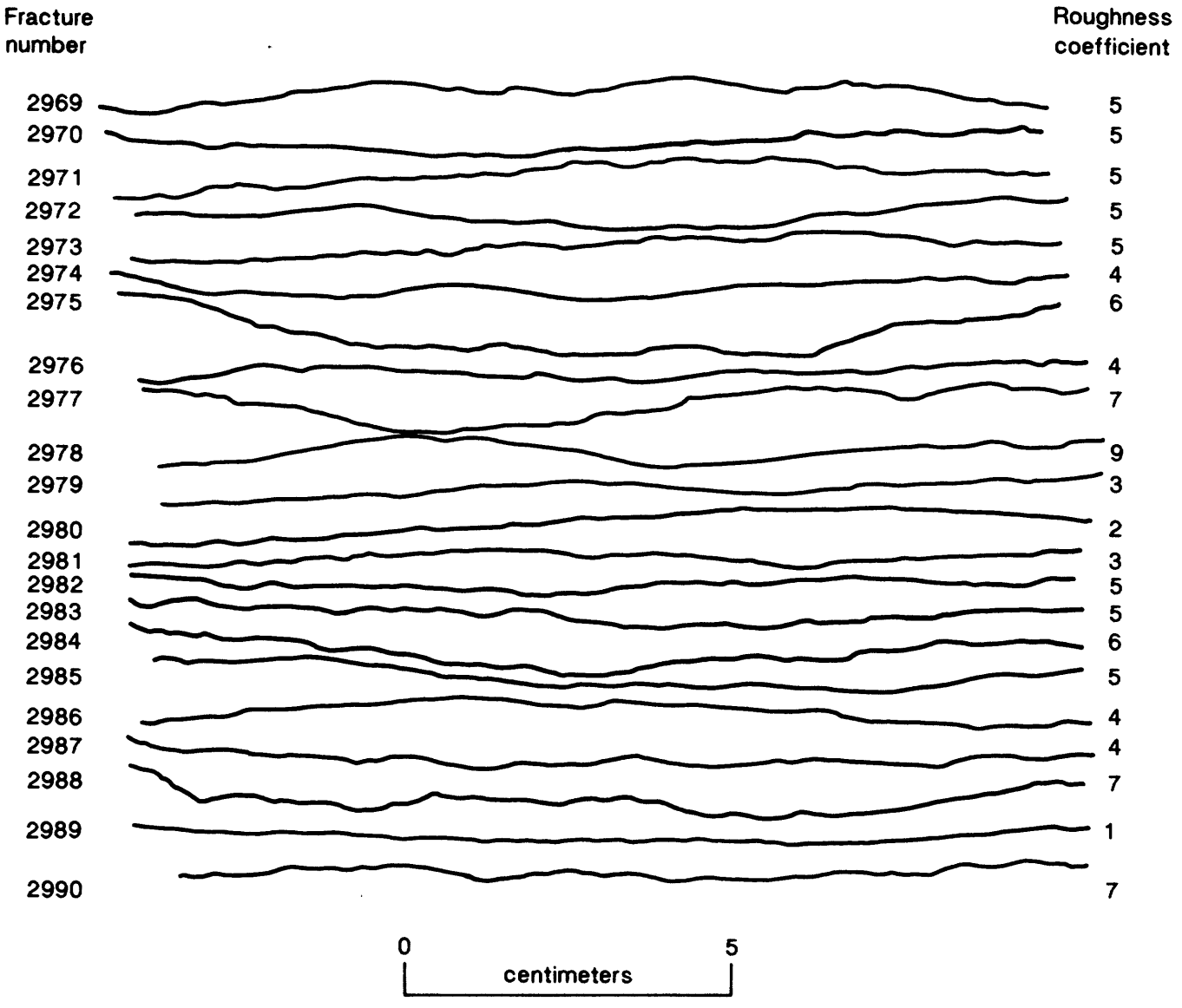


Figure 3. Typical fracture-surface profiles traced from field notebook.

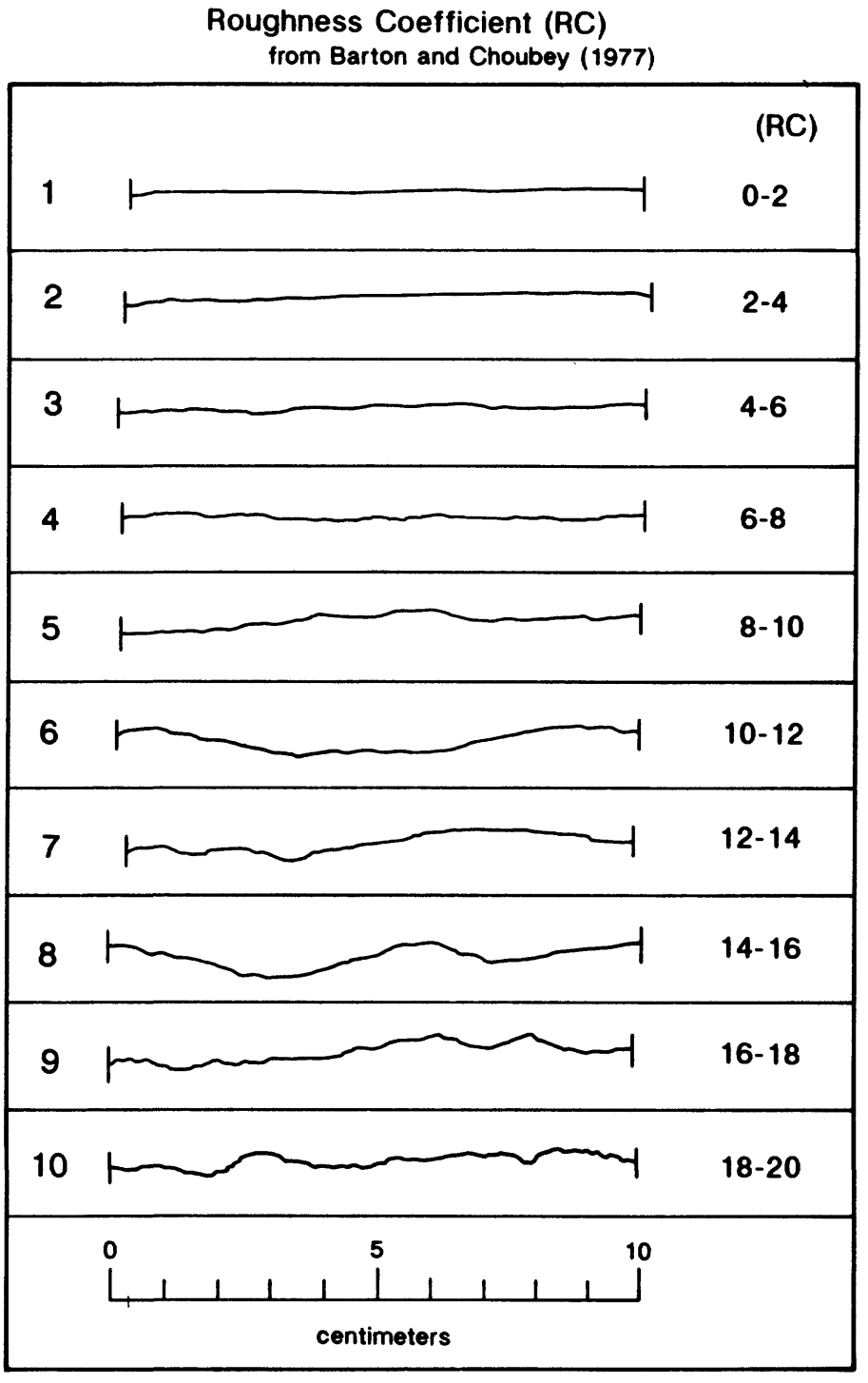


Figure 4. Roughness coefficient ranges for typical roughness profiles.

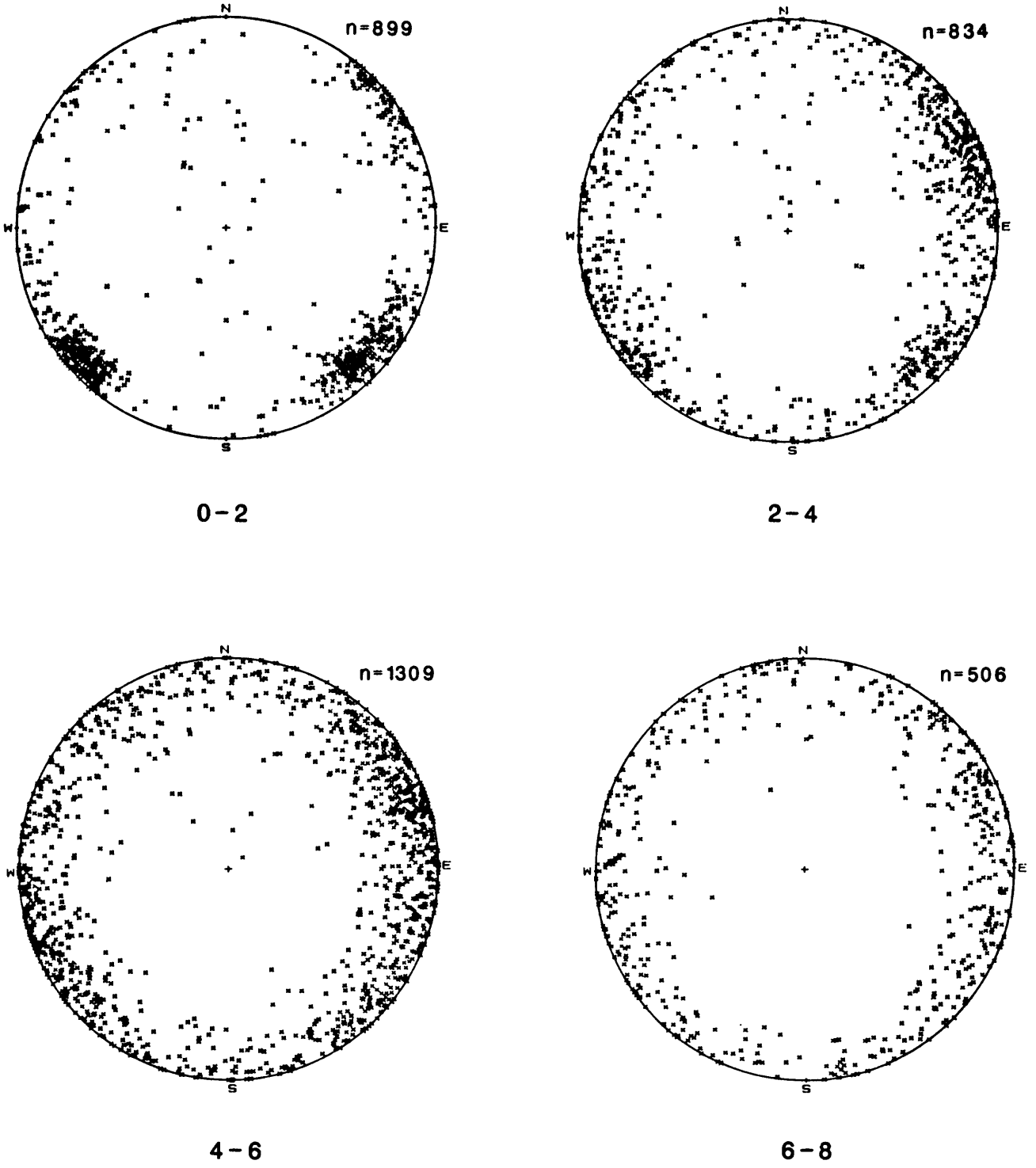
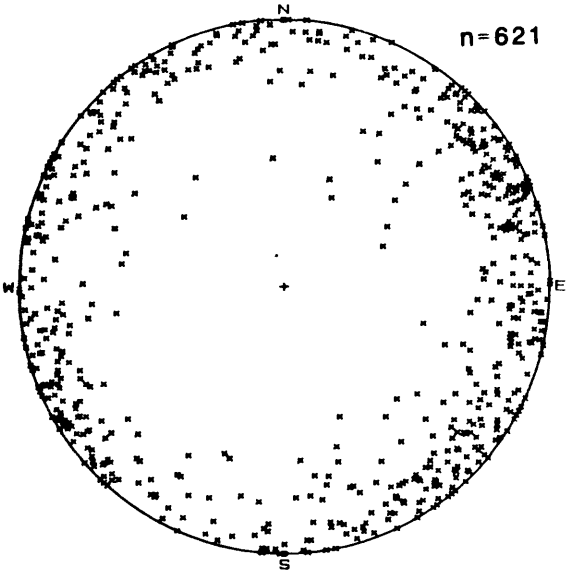
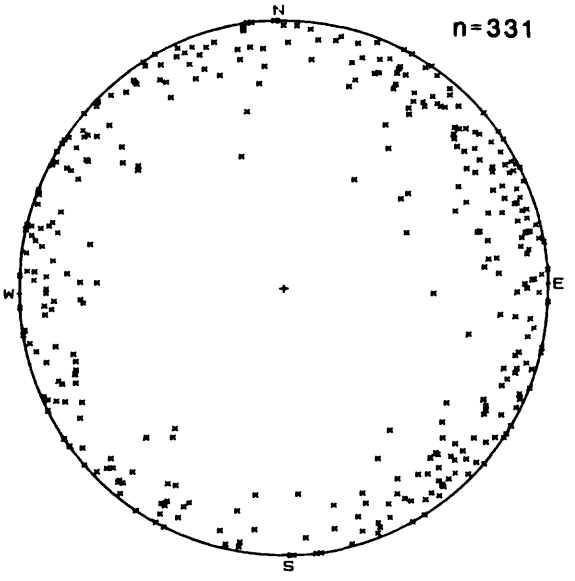


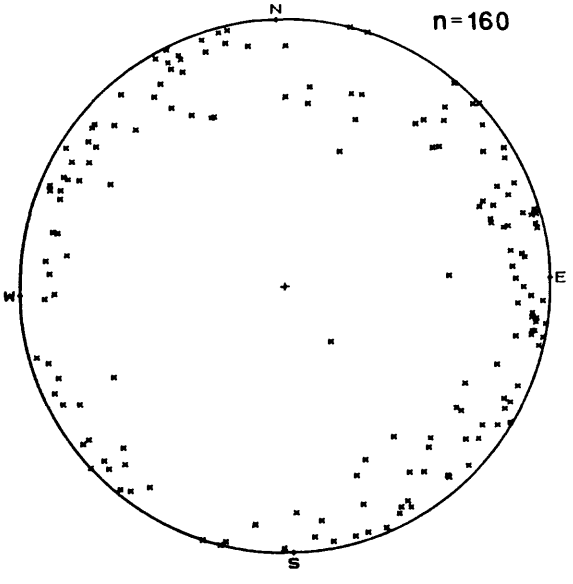
Figure 5. Poles to fracture orientations grouped by roughness coefficient.



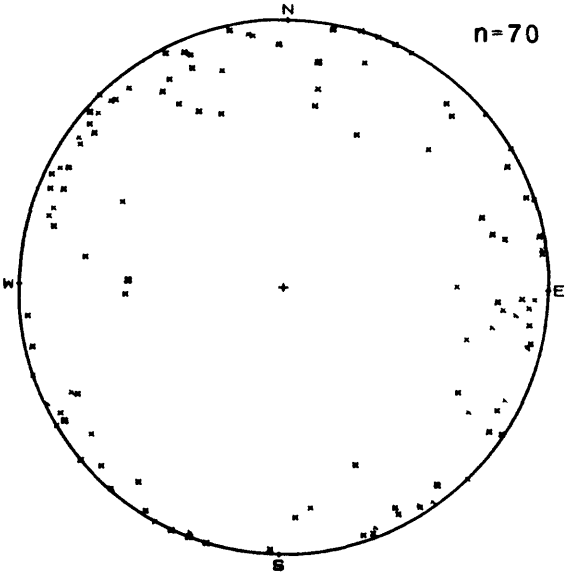
8-10



10-12



12-14

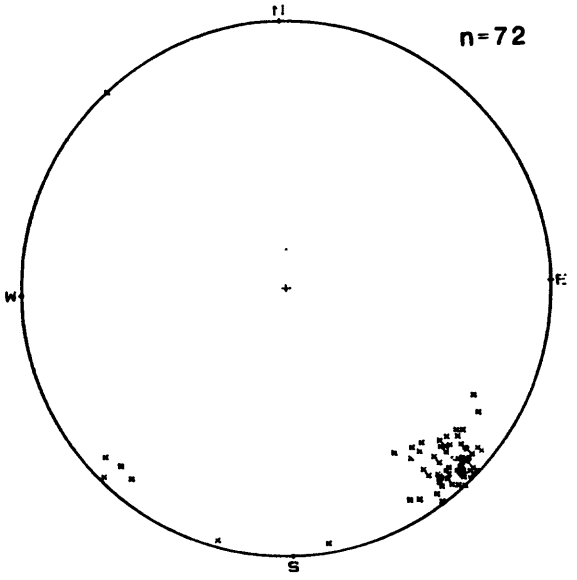


14-16,16-18,18-20

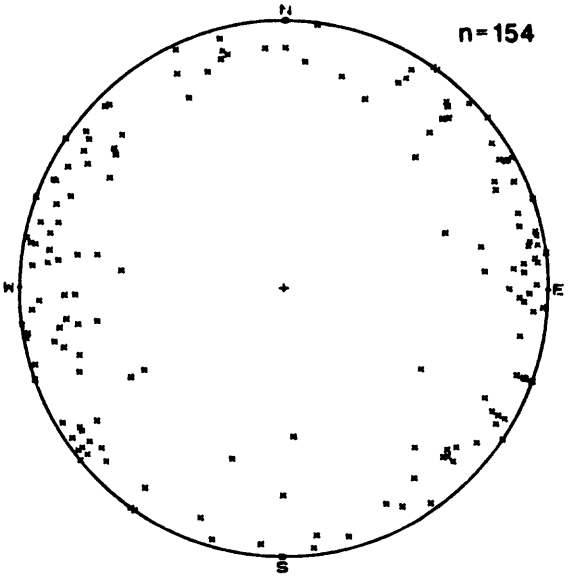
Figure 5. Continued

Table 1.--Roughness Coefficient (RC) Statistics

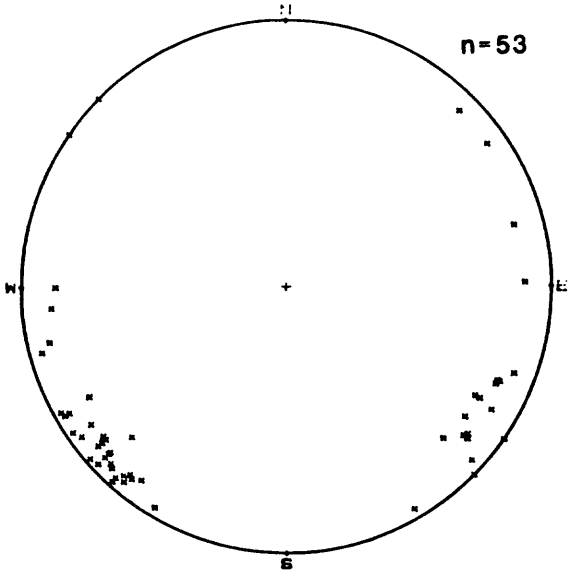
Station	Mean RC	Standard Deviation	Curve distribution
1	6.54	2.61	normal
2	5.86	2.76	normal
3	5.08	3.19	normal
4	6.19	3.63	normal
5	5.40	3.44	normal
6	6.42	4.33	normal
7	7.67	4.70	normal
8	5.30	3.90	exponential
9	4.12	3.60	logarithmic
10	7.25	3.50	normal
11	5.72	3.50	normal
12	6.21	3.29	normal
13	5.30	3.48	normal
14	4.70	4.20	exponential
15	4.23	3.65	exponential
16	5.76	3.26	normal
17	6.45	2.74	normal
18	3.58	3.22	logarithmic
19	6.13	3.33	normal
20	6.21	2.93	normal
21	4.85	3.52	normal
22	5.98	3.16	normal
23	4.39	2.61	normal
24	6.24	3.33	normal
25	6.80	4.10	normal
26	7.75	4.11	normal
27	7.63	2.76	normal
28	5.34	2.82	normal
29	4.29	2.76	normal
30	4.48	1.85	normal
31	6.49	3.10	normal
32	6.44	2.96	normal
33	3.63	3.30	exponential
34	5.32	3.00	normal
35	5.78	3.41	normal
36	6.58	3.40	normal
37	6.16	3.35	normal
38	5.75	3.71	normal
39	6.47	3.62	normal
40	7.03	3.36	normal
41	5.62	3.54	normal
42	6.17	3.88	normal
43	5.49	3.43	normal
44	6.11	3.75	normal
45	6.81	3.32	normal
46	7.98	3.75	normal
47	7.76	3.38	normal
48	7.24	4.08	normal
49	8.15	3.42	normal
50	7.68	2.74	normal



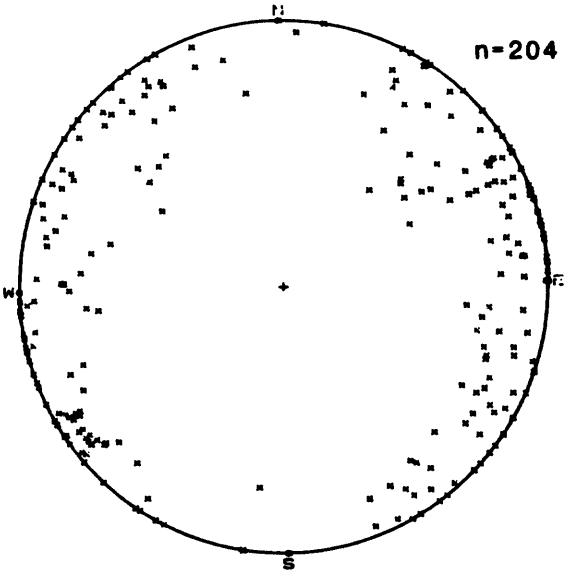
Cooling fractures
(Pavement 100)



All other fractures
(Pavement 100)



Cooling fractures
(Pavement 300)



All other fractures
(Pavement 300)

Figure 6. Poles to cooling fractures observed on pavements 100 and 300.

Morgan (1984) analyzed the data in Appendix 1 independently, and also grouped fractures into two sets based on their roughness coefficients. His first set included fractures which had roughness coefficients less than or equal to 1. All others were grouped into a set which had RC's greater than 1. His analysis was done prior to the recognition that roughnesses below 4 were due to cooling joints in these units.

The development of small, sympathetic fractures adjacent and subparallel to the Ghost Dance fault could enhance its hydrologic flow potential and affect its mechanical properties. Station 7 sampled fractures in both the footwall and the hanging wall along the fault trace where it cuts the upper lithophysal unit (fig. 2). Station 27 sampled fractures in the hanging wall immediately west of the fault trace where it cuts through the upper cliff unit. Examination of the stereographic projections for these two stations (Appendix 2) suggests that there is little or no sympathetic fracturing in the upper lithophysal unit, but sympathetic fracturing is present in the upper cliff unit (the pole to the fault plane is labeled GF on the stereographic projections for stations 7 and 27). Apparently, the development of sympathetic fractures varies from unit to unit.

SUMMARY

Fracture orientation and surface roughness have been analyzed and compiled from 50 outcrop stations. Maximum orientation frequencies range between 31° to 60° , and between 311° to 359°. Roughness coefficient frequencies are fitted by normal distributions skewed toward the smooth end of the scale with means between 3.58 and 8.18.

The smoothest fractures (0-4) show clustered orientations, and increasing roughness generally corresponds with a dispersal of orientations. We propose that the fractures with roughness coefficients between 0 and 4 are cooling fractures and rougher fractures are tectonic.

Small sympathetic fractures adjacent and subparallel to the Ghost Dance fault are abundant in the upper cliff unit, but not in the upper lithophysal unit.

ACKNOWLEDGMENTS

Eric Larsen and Thomas M. Howard of Fenix & Scisson, Inc., assisted the senior author in remapping the geology shown on the map base of figure 2.

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APPENDIX 1

Compilation of station number, fracture number, azimuth, dip, dip direction, roughness coefficient (RC), and remarks for 5000 fractures studied near drill hole USW G-4

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
1	1	131	86	221	8	
1	2	19	87	109	4	
1	3	210	79	300	4	
1	4	194	80	284	9	
1	5	203	75	293	10	
1	6	99	6	189	4	
1	7	199	83	289	8	
1	8	125	77	215	4	
1	9	40	81	130	4	
1	10	101	51	191	3	
1	11	154	75	244	6	
1	12	310	53	40	6	
1	13	340	79	70	8	
1	14	157	84	247	9	
1	15	32	85	122	1	
1	16	192	85	282	5	
1	17	34	77	124	11	
1	18	182	81	272	9	
1	19	159	65	249	9	
1	20	325	90	55	12	
1	21	39	62	129	2	
1	22	344	38	74	7	ABUTS 21
1	23	355	87	85	6	
1	24	195	80	285	5	
1	25	54	23	144	5	
1	26	300	88	30	4	
1	27	137	77	227	3	
1	28	29	76	119	13	
1	29	142	73	232	8	
1	30	219	85	309	5	
1	31	203	74	293	5	
1	32	149	74	239	8	
1	33	110	74	200	10	
1	34	197	80	287	8	
1	35	356	48	86	6	
1	36	181	89	271	4	
1	37	304	85	34	7	
1	38	89	84	179	4	
1	39	337	52	67	4	
1	40	135	87	225	2	
1	41	48	59	138	8	
1	42	165	71	255	6	
1	43	56	90	146	10	
1	44	186	84	276	9	
1	45	351	90	81	8	
1	46	171	77	261	5	
1	47	301	82	31	12	
1	48	338	90	68	4	
1	49	173	88	263	3	
1	50	259	87	349	6	
1	51	257	80	347	9	
1	52	100	81	190	8	
1	53	163	77	253	5	
1	54	62	44	152	10	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
1	55	245	83	335	4	CURVED
1	56	91	72	181	5	
1	57	92	70	182	5	
1	58	90	90	180	5	
1	59	250	75	340	8	
1	60	181	55	271	8	
1	61	325	89	55	7	
1	62	19	74	109	8	
1	63	230	79	320	4	
1	64	134	73	224	10	
1	65	238	72	328	10	
1	66	151	76	241	4	
1	67	145	86	235	6	
1	68	160	79	250	6	
1	69	149	71	239	6	
1	70	171	84	261	5	
1	71	70	78	160	6	
1	72	143	61	233	4	
1	73	225	71	315	5	
1	74	130	82	220	4	
1	75	290	85	20	4	
1	76	81	75	171	3	
1	77	68	80	158	11	
1	78	317	84	47	3	
1	79	137	80	227	5	
1	80	335	90	65	4	
1	81	308	85	38	8	
1	82	135	76	225	9	
1	83	30	70	120	10	
1	84	225	65	315	8	
1	85	140	83	230	5	
1	86	61	83	151	8	
1	87	56	86	146	5	
1	88	320	77	50	9	
1	89	42	82	132	9	
1	90	334	72	64	9	
1	91	79	90	169	9	
1	92	324	88	54	9	
1	93	244	81	334	1	
1	94	70	79	160	7	
1	95	137	75	227	10	
1	96	160	85	250	10	
1	97	348	84	78	7	
1	98	353	90	83	4	
1	99	45	88	135	6	
1	100	354	90	84	8	
2	101	240	65	330	3	
2	102	185	87	275	13	
2	103	164	70	254	13	
2	104	219	80	309	12	
2	105	213	85	303	9	
2	106	67	90	157	8	
2	107	336	90	66	9	
2	108	175	85	265	9	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
2	109	305	76	35	1	
2	110	205	75	295	6	
2	111	138	73	228	5	
2	112	232	82	322	9	
2	113	17	81	107	3	
2	114	28	74	118	6	
2	115	175	87	265	8	
2	116	217	82	307	3	
2	117	174	75	264	8	
2	118	187	55	277	5	SLICKENSIDED
2	119	184	61	274	4	
2	120	191	88	281	6	
2	121	145	77	235	9	
2	122	197	63	287	4	
2	123	136	82	226	6	
2	124	324	77	54	4	
2	125	228	73	318	12	
2	126	138	80	228	9	
2	127	206	87	296	3	
2	128	87	78	177	3	HOOKS INTO 130
2	129	323	83	53	4	
2	130	70	78	160	4	
2	131	52	84	142	4	CURVED SLIGHTLY
2	132	22	90	112	3	CURVED,NOT CONTINUOUS
2	133	318	76	48	5	
2	134	327	68	57	4	
2	135	187	70	277	5	
2	136	340	71	70	10	
2	137	56	87	146	3	
2	138	177	83	267	5	
2	139	2	83	92	8	
2	140	240	68	330	4	
2	141	3	83	93	8	
2	142	118	78	208	7	
2	143	357	78	87	6	
2	144	245	77	335	5	
2	145	230	86	320	5	
2	146	330	87	60	6	
2	147	232	81	322	10	
2	148	184	72	274	8	
2	149	155	86	245	10	
2	150	252	86	342	4	
2	151	275	90	5	3	
2	152	106	76	196	3	
2	153	24	84	114	3	
2	154	17	88	107	7	
2	155	134	85	224	6	CURVED
2	156	135	89	225	8	
2	157	38	80	128	4	
2	158	166	84	256	5	
2	159	224	89	314	5	
2	160	148	75	238	5	
2	161	146	87	236	3	
2	162	163	64	253	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
2	163	63	78	153	10	CURVED
2	164	338	80	68	9	
2	165	23	76	113	9	
2	166	146	64	236	6	
2	167	351	79	81	5	CURVED
2	168	20	75	110	3	CURVED
2	169	189	89	279	2	
2	170	309	88	39	2	
2	171	114	83	204	2	
2	172	335	62	65	5	
2	173	155	81	245	3	
2	174	213	80	303	3	
2	175	211	84	301	3	
2	176	49	88	139	9	
2	177	141	88	231	3	
2	178	79	76	169	9	
2	179	331	81	61	10	
2	180	281	90	11	3	
2	181	348	88	78	4	
2	182	230	74	320	10	
2	183	100	80	190	3	
2	184	193	72	283	7	
2	185	19	80	109	5	CURVED
2	186	232	84	322	9	
2	187	0	60	90	8	
2	188	119	85	209	7	
2	189	22	86	112	8	
2	190	130	85	220	8	
2	191	132	79	222	8	
2	192	346	89	76	3	
2	193	15	60	105	3	
2	194	335	81	65	5	
2	195	67	81	157	6	
2	196	61	74	151	4	CURVED
2	197	142	7	232	5	CURVED
2	198	36	89	126	5	
2	199	148	86	238	6	
2	200	31	81	121	5	
3	201	29	86	119	4	
3	202	25	61	115	9	
3	203	119	80	209	5	
3	204	18	81	108	15	
3	205	196	81	286	5	
3	206	17	86	107	6	
3	207	178	87	268	6	
3	208	254	71	344	10	
3	209	340	90	70	8	
3	210	218	76	308	1	
3	211	223	75	313	5	
3	212	299	86	29	3	
3	213	322	85	52	7	
3	214	208	75	298	1	
3	215	218	82	308	1	
3	216	228	77	318	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
3	217	184	73	274	5	
3	218	268	87	358	10	
3	219	303	75	33	1	
3	220	195	70	285	2	
3	221	198	77	288	3	
3	222	198	73	288	1	
3	223	194	86	284	4	
3	224	355	73	85	2	
3	225	210	64	300	4	
3	226	214	86	304	6	ABUTS 227
3	227	147	86	237	6	
3	228	225	85	315	4	
3	229	270	88	360	3	
3	230	166	89	256	8	
3	231	145	80	235	2	
3	232	153	75	243	4	
3	233	162	79	252	8	
3	234	196	80	286	6	CURVED
3	235	153	70	243	6	
3	236	229	81	319	1	
3	237	169	81	259	12	
3	238	265	72	355	10	
3	239	349	71	79	4	
3	240	202	74	292	13	
3	241	218	83	308	4	
3	242	302	88	32	3	
3	243	217	71	307	4	
3	244	214	73	304	4	
3	245	158	88	248	4	
3	246	218	76	308	5	
3	247	337	81	67	8	
3	248	83	74	173	6	
3	249	305	78	35	5	ABUTS 246
3	250	144	83	234	10	
3	251	345	89	75	6	
3	252	345	81	75	4	
3	253	63	62	153	14	
3	254	317	87	47	1	
3	255	318	89	48	1	
3	256	5	76	95	8	
3	257	318	90	48	1	
3	258	234	88	324	15	
3	259	131	85	221	4	
3	260	249	77	339	2	
3	261	318	80	48	3	
3	262	152	81	242	4	
3	263	339	68	69	3	
3	264	317	78	47	5	
3	265	318	81	48	4	
3	266	328	87	58	9	
3	267	312	87	42	9	
3	268	339	87	69	6	
3	269	149	76	239	7	
3	270	163	84	253	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
3	271	193	78	283	1	
3	272	325	85	55	1	
3	273	348	90	78	6	
3	274	134	85	224	5	
3	275	179	85	269	5	
3	276	192	66	282	5	
3	277	154	66	244	3	
3	278	86	90	176	4	
3	279	337	81	67	4	
3	280	324	90	54	3	
3	281	340	89	70	4	
3	282	232	82	322	5	
3	283	198	67	288	5	
3	284	309	85	39	3	
3	285	220	87	310	4	
3	286	190	76	280	10	
3	287	219	88	309	8	
3	288	223	83	313	4	
3	289	107	78	197	5	
3	290	126	89	216	4	
3	291	50	89	140	2	
3	292	36	89	126	4	
3	293	153	89	243	11	
3	294	325	88	55	3	
3	295	245	80	335	4	
3	296	39	80	129	6	
3	297	320	65	50	6	
3	298	84	81	174	5	
3	299	40	90	130	6	
3	300	126	56	216	5	
4	301	207	82	297	8	
4	302	234	87	324	11	
4	303	144	82	234	9	
4	304	305	85	35	7	
4	305	318	90	48	1	
4	306	131	81	221	1	
4	307	134	83	224	2	
4	308	246	78	336	1	
4	309	103	87	193	8	
4	310	137	86	227	2	
4	311	220	89	310	8	
4	312	224	83	314	12	
4	313	246	78	336	3	
4	314	148	81	238	2	
4	315	236	78	326	4	
4	316	5	87	95	11	
4	317	103	70	193	9	
4	318	317	88	47	1	
4	319	117	82	207	2	
4	320	149	88	239	2	
4	321	308	90	38	1	
4	322	154	89	244	1	
4	323	286	78	16	2	
4	324	203	81	293	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
4	325	114	83	204	6	
4	326	113	81	203	4	
4	327	233	82	323	3	
4	328	316	88	46	1	
4	329	320	89	50	1	
4	330	342	89	72	7	
4	331	183	78	273	9	
4	332	178	84	268	8	
4	333	230	80	320	3	ABUTS 334
4	334	323	85	53	1	
4	335	227	79	317	1	
4	336	163	84	253	11	
4	337	174	83	264	9	
4	338	42	87	132	8	
4	339	323	82	53	4	
4	340	147	75	237	4	
4	341	42	90	132	5	
4	342	223	77	313	5	
4	343	157	78	247	4	
4	344	57	66	147	6	
4	345	142	86	232	3	
4	346	125	83	215	2	
4	347	132	88	222	1	
4	348	168	83	258	9	
4	349	59	76	149	10	
4	350	357	78	87	3	
4	351	177	75	267	9	
4	352	322	86	52	3	
4	353	236	87	326	8	
4	354	320	84	50	9	
4	355	160	73	250	10	
4	356	172	86	262	4	
4	357	228	86	318	9	
4	358	137	77	227	9	
4	359	233	83	323	9	
4	360	67	88	157	11	
4	361	70	84	160	9	
4	362	336	90	66	8	
4	363	318	88	48	1	
4	364	92	81	182	11	
4	365	358	89	88	9	
4	366	46	77	136	10	
4	367	4	80	94	8	
4	368	224	79	314	4	
4	369	325	87	55	1	
4	370	192	85	282	14	
4	371	205	85	295	13	
4	372	98	88	188	10	
4	373	201	77	291	12	
4	374	302	75	32	10	
4	375	305	77	35	10	
4	376	220	85	310	4	
4	377	323	80	53	3	
4	378	353	80	83	3	CURVED

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
4	379	25	76	115	10	
4	380	149	71	239	10	
4	381	137	75	227	6	
4	382	231	86	321	10	
4	383	65	90	155	9	
4	384	245	89	335	8	
4	385	141	82	231	10	
4	386	321	80	51	7	
4	387	136	84	226	8	
4	388	324	85	54	4	
4	389	28	79	118	9	
4	390	355	85	85	2	
4	391	15	88	105	5	
4	392	350	88	80	4	
4	393	214	80	304	3	ABUTS 392
4	394	338	84	68	3	
4	395	1	85	91	8	
4	396	79	84	169	8	
4	397	33	90	123	9	
4	398	314	88	44	9	
4	399	150	85	240	10	
4	400	179	78	269	10	
5	401	144	82	234	1	
5	402	275	78	5	10	
5	403	135	86	225	1	
5	404	354	81	84	4	
5	405	175	78	265	5	
5	406	175	65	265	11	
5	407	323	86	53	1	
5	408	310	84	40	1	
5	409	320	88	50	4	
5	410	246	78	336	4	
5	411	348	90	78	4	
5	412	28	90	118	9	
5	413	225	89	315	10	
5	414	38	84	128	12	
5	415	50	83	140	10	
5	416	36	66	126	6	
5	417	43	86	133	3	
5	418	242	86	332	1	
5	419	236	88	326	1	
5	420	214	84	304	1	
5	421	304	72	34	1	
5	422	354	90	84	2	
5	423	292	85	22	4	
5	424	200	86	290	5	
5	425	198	82	288	10	
5	426	214	78	304	1	
5	427	306	88	36	1	
5	428	212	72	302	7	
5	429	23	76	113	7	
5	430	175	82	265	2	
5	431	297	86	27	1	
5	432	208	77	298	7	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
5	433	20	82	110	4	
5	434	303	81	33	6	
5	435	343	78	73	6	
5	436	130	79	220	3	
5	437	212	84	302	9	
5	438	48	77	138	5	
5	439	130	83	220	8	
5	440	223	78	313	9	
5	441	222	79	312	3	
5	442	193	74	283	8	
5	443	216	75	306	1	
5	444	213	80	303	10	
5	445	216	82	306	4	
5	446	200	75	290	9	
5	447	221	70	311	8	
5	448	220	83	310	9	
5	449	222	80	312	4	
5	450	323	80	53	1	
5	451	354	89	84	5	
5	452	55	90	145	9	
5	453	210	76	300	7	
5	454	15	74	105	5	
5	455	53	88	143	5	
5	456	246	80	336	2	
5	457	264	78	354	4	
5	458	317	85	47	4	
5	459	323	79	53	2	
5	460	235	78	325	9	
5	461	314	73	44	7	
5	462	3	80	93	8	
5	463	324	78	54	1	
5	464	254	88	344	9	
5	465	30	88	120	9	
5	466	7	88	97	7	
5	467	14	85	104	9	
5	468	192	76	282	7	
5	469	186	86	276	9	
5	470	20	88	110	11	
5	471	225	82	315	1	
5	472	188	88	278	9	
5	473	178	88	268	5	
5	474	324	86	54	1	
5	475	43	86	133	9	
5	476	128	70	218	5	
5	477	131	80	221	5	
5	478	48	90	138	8	
5	479	199	72	289	8	
5	480	164	87	254	9	
5	481	42	90	132	10	
5	482	312	85	42	1	
5	483	318	79	48	1	
5	484	323	83	53	2	
5	485	237	73	327	2	
5	486	313	86	43	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
5	487	186	87	276	9	
5	488	204	86	294	9	
5	489	324	80	54	1	
5	490	318	79	48	1	
5	491	208	88	298	12	
5	492	290	82	20	10	
5	493	148	88	238	9	
5	494	50	84	140	5	
5	495	184	76	274	6	
5	496	26	89	116	1	
5	497	323	90	53	1	
5	498	317	89	47	1	
5	499	216	64	306	1	
5	500	237	85	327	9	
6	501	214	84	304	6	
6	502	20	80	110	5	
6	503	25	73	115	4	
6	504	40	90	130	1	
6	505	320	88	50	1	
6	506	35	74	125	8	
6	507	227	80	317	1	
6	508	298	88	28	9	
6	509	356	83	86	8	
6	510	58	78	148	7	
6	511	190	59	280	7	
6	512	128	83	218	1	
6	513	137	81	227	4	
6	514	144	85	234	1	
6	515	181	87	271	8	
6	516	188	70	278	6	
6	517	128	84	218	4	
6	518	196	81	286	11	
6	519	239	82	329	1	
6	520	230	79	320	9	
6	521	164	62	254	3	
6	522	41	87	131	3	
6	523	237	75	327	1	
6	524	237	76	327	1	
6	525	239	79	329	1	
6	526	190	78	280	10	
6	527	238	76	328	1	
6	528	140	75	230	10	
6	529	182	86	272	11	
6	530	45	88	135	9	
6	531	180	83	270	10	
6	532	180	82	270	10	
6	533	2	88	92	9	
6	534	128	70	218	7	
6	535	188	87	278	9	
6	536	232	81	322	9	
6	537	336	88	66	11	
6	538	264	85	354	9	
6	539	259	81	349	8	
6	540	357	80	87	12	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
6	541	355	88	85	9	
6	542	1	65	91	9	
6	543	350	71	80	10	
6	544	112	84	202	10	
6	545	211	76	301	7	
6	546	226	84	316	3	
6	547	345	88	75	10	
6	548	2	88	92	10	
6	549	14	89	104	7	
6	550	196	82	286	5	
6	551	320	66	50	9	
6	552	225	80	315	8	
6	553	327	90	57	1	
6	554	121	83	211	9	
6	555	149	87	239	10	
6	556	188	76	278	9	
6	557	249	86	339	11	
6	558	317	82	47	4	
6	559	319	75	49	1	
6	560	315	78	45	1	
6	561	23	75	113	9	
6	562	347	86	77	8	
6	563	188	82	278	5	
6	564	173	86	263	4	
6	565	221	74	311	5	
6	566	137	88	227	5	
6	567	226	75	316	2	
6	568	233	75	323	1	
6	569	305	84	35	10	
6	570	237	73	327	1	
6	571	155	79	245	1	
6	572	39	85	129	19	
6	573	209	85	299	9	
6	574	15	88	105	12	
6	575	239	88	329	9	
6	576	214	72	304	1	
6	577	138	75	228	4	
6	578	192	87	282	10	
6	579	129	75	219	12	
6	580	207	84	297	5	
6	581	206	79	296	10	
6	582	228	74	318	1	
6	583	237	82	327	2	
6	584	235	78	325	1	
6	585	147	85	237	1	CUTS 583 & 584
6	586	242	82	332	1	
6	587	227	74	317	3	
6	588	228	77	318	1	
6	589	228	79	318	3	
6	590	239	79	329	2	
6	591	238	77	328	2	
6	592	233	78	323	5	
6	593	333	78	63	15	
6	594	353	81	83	10	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
6	595	168	88	258	17	
6	596	332	76	62	19	
6	597	232	78	322	4	
6	598	156	87	246	10	
6	599	152	79	242	10	
6	600	337	84	67	10	
7	601	251	87	341	19	
7	602	223	87	313	12	
7	603	310	89	40	16	
7	604	318	87	48	9	
7	605	229	74	319	4	605-608 ARE SUBPARALLEL,AND
7	606	239	74	329	1	APPROX. 0.3 TO 0.7 m APART
7	607	241	74	331	1	
7	608	229	70	319	3	
7	609	230	74	320	1	
7	610	321	89	51	4	
7	611	134	86	224	8	
7	612	311	90	41	4	
7	613	112	89	202	10	
7	614	101	89	191	5	
7	615	358	89	88	5	
7	616	195	88	285	10	
7	617	5	80	95	10	
7	618	4	78	94	8	
7	619	357	85	87	5	
7	620	190	85	280	13	
7	621	42	85	132	15	
7	622	244	80	334	5	
7	623	232	88	322	10	
7	624	294	90	24	17	
7	625	82	84	172	15	
7	626	42	83	132	13	
7	627	51	83	141	9	
7	628	244	88	334	5	
7	629	150	87	240	13	
7	630	155	89	245	5	
7	631	262	72	352	15	
7	632	25	82	115	8	
7	633	237	85	327	10	
7	634	350	77	80	9	
7	635	115	75	205	9	
7	636	219	77	309	9	
7	637	136	82	226	5	
7	638	211	80	301	10	
7	639	203	80	293	12	
7	640	108	77	198	11	
7	641	181	85	271	9	
7	642	143	85	233	13	
7	643	8	65	98	15	
7	644	108	79	198	7	
7	645	333	87	63	8	
7	646	330	75	60	5	
7	647	167	80	257	9	
7	648	151	85	241	17	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
7	649	332	78	62	13	
7	650	217	80	307	13	
7	651	279	79	9	13	
7	652	190	70	280	5	
7	653	209	84	299	6	
7	654	323	90	53	8	
7	655	320	84	50	1	655-658 IN SWARM 0.6 m WIDE
7	656	325	82	55	1	
7	657	317	85	47	1	
7	658	321	79	51	1	
7	659	269	83	359	6	
7	660	311	78	41	11	
7	661	316	85	46	1	
7	662	134	87	224	4	
7	663	316	84	46	9	
7	664	305	88	35	8	
7	665	214	84	304	17	
7	666	200	88	290	5	
7	667	202	88	292	5	
7	668	326	85	56	4	
7	669	315	85	45	16	
7	670	327	85	57	4	
7	671	253	87	343	13	
7	672	111	65	201	13	
7	673	153	65	243	9	
7	674	86	72	176	12	
7	675	153	72	243	10	
7	676	40	75	130	5	
7	677	189	85	279	4	
7	678	313	89	43	7	
7	679	115	83	205	5	
7	680	326	70	56	5	
7	681	8	88	98	10	
7	682	157	84	247	5	
7	683	206	70	296	4	
7	684	194	80	284	9	
7	685	124	76	214	8	
7	686	324	83	54	13	
7	687	355	87	85	5	
7	688	294	90	24	7	
7	689	359	80	89	13	
7	690	32	90	122	1	
7	691	345	84	75	9	
7	692	135	85	225	5	
7	693	190	85	280	9	
7	694	192	76	282	9	
7	695	108	89	198	10	
7	696	192	74	282	10	ABUTS 695
7	697	27	90	117	9	
7	698	51	88	141	2	
7	699	41	89	131	2	
7	700	39	81	129	2	
8	701	317	67	47	6	
8	702	34	90	124	12	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
8	703	217	87	307	1	
8	704	214	85	304	1	ABOUT 0.6 m FROM 703
8	705	5	84	95	11	
8	706	215	85	305	4	
8	707	349	88	79	12	
8	708	192	84	282	13	
8	709	25	86	115	13	
8	710	16	82	106	15	
8	711	132	89	222	13	
8	712	200	82	290	3	
8	713	310	73	40	1	ABUTS 712
8	714	323	78	53	1	ABUTS 712
8	715	309	82	39	1	ABUTS 716
8	716	210	84	300	1	
8	717	140	86	230	1	
8	718	160	78	250	6	
8	719	165	83	255	13	
8	720	217	77	307	1	
8	721	203	75	293	1	
8	722	57	88	147	3	
8	723	320	80	50	4	
8	724	140	89	230	3	CURVED
8	725	315	77	45	4	
8	726	67	84	157	4	
8	727	116	89	206	3	
8	728	47	84	137	16	
8	729	117	88	207	3	
8	730	217	88	307	3	
8	731	314	86	44	2	
8	732	318	85	48	1	
8	733	168	72	258	4	
8	734	162	86	252	5	
8	735	310	87	40	1	
8	736	322	75	52	5	
8	737	323	88	53	5	
8	738	159	77	249	5	
8	739	40	82	130	4	
8	740	332	87	62	9	
8	741	24	87	114	5	
8	742	155	88	245	4	
8	743	304	90	34	5	
8	744	45	85	135	8	
8	745	140	89	230	1	
8	746	227	83	317	9	
8	747	200	76	290	1	
8	748	312	82	42	5	
8	749	159	79	249	11	
8	750	40	84	130	8	
8	751	315	86	45	5	
8	752	135	67	225	5	
8	753	324	83	54	9	
8	754	156	87	246	8	
8	755	323	86	53	11	
8	756	14	86	104	8	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
8	757	277	70	7	9	
8	758	215	75	305	1	
8	759	311	88	41	13	
8	760	307	81	37	9	
8	761	304	82	34	8	
8	762	210	86	300	6	
8	763	135	82	225	4	
8	764	145	78	235	11	
8	765	234	78	324	3	
8	766	237	88	327	3	
8	767	309	87	39	3	ABUTS 766 & 768
8	768	225	83	315	5	
8	769	220	78	310	4	
8	770	38	9	128	4	
8	771	132	86	222	9	
8	772	303	83	33	10	
8	773	122	88	212	5	
8	774	309	90	39	5	
8	775	56	80	146	5	
8	776	320	80	50	5	
8	777	10	87	100	5	
8	778	323	89	53	4	778-782 IN 2 m BY 2 m AREA
8	779	23	90	113	11	
8	780	320	90	50	0	
8	781	310	84	40	1	
8	782	327	80	57	8	
8	783	11	75	101	1	
8	784	310	82	40	1	
8	785	335	85	65	1	
8	786	307	75	37	8	
8	787	133	45	223	2	
8	788	128	43	218	1	
8	789	313	82	43	1	
8	790	54	87	144	5	
8	791	242	78	332	9	791-793 IN SWARM
8	792	203	82	293	7	
8	793	210	80	300	6	
8	794	194	80	284	5	
8	795	199	84	289	2	
8	796	315	85	45	1	
8	797	200	82	290	5	
8	798	125	89	215	9	
8	799	313	85	43	1	
8	800	198	70	288	1	
9	801	230	74	320	9	
9	802	134	87	224	4	
9	803	324	85	54	1	
9	804	135	85	225	1	
9	805	113	23	203	5	
9	806	312	88	42	1	
9	807	173	67	263	11	
9	808	183	89	273	9	
9	809	200	86	290	5	
9	810	308	87	38	4	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
9	811	204	88	294	1	
9	812	145	87	235	5	
9	813	205	85	295	5	
9	814	6	90	96	5	
9	815	75	87	165	9	
9	816	199	87	289	1	
9	817	80	87	170	9	
9	818	169	87	259	13	
9	819	175	64	265	9	
9	820	165	88	255	13	
9	821	200	77	290	1	
9	822	311	82	41	4	
9	823	314	84	44	5	
9	824	135	89	225	2	
9	825	144	85	234	1	CURVED
9	826	143	89	233	1	
9	827	59	84	149	10	
9	828	205	80	295	6	
9	829	320	79	50	5	ABUTS 827
9	830	145	81	235	5	
9	831	200	85	290	4	
9	832	298	84	28	4	
9	833	198	85	288	11	
9	834	134	87	224	2	
9	835	196	89	286	5	
9	836	190	80	280	5	
9	837	186	72	276	4	
9	838	210	76	300	3	
9	839	166	84	256	4	
9	840	170	62	260	4	
9	841	169	84	259	5	
9	842	158	82	248	4	
9	843	187	85	277	8	
9	844	230	88	320	9	
9	845	132	85	222	1	
9	846	137	87	227	3	
9	847	133	87	223	1	
9	848	126	76	216	1	
9	849	206	76	296	2	
9	850	161	82	251	5	
9	851	320	90	50	1	
9	852	151	81	241	8	
9	853	148	65	238	3	
9	854	135	89	225	1	
9	855	194	71	284	6	
9	856	310	90	40	1	
9	857	319	90	49	1	
9	858	316	86	46	4	
9	859	150	89	240	5	
9	860	265	55	355	9	
9	861	202	81	292	1	
9	862	312	83	42	1	
9	863	70	89	160	1	
9	864	319	84	49	3	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
9	865	323	72	53	1	
9	866	321	80	51	1	
9	867	72	75	162	1	
9	868	210	85	300	1	
9	869	166	88	256	13	
9	870	211	80	301	2	
9	871	160	76	250	5	
9	872	155	89	245	1	
9	873	322	90	52	1	
9	874	27	58	117	15	
9	875	345	88	75	6	
9	876	144	84	234	2	
9	877	40	88	130	5	
9	878	134	88	224	9	
9	879	149	56	239	1	
9	880	153	58	243	3	
9	881	317	82	47	2	
9	882	232	86	322	4	
9	883	157	89	247	5	
9	884	322	72	52	3	
9	885	199	58	289	4	
9	886	328	84	58	5	
9	887	185	72	275	16	
9	888	311	84	41	1	
9	889	149	86	239	4	
9	890	326	86	56	1	
9	891	325	83	55	1	
9	892	324	84	54	1	
9	893	225	89	315	1	
9	894	318	86	48	1	
9	895	160	80	250	5	
9	896	322	83	52	1	
9	897	318	83	48	1	
9	898	320	78	50	1	
9	899	229	72	319	1	
9	900	216	76	306	1	
10	901	141	82	231	1	
10	902	355	76	85	5	
10	903	164	81	254	5	
10	904	125	88	215	4	
10	905	223	77	313	2	
10	906	352	88	82	8	
10	907	338	80	68	5	
10	908	346	63	76	5	
10	909	347	78	77	12	
10	910	9	62	99	4	
10	911	351	64	81	9	
10	912	190	70	280	2	
10	913	190	75	280	10	
10	914	338	72	68	9	
10	915	56	56	146	6	
10	916	337	89	67	12	
10	917	331	77	61	9	
10	918	109	78	199	15	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
10	919	320	90	50	8	
10	920	164	78	254	4	
10	921	116	77	206	9	
10	922	154	73	244	5	
10	923	76	86	166	4	
10	924	281	86	11	5	
10	925	279	67	9	12	
10	926	154	85	244	5	
10	927	68	77	158	9	
10	928	150	63	240	5	
10	929	231	74	321	8	
10	930	148	81	238	4	
10	931	138	75	228	4	
10	932	19	80	109	4	
10	933	148	86	238	5	
10	934	152	88	242	8	
10	935	140	75	230	10	
10	936	146	89	236	4	
10	937	187	80	277	10	
10	938	15	90	105	9	
10	939	146	82	236	4	
10	940	198	55	288	6	
10	941	29	89	119	12	
10	942	210	66	300	14	
10	943	158	68	248	5	
10	944	188	83	278	14	
10	945	232	77	322	4	
10	946	43	88	133	8	
10	947	140	67	230	6	
10	948	67	83	157	14	
10	949	145	80	235	9	
10	950	109	72	199	5	
10	951	161	72	251	10	
10	952	101	80	191	5	
10	953	163	72	253	7	
10	954	357	65	87	11	
10	955	286	90	16	14	
10	956	228	80	318	4	
10	957	321	85	51	9	
10	958	234	81	324	5	
10	959	334	67	64	7	
10	960	156	76	246	5	
10	961	149	87	239	4	
10	962	108	85	198	11	
10	963	350	89	80	5	
10	964	166	86	256	6	
10	965	124	70	214	9	
10	966	163	82	253	4	
10	967	84	90	174	12	
10	968	225	68	315	9	
10	969	226	88	316	11	
10	970	145	78	235	5	
10	971	285	87	15	5	
10	972	54	88	144	10	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
10	973	88	80	178	17	
10	974	170	88	260	11	
10	975	264	86	354	5	
10	976	189	82	279	5	
10	977	268	80	358	6	
10	978	223	85	313	1	
10	979	324	86	54	13	
10	980	12	85	102	11	
10	981	59	90	149	11	
10	982	11	90	101	5	
10	983	190	88	280	3	
10	894	13	87	103	5	
10	985	342	88	72	9	
10	986	85	90	175	9	
10	987	64	81	154	6	
10	988	217	72	307	5	
10	989	143	67	233	3	
10	990	149	74	239	6	
10	991	274	81	4	9	
10	992	108	82	198	5	
10	993	115	57	205	13	
10	994	13	62	103	6	
10	995	49	81	139	5	
10	996	83	84	173	9	
10	997	213	74	303	5	
10	998	312	84	42	12	
10	999	132	62	222	8	
10	1000	222	77	312	5	
11	1001	42	88	132	1	
11	1002	160	45	250	4	
11	1003	158	53	248	5	
11	1004	213	78	303	2	
11	1005	175	75	265	3	
11	1006	266	89	356	9	
11	1007	270	79	360	5	
11	1008	214	79	304	4	
11	1009	92	87	182	5	
11	1010	115	75	205	8	
11	1011	212	88	302	4	
11	1012	261	71	351	8	
11	1013	222	78	312	13	
11	1014	174	79	264	13	
11	1015	285	88	15	13	
11	1016	124	78	214	9	
11	1017	89	90	179	11	
11	1018	186	89	276	5	
11	1019	40	90	130	3	
11	1020	135	81	225	6	
11	1021	92	77	182	5	
11	1022	296	74	26	5	
11	1023	343	90	73	4	
11	1024	227	83	317	5	
11	1025	188	65	278	5	
11	1026	107	74	197	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
11	1027	225	78	315	3	
11	1028	228	75	318	1	
11	1029	228	72	318	3	
11	1030	171	85	261	5	
11	1031	269	86	359	5	
11	1032	231	74	321	3	
11	1033	305	90	35	5	
11	1034	105	89	195	9	
11	1035	227	69	317	1	
11	1036	353	78	83	2	
11	1037	227	76	317	3	
11	1038	230	78	320	1	
11	1039	226	79	316	1	
11	1040	189	83	279	13	
11	1041	230	82	320	1	
11	1042	83	83	173	5	
11	1043	226	79	316	1	
11	1044	229	80	319	2	
11	1045	221	80	311	2	
11	1046	227	80	317	1	
11	1047	227	78	317	1	
11	1048	222	80	312	1	
11	1049	312	90	42	5	
11	1050	345	88	75	5	
11	1051	345	89	75	5	
11	1052	261	87	351	13	
11	1053	254	84	344	9	
11	1054	271	90	1	9	
11	1055	180	80	270	11	
11	1056	260	86	350	7	
11	1057	278	80	8	11	
11	1058	173	81	263	9	
11	1059	104	86	194	11	
11	1060	262	84	352	10	
11	1061	221	77	311	1	
11	1062	79	74	169	5	
11	1063	116	74	206	6	
11	1064	190	88	280	9	
11	1065	190	72	280	6	
11	1066	358	89	88	5	
11	1067	257	75	347	5	
11	1068	129	84	219	5	
11	1069	311	85	41	9	
11	1070	192	88	282	9	
11	1071	278	68	8	6	
11	1072	131	88	221	4	
11	1073	190	80	280	10	
11	1074	87	88	177	9	
11	1075	12	80	102	8	
11	1076	162	70	252	6	
11	1077	126	74	216	12	
11	1078	132	86	222	5	
11	1079	141	81	231	5	
11	1080	344	90	74	4	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
11	1081	189	84	279	5	
11	1082	132	83	222	5	
11	1083	216	77	306	9	
11	1084	132	85	222	11	
11	1085	156	77	246	4	
11	1086	290	90	20	14	
11	1087	310	83	40	1	
11	1088	227	76	317	2	
11	1089	143	83	233	11	
11	1090	147	85	237	4	
11	1091	115	70	205	3	
11	1092	222	75	312	4	
11	1093	220	71	310	9	
11	1094	151	81	241	4	
11	1095	302	81	32	9	
11	1096	218	76	308	4	
11	1097	213	88	303	1	
11	1098	100	84	190	5	
11	1099	88	85	178	5	
11	1100	313	87	43	5	
12	1101	165	78	255	4	
12	1102	166	77	256	9	
12	1103	350	86	80	6	
12	1104	353	86	83	5	
12	1105	11	80	101	8	
12	1106	305	84	35	4	
12	1107	228	79	318	1	
12	1108	183	77	273	4	
12	1109	236	80	326	1	
12	1110	165	76	255	9	
12	1111	353	73	83	9	
12	1112	224	79	314	4	
12	1113	315	81	45	1	
12	1114	3	84	93	11	
12	1115	69	79	159	5	
12	1116	180	75	270	9	
12	1117	324	87	54	5	
12	1118	0	86	90	5	
12	1119	193	84	283	7	
12	1120	225	84	315	4	
12	1121	279	68	9	8	
12	1122	234	70	324	8	
12	1123	353	88	83	7	
12	1124	169	80	259	5	
12	1125	55	87	145	4	
12	1126	223	80	313	11	
12	1127	230	72	320	2	
12	1128	345	65	75	5	
12	1129	339	86	69	5	
12	1130	233	67	323	1	
12	1131	0	89	90	3	
12	1132	2	89	92	4	
12	1133	70	87	160	5	
12	1134	279	88	9	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
12	1135	280	90	10	5	
12	1136	100	82	190	5	
12	1137	60	83	150	5	
12	1138	350	87	80	2	
12	1139	180	63	270	6	
12	1140	231	77	321	5	
12	1141	40	90	130	9	
12	1142	317	82	47	1	
12	1143	255	87	345	5	
12	1144	240	89	330	5	
12	1145	265	84	355	13	
12	1146	234	80	324	2	
12	1147	218	89	308	4	
12	1148	298	87	28	5	
12	1149	163	83	253	5	
12	1150	270	86	360	9	
12	1151	10	52	100	5	
12	1152	170	82	260	4	
12	1153	150	75	240	9	
12	1154	218	78	308	4	
12	1155	155	84	245	5	
12	1156	258	70	348	5	
12	1157	168	59	258	4	
12	1158	30	80	120	9	
12	1159	233	70	323	4	
12	1160	302	87	32	6	
12	1161	245	54	335	6	
12	1162	235	74	325	1	
12	1163	5	78	95	13	
12	1164	35	90	125	11	
12	1165	295	86	25	5	
12	1166	234	88	324	5	
12	1167	330	86	60	16	
12	1168	230	77	320	3	
12	1169	175	84	265	6	
12	1170	233	78	323	4	
12	1171	353	87	83	16	
12	1172	137	81	227	10	
12	1173	33	90	123	9	
12	1174	148	84	238	10	
12	1175	75	72	165	7	
12	1176	25	78	115	5	
12	1177	213	73	303	15	
12	1178	68	58	158	13	
12	1179	148	73	238	4	
12	1180	324	83	54	6	
12	1181	32	82	122	5	
12	1182	25	81	115	4	
12	1183	41	86	131	4	
12	1184	20	88	110	5	
12	1185	99	83	189	5	
12	1186	150	80	240	4	
12	1187	60	88	150	7	
12	1188	113	71	203	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
12	1189	124	83	214	9	
12	1190	24	76	114	9	
12	1191	295	75	25	9	
12	1192	125	77	215	11	
12	1193	131	89	221	8	
12	1194	114	79	204	8	
12	1195	45	89	135	5	
12	1196	242	73	332	5	
12	1197	260	77	350	5	
12	1198	115	77	205	11	
12	1199	165	76	255	9	
12	1200	352	76	82	9	
13	1201	224	80	314	2	
13	1202	189	81	279	6	
13	1203	326	83	56	1	
13	1204	168	62	258	5	
13	1205	203	82	293	1	
13	1206	216	75	306	1	
13	1207	336	83	66	6	
13	1208	226	84	316	1	1208-1211 ALL WITHIN 10 cm OF
13	1209	225	80	315	1	ONE ANOTHER
13	1210	226	81	316	1	
13	1211	229	72	319	1	
13	1212	232	85	322	1	
13	1213	298	90	28	12	
13	1214	233	64	323	6	
13	1215	81	84	171	5	
13	1216	20	75	110	4	
13	1217	6	75	96	4	
13	1218	12	88	102	8	
13	1219	329	85	59	6	
13	1220	283	85	13	5	
13	1221	165	65	255	11	
13	1222	50	90	140	5	
13	1223	179	84	269	5	
13	1224	282	85	12	9	
13	1225	355	88	85	5	
13	1226	228	76	318	4	
13	1227	229	58	319	5	
13	1228	262	85	352	6	
13	1229	14	90	104	3	
13	1230	160	88	250	5	
13	1231	147	62	237	5	
13	1232	295	88	25	6	
13	1233	55	84	145	12	
13	1234	85	78	175	5	
13	1235	179	85	269	4	
13	1236	303	82	33	9	
13	1237	170	75	260	5	
13	1238	188	78	278	9	
13	1239	78	75	168	9	
13	1240	38	77	128	13	
13	1241	359	90	89	9	
13	1242	85	88	175	8	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
13	1243	15	84	105	11	
13	1244	232	75	322	1	
13	1245	230	78	320	3	
13	1246	220	77	310	2	
13	1247	284	82	14	5	
13	1248	237	86	327	15	
13	1249	235	77	325	5	
13	1250	193	84	283	13	
13	1251	219	75	309	1	
13	1252	150	81	240	4	
13	1253	153	86	243	4	
13	1254	19	71	109	9	
13	1255	20	65	110	5	
13	1256	155	86	245	5	
13	1257	154	86	244	7	
13	1258	176	77	266	5	
13	1259	223	85	313	2	
13	1260	229	78	319	2	
13	1261	12	84	102	5	
13	1262	226	75	316	2	
13	1263	74	72	164	11	
13	1264	169	85	259	5	
13	1265	129	69	219	8	
13	1266	225	88	315	9	
13	1267	171	88	261	15	
13	1268	58	84	148	5	
13	1269	229	86	319	6	
13	1270	66	72	156	5	
13	1271	226	83	316	9	
13	1272	222	75	312	1	
13	1273	138	77	228	6	
13	1274	128	82	218	6	
13	1275	142	85	232	9	
13	1276	142	86	232	6	S-CURVED
13	1277	98	85	188	9	
13	1278	359	84	89	5	
13	1279	168	86	258	9	
13	1280	83	90	173	11	
13	1281	0	90	90	5	
13	1282	328	78	58	5	
13	1283	344	72	74	11	
13	1284	92	79	182	5	
13	1285	313	85	43	1	
13	1286	313	87	43	1	
13	1287	2	87	92	5	
13	1288	329	72	59	4	
13	1289	318	88	48	4	
13	1290	225	70	315	3	
13	1291	228	78	318	4	
13	1292	312	80	42	5	
13	1293	316	80	46	1	
13	1294	230	78	320	1	
13	1295	243	69	333	2	
13	1296	310	82	40	2	ABUTS 1290

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
13	1297	308	79	38	1	ABUTS 1290
13	1298	177	87	267	3	
13	1299	230	84	320	1	
13	1300	225	74	315	1	
14	1301	219	79	309	1	
14	1302	225	74	315	1	
14	1303	227	73	317	2	
14	1304	328	80	58	9	
14	1305	353	78	83	7	
14	1306	142	80	232	5	
14	1307	225	78	315	2	
14	1308	176	82	266	5	
14	1309	356	88	86	6	
14	1310	277	85	7	4	
14	1311	320	85	50	1	
14	1312	223	77	313	3	
14	1313	227	79	317	1	
14	1314	320	80	50	1	
14	1315	322	81	52	1	
14	1316	319	76	49	1	
14	1317	225	88	315	1	
14	1318	311	77	41	1	
14	1319	316	82	46	1	
14	1320	313	80	43	1	
14	1321	226	72	316	1	
14	1322	223	78	313	1	
14	1323	194	81	284	5	
14	1324	148	74	238	4	
14	1325	217	78	307	1	
14	1326	224	81	314	1	
14	1327	220	80	310	1	
14	1328	223	78	313	1	
14	1329	158	84	248	5	
14	1330	223	76	313	1	
14	1331	224	78	314	1	
14	1332	115	85	205	8	
14	1333	326	90	56	8	
14	1334	229	73	319	1	
14	1335	224	76	314	1	
14	1336	315	75	45	1	
14	1337	140	74	230	11	
14	1338	305	86	35	4	
14	1339	310	81	40	1	
14	1340	314	88	44	1	
14	1341	222	78	312	1	
14	1342	315	86	45	1	
14	1343	313	78	43	1	
14	1344	195	83	285	6	
14	1345	274	88	4	9	
14	1346	263	87	353	7	
14	1347	36	81	126	1	
14	1348	314	82	44	1	
14	1349	320	80	50	1	
14	1350	152	88	242	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
14	1351	155	86	245	7	
14	1352	148	83	238	8	
14	1353	14	64	104	11	
14	1354	223	84	313	4	
14	1355	255	88	345	6	
14	1356	175	80	265	13	
14	1357	353	87	83	8	
14	1358	100	88	190	17	
14	1359	48	90	138	5	
14	1360	310	83	40	5	
14	1361	154	84	244	5	
14	1362	358	76	88	12	
14	1363	197	80	287	11	
14	1364	350	88	80	6	
14	1365	60	85	150	9	
14	1366	114	45	204	13	
14	1367	20	78	110	11	
14	1368	120	74	210	12	
14	1369	347	90	77	6	
14	1370	258	72	348	11	
14	1371	124	88	214	12	
14	1372	301	88	31	16	
14	1373	5	77	95	5	
14	1374	10	88	100	5	
14	1375	270	85	360	5	
14	1376	8	85	98	9	
14	1377	225	79	315	1	
14	1378	225	79	315	1	1377-1379 IN SWARM
14	1379	231	78	321	1	
14	1380	226	81	316	1	
14	1381	275	88	5	9	
14	1382	318	82	48	1	
14	1383	246	84	336	11	
14	1384	221	85	311	2	
14	1385	318	81	48	1	
14	1386	160	80	250	6	
14	1387	225	85	315	1	
14	1388	351	81	81	8	
14	1389	187	83	277	10	
14	1390	173	88	263	8	
14	1391	184	88	274	10	
14	1392	300	85	30	5	
14	1393	47	90	137	2	
14	1394	48	90	138	1	
14	1395	45	88	135	1	
14	1396	350	84	80	2	
14	1397	317	74	47	1	
14	1398	15	79	105	13	
14	1399	325	77	55	1	
14	1400	322	83	52	1	
15	1401	322	71	52	1	
15	1402	17	85	107	9	
15	1403	25	88	115	9	
15	1404	324	75	54	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
15	1405	318	80	48	1	
15	1406	213	84	303	1	
15	1407	202	86	292	7	
15	1408	315	77	45	1	
15	1409	49	90	139	5	
15	1410	213	86	303	5	
15	1411	325	80	55	1	
15	1412	195	82	285	6	
15	1413	320	84	50	1	
15	1414	156	88	246	10	
15	1415	224	76	314	1	
15	1416	219	75	309	1	
15	1417	325	85	55	4	
15	1418	128	74	218	5	
15	1419	225	75	315	1	
15	1420	329	84	59	1	
15	1421	228	70	318	1	
15	1422	229	70	319	1	
15	1423	205	79	295	6	
15	1424	229	70	319	2	
15	1425	240	55	330	2	
15	1426	212	80	302	5	
15	1427	195	61	285	15	
15	1428	154	58	244	8	
15	1429	317	80	47	1	
15	1430	212	76	302	4	
15	1431	98	74	188	18	
15	1432	139	89	229	7	
15	1433	315	82	45	1	
15	1434	308	89	38	5	
15	1435	116	83	206	7	
15	1436	143	83	233	6	
15	1437	138	88	228	9	
15	1438	134	81	224	1	
15	1439	85	79	175	10	
15	1440	320	78	50	5	
15	1441	139	60	229	4	
15	1442	197	83	287	4	
15	1443	318	74	48	1	
15	1444	148	76	238	5	
15	1445	321	80	51	3	
15	1446	195	80	285	3	
15	1447	110	86	200	10	
15	1448	155	84	245	5	
15	1449	320	70	50	1	
15	1450	148	75	238	6	
15	1451	134	71	224	5	
15	1452	125	73	215	4	
15	1453	150	80	240	4	
15	1454	125	72	215	1	
15	1455	138	87	228	1	
15	1456	141	76	231	9	
15	1457	221	83	311	1	
15	1458	220	88	310	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
15	1459	226	84	316	1	
15	1460	339	85	69	10	
15	1461	303	78	33	1	
15	1462	324	81	54	5	
15	1463	310	78	40	10	
15	1464	142	88	232	1	
15	1465	321	90	51	1	
15	1466	313	77	43	1	
15	1467	9	84	99	5	
15	1468	328	85	58	4	
15	1469	31	74	121	4	
15	1470	32	85	122	6	
15	1471	323	82	53	5	
15	1472	222	76	312	4	
15	1473	160	78	250	5	
15	1474	356	85	86	4	
15	1475	252	74	342	10	
15	1476	183	75	273	4	
15	1477	356	90	86	4	
15	1478	326	80	56	1	
15	1479	313	70	43	4	
15	1480	319	75	49	4	
15	1481	162	78	252	3	
15	1482	160	83	250	4	
15	1483	298	83	28	9	
15	1484	24	90	114	1	
15	1485	220	85	310	1	
15	1486	215	83	305	1	
15	1487	324	75	54	1	
15	1488	2	72	92	1	
15	1489	345	73	75	1	
15	1490	289	84	19	8	
15	1491	154	80	244	9	
15	1492	230	68	320	1	
15	1493	300	86	30	11	
15	1494	311	75	41	1	
15	1495	324	72	54	1	
15	1496	220	80	310	1	
15	1497	322	75	52	1	
15	1498	9	88	99	12	
15	1499	281	86	11	12	
15	1500	6	87	96	1	
16	1501	342	70	72	8	
16	1502	69	79	159	9	
16	1503	183	74	273	8	
16	1504	165	65	255	5	
16	1505	126	55	216	5	
16	1506	113	49	203	5	
16	1507	222	75	312	1	
16	1508	228	75	318	1	
16	1509	142	78	232	9	
16	1510	12	88	102	4	
16	1511	148	71	238	11	
16	1512	155	77	245	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
16	1513	144	77	234	4	
16	1514	328	90	58	9	
16	1515	250	71	340	9	
16	1516	81	90	171	8	OFFSETS 1507 BY ~3 cm
16	1517	283	74	13	11	
16	1518	80	87	170	9	
16	1519	316	85	46	1	
16	1520	115	79	205	9	
16	1521	161	84	251	6	
16	1522	177	77	267	5	
16	1523	8	74	98	5	
16	1524	127	85	217	4	
16	1525	135	47	225	10	SLIGHTLY POLISHED SURFACE
16	1526	312	75	42	1	DUE TO SHEAR
16	1527	195	87	285	6	
16	1528	160	88	250	5	
16	1529	209	56	299	10	
16	1530	329	90	59	1	
16	1531	316	85	46	1	
16	1532	325	88	55	1	
16	1533	328	88	58	1	
16	1534	285	85	15	4	
16	1535	297	83	27	5	
16	1536	131	88	221	1	
16	1537	184	84	274	5	
16	1538	315	82	45	1	1538-1542 IN SWARM
16	1539	314	81	44	1	
16	1540	315	80	45	1	
16	1541	318	86	48	1	
16	1542	318	80	48	1	
16	1543	151	82	241	4	
16	1544	356	82	86	5	
16	1545	218	79	308	10	
16	1546	316	82	46	4	
16	1547	212	84	302	4	
16	1548	129	84	219	5	
16	1549	223	86	313	7	
16	1550	205	75	295	6	
16	1551	142	75	232	6	
16	1552	136	87	226	5	
16	1553	189	83	279	5	
16	1554	346	86	76	5	
16	1555	317	76	47	5	
16	1556	19	70	109	5	
16	1557	141	80	231	9	
16	1558	19	57	109	9	
16	1559	20	86	110	9	
16	1560	238	78	328	10	
16	1561	186	86	276	8	
16	1562	98	86	188	9	
16	1563	191	85	281	5	
16	1564	210	74	300	1	
16	1565	342	90	72	9	
16	1566	110	80	200	11	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
16	1567	153	74	243	9	
16	1568	338	80	68	6	
16	1569	72	87	162	5	
16	1570	300	82	30	4	
16	1571	215	80	305	9	
16	1572	35	90	125	10	
16	1573	115	86	205	4	
16	1574	218	87	308	5	
16	1575	115	86	205	5	
16	1576	114	82	204	11	
16	1577	18	78	108	5	
16	1578	352	85	82	5	
16	1579	205	86	295	6	
16	1580	22	90	112	8	
16	1581	209	82	299	14	
16	1582	129	86	219	10	
16	1583	168	82	258	4	
16	1584	192	84	282	6	
16	1585	23	87	113	9	
16	1586	147	87	237	6	
16	1587	50	72	140	5	
16	1588	140	85	230	4	
16	1589	315	87	45	1	
16	1590	322	84	52	1	
16	1591	75	85	165	12	
16	1592	238	75	328	9	
16	1593	251	75	341	8	
16	1594	190	66	280	4	
16	1595	35	80	125	8	
16	1596	202	77	292	2	
16	1597	160	82	250	5	ABUTS 1596
16	1598	169	86	259	1	
16	1599	60	72	150	12	
16	1600	183	85	273	6	ABUTS 1599
17	1601	155	87	245	8	
17	1602	252	68	342	9	
17	1603	225	67	315	4	
17	1604	69	90	159	4	
17	1605	34	85	124	10	
17	1606	195	45	285	9	
17	1607	180	81	270	5	
17	1608	65	89	155	9	
17	1609	225	75	315	8	
17	1610	12	80	102	7	
17	1611	40	79	130	5	
17	1612	192	80	282	8	
17	1613	85	85	175	7	
17	1614	25	80	115	6	
17	1615	15	75	105	5	
17	1616	205	66	295	9	
17	1617	166	75	256	9	
17	1618	240	72	330	11	
17	1619	35	80	125	9	
17	1620	355	88	85	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
17	1621	344	88	74	6	
17	1622	328	78	58	5	
17	1623	104	80	194	10	
17	1624	325	85	55	9	
17	1625	182	80	272	5	
17	1626	146	85	236	12	
17	1627	76	88	166	6	
17	1628	76	88	166	7	
17	1629	247	82	337	7	
17	1630	267	75	357	6	
17	1631	85	65	175	6	
17	1632	12	81	102	9	
17	1633	11	82	101	9	
17	1634	323	89	53	8	
17	1635	294	84	24	9	
17	1636	305	77	35	9	
17	1637	0	85	90	9	
17	1638	354	75	84	9	
17	1639	322	90	52	10	
17	1640	332	78	62	4	
17	1641	330	83	60	5	
17	1642	42	88	132	6	
17	1643	77	74	167	6	
17	1644	349	79	79	5	
17	1645	342	78	72	8	
17	1646	102	65	192	6	
17	1647	32	82	122	13	
17	1648	212	75	302	9	
17	1649	154	84	244	10	
17	1650	340	86	70	6	
17	1651	190	88	280	5	
17	1652	168	36	258	5	
17	1653	78	76	168	5	
17	1654	322	90	52	6	
17	1655	152	68	242	5	
17	1656	22	87	112	6	
17	1657	18	78	108	5	
17	1658	312	78	42	1	
17	1659	326	90	56	1	
17	1660	11	88	101	4	
17	1661	205	88	295	5	
17	1662	18	65	108	4	
17	1663	304	81	34	1	
17	1664	213	88	303	5	
17	1665	310	82	40	1	
17	1666	325	85	55	1	
17	1667	105	84	195	3	
17	1668	22	76	112	5	
17	1669	323	73	53	5	
17	1670	322	90	52	5	
17	1671	212	78	302	11	
17	1672	111	85	201	7	
17	1673	40	80	130	7	
17	1674	143	82	233	8	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
17	1675	180	78	270	9	
17	1676	216	87	306	11	
17	1677	142	81	232	4	
17	1678	220	77	310	5	
17	1679	322	87	52	1	
17	1680	227	67	317	7	
17	1681	233	86	323	6	
17	1682	265	75	355	5	
17	1683	157	84	247	4	
17	1684	131	87	221	4	
17	1685	170	83	260	5	
17	1686	151	89	241	5	
17	1687	155	76	245	9	
17	1688	84	88	174	9	
17	1689	201	82	291	11	
17	1690	168	85	258	5	
17	1691	238	84	328	8	
17	1692	320	89	50	1	
17	1693	134	87	224	6	
17	1694	97	87	187	11	
17	1695	87	77	177	8	
17	1696	333	87	63	1	
17	1697	322	87	52	1	
17	1698	168	76	258	7	
17	1699	10	88	100	9	
17	1700	24	87	114	5	
18	1701	307	70	37	4	
18	1702	56	88	146	4	
18	1703	140	87	230	1	
18	1704	205	78	295	2	
18	1705	113	87	203	3	
18	1706	207	77	297	1	
18	1707	275	82	5	3	
18	1708	310	89	40	1	
18	1709	218	74	308	1	
18	1710	348	90	78	5	
18	1711	336	73	66	9	
18	1712	160	81	250	5	
18	1713	265	86	355	5	
18	1714	212	65	302	1	
18	1715	169	88	259	4	
18	1716	135	84	225	12	
18	1717	150	80	240	4	
18	1718	162	86	252	10	
18	1719	154	87	244	11	
18	1720	62	88	152	10	
18	1721	165	83	255	8	
18	1722	151	65	241	11	
18	1723	144	41	234	5	
18	1724	116	84	206	12	
18	1725	100	64	190	10	
18	1726	29	77	119	11	
18	1727	140	78	230	4	
18	1728	312	88	42	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
18	1729	348	70	78	6	
18	1730	197	84	287	2	
18	1731	185	75	275	9	
18	1732	347	88	77	4	
18	1733	200	80	290	5	
18	1734	142	86	232	5	
18	1735	133	80	223	11	
18	1736	132	80	222	1	
18	1737	10	79	100	1	
18	1738	156	83	246	1	
18	1739	340	87	70	1	
18	1740	127	89	217	1	
18	1741	23	71	113	1	
18	1742	306	89	36	1	
18	1743	212	88	302	1	
18	1744	198	78	288	1	
18	1745	317	87	47	1	
18	1746	55	88	145	5	
18	1747	212	80	302	1	
18	1748	150	88	240	4	
18	1749	314	78	44	1	
18	1750	100	72	190	5	
18	1751	250	88	340	6	
18	1752	140	78	230	1	
18	1753	310	86	40	1	
18	1754	214	89	304	1	
18	1755	210	74	300	1	
18	1756	260	87	350	1	
18	1757	314	84	44	1	
18	1758	348	88	78	5	
18	1759	216	78	306	4	
18	1760	324	85	54	1	
18	1761	175	83	265	4	
18	1762	168	83	258	4	
18	1763	80	87	170	4	
18	1764	210	76	300	3	
18	1765	325	86	55	3	
18	1766	326	86	56	2	
18	1767	215	78	305	8	
18	1768	320	71	50	1	
18	1769	345	86	75	5	
18	1770	5	63	95	5	
18	1771	237	88	327	5	
18	1772	307	82	37	1	
18	1773	37	87	127	1	
18	1774	174	88	264	1	
18	1775	150	68	240	1	
18	1776	318	88	48	1	
18	1777	32	74	122	7	
18	1778	313	82	43	1	
18	1779	313	87	43	2	
18	1780	295	80	25	1	
18	1781	312	84	42	1	
18	1782	212	71	302	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
18	1783	158	84	248	9	
18	1784	233	81	323	4	
18	1785	162	47	252	1	
18	1786	42	88	132	9	
18	1787	135	88	225	2	
18	1788	215	87	305	1	OFFSET BY 1787
18	1789	297	88	27	7	
18	1790	329	87	59	5	
18	1791	214	85	304	1	
18	1792	310	88	40	1	
18	1793	214	89	304	1	
18	1794	310	71	40	1	
18	1795	325	75	55	1	
18	1796	203	87	293	1	
18	1797	318	79	48	1	
18	1798	333	79	63	1	
18	1799	313	83	43	1	
18	1800	213	65	303	5	
19	1801	208	85	298	4	
19	1802	216	64	306	12	
19	1803	48	90	138	8	
19	1804	127	88	217	12	
19	1805	221	67	311	12	
19	1806	132	85	222	10	
19	1807	40	83	130	1	
19	1808	52	84	142	1	
19	1809	9	89	99	8	
19	1810	166	87	256	9	
19	1811	149	85	239	7	
19	1812	196	80	286	7	
19	1813	359	86	89	1	
19	1814	358	88	88	5	
19	1815	311	27	41	4	
19	1816	58	86	148	6	
19	1817	315	75	45	5	
19	1818	25	85	115	4	
19	1819	84	86	174	9	
19	1820	330	88	60	7	
19	1821	295	89	25	4	
19	1822	277	83	7	9	
19	1823	319	86	49	9	
19	1824	60	40	150	3	CURVED
19	1825	208	75	298	4	
19	1826	215	70	305	1	
19	1827	215	70	305	3	
19	1828	218	65	308	8	
19	1829	208	75	298	6	
19	1830	170	80	260	7	
19	1831	52	75	142	7	
19	1832	159	78	249	10	
19	1833	127	78	217	8	
19	1834	113	36	203	9	CURVED
19	1835	131	73	221	5	
19	1836	230	84	320	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
19	1837	95	88	185	5	
19	1838	332	90	62	2	
19	1839	220	78	310	1	
19	1840	220	80	310	1	
19	1841	56	82	146	10	
19	1842	59	68	149	14	
19	1843	202	78	292	1	
19	1844	153	86	243	8	
19	1845	321	80	51	1	
19	1846	49	82	139	1	
19	1847	317	81	47	1	
19	1848	43	77	133	9	
19	1849	311	84	41	11	
19	1850	157	89	247	12	
19	1851	316	82	46	1	
19	1852	218	70	308	9	
19	1853	5	78	95	7	
19	1854	177	84	267	1	
19	1855	21	82	111	3	
19	1856	196	84	286	8	
19	1857	192	89	282	1	
19	1858	190	78	280	5	
19	1859	7	90	97	5	
19	1860	147	80	237	9	
19	1861	128	72	218	6	
19	1862	55	83	145	6	
19	1863	50	83	140	10	
19	1864	81	90	171	1	
19	1865	154	83	244	4	
19	1866	223	83	313	9	
19	1867	210	63	300	7	
19	1868	180	88	270	10	
19	1869	199	80	289	8	
19	1870	194	81	284	8	
19	1871	230	70	320	13	
19	1872	173	78	263	4	
19	1873	138	85	228	5	
19	1874	116	84	206	6	
19	1875	342	78	72	4	
19	1876	264	70	354	3	
19	1877	115	66	205	4	
19	1878	182	88	272	8	
19	1879	89	70	179	9	
19	1880	205	88	295	10	
19	1881	167	40	257	5	
19	1882	173	73	263	6	
19	1883	190	71	280	5	
19	1884	190	71	280	9	
19	1885	223	83	313	9	
19	1886	47	90	137	9	
19	1887	81	82	171	9	
19	1888	2	89	92	8	
19	1889	163	79	253	8	
19	1890	316	82	46	9	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
19	1891	311	90	41	1	
19	1892	21	90	111	8	
19	1893	200	78	290	8	
19	1894	314	90	44	1	
19	1895	20	56	110	7	
19	1896	40	81	130	5	
19	1897	34	60	124	6	
19	1898	15	44	105	6	
19	1899	328	74	58	4	
19	1900	254	89	344	5	
20	1901	60	90	150	3	
20	1902	345	90	75	4	
20	1903	59	89	149	5	
20	1904	186	87	276	4	
20	1905	184	88	274	5	
20	1906	110	74	200	4	
20	1907	6	63	96	5	
20	1908	102	85	192	5	
20	1909	19	81	109	5	
20	1910	55	70	145	10	
20	1911	290	80	20	8	
20	1912	316	90	46	5	
20	1913	26	80	116	7	
20	1914	10	74	100	3	
20	1915	226	88	316	3	
20	1916	11	86	101	5	
20	1917	180	85	270	10	
20	1918	345	90	75	5	
20	1919	256	85	346	8	
20	1920	11	90	101	3	
20	1921	253	73	343	6	
20	1922	275	83	5	5	
20	1923	276	81	6	7	
20	1924	166	85	256	5	
20	1925	22	86	112	8	
20	1926	280	90	10	5	
20	1927	334	87	64	6	
20	1928	209	80	299	5	
20	1929	245	70	335	9	
20	1930	258	65	348	9	
20	1931	30	80	120	9	
20	1932	227	80	317	8	
20	1933	71	76	161	8	
20	1934	92	24	182	4	
20	1935	338	84	68	9	
20	1936	116	76	206	5	
20	1937	151	83	241	5	ENDS IN LARGE LITHOPHYSA
20	1938	261	76	351	5	
20	1939	10	86	100	3	
20	1940	157	86	247	9	
20	1941	26	88	116	7	
20	1942	146	87	236	9	
20	1943	129	66	219	5	
20	1944	216	88	306	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
20	1945	30	90	120	9	
20	1946	10	80	100	1	
20	1947	176	65	266	9	
20	1948	163	60	253	5	
20	1949	211	81	301	1	
20	1950	56	82	146	5	
20	1951	165	77	255	9	
20	1952	187	83	277	3	
20	1953	190	88	280	10	
20	1954	85	90	175	8	
20	1955	275	85	5	6	
20	1956	208	30	298	3	
20	1957	290	88	20	16	
20	1958	149	88	239	9	
20	1959	249	76	339	4	
20	1960	129	85	219	8	
20	1961	201	84	291	10	
20	1962	240	84	330	10	
20	1963	161	70	251	9	
20	1964	165	75	255	9	
20	1965	119	83	209	12	
20	1966	200	81	290	6	
20	1967	165	83	255	4	
20	1968	357	90	87	4	
20	1969	302	90	32	6	
20	1970	310	74	40	9	
20	1971	224	67	314	3	
20	1972	184	64	274	5	
20	1973	168	86	258	4	
20	1974	115	76	205	5	
20	1975	275	90	5	9	
20	1976	170	80	260	5	
20	1977	257	34	347	2	
20	1978	95	65	185	9	
20	1979	250	88	340	12	
20	1980	120	82	210	6	
20	1981	38	82	128	9	
20	1982	214	68	304	5	
20	1983	325	86	55	6	
20	1984	17	89	107	5	
20	1985	318	82	48	1	
20	1986	49	84	139	5	
20	1987	317	76	47	1	
20	1988	318	85	48	5	
20	1989	346	76	76	10	
20	1990	358	73	88	4	
20	1991	220	88	310	5	
20	1992	231	74	321	4	
20	1993	141	85	231	4	
20	1994	105	80	195	10	
20	1995	90	90	180	9	
20	1996	224	81	314	5	
20	1997	315	80	45	5	
20	1998	233	75	323	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
20	1999	148	77	238	11	
20	2000	45	77	135	13	
21	2001	60	84	150	6	
21	2002	304	82	34	1	
21	2003	142	75	232	3	
21	2004	45	85	135	6	
21	2005	324	90	54	10	
21	2006	56	76	146	9	
21	2007	354	90	84	10	
21	2008	70	86	160	4	
21	2009	2	80	92	9	
21	2010	206	88	296	11	
21	2011	132	84	222	1	
21	2012	149	77	239	9	
21	2013	260	77	350	5	
21	2014	32	88	122	5	
21	2015	292	83	22	8	
21	2016	214	86	304	8	
21	2017	34	79	124	8	
21	2018	26	88	116	6	
21	2019	316	80	46	1	CALICHE FILLED
21	2020	219	87	309	4	
21	2021	310	90	40	4	
21	2022	260	88	350	4	
21	2023	220	75	310	2	
21	2024	139	75	229	9	
21	2025	188	60	278	9	
21	2026	225	81	315	4	
21	2027	237	88	327	3	
21	2028	160	80	250	9	
21	2029	133	85	223	1	
21	2030	155	84	245	4	
21	2031	315	88	45	1	ABUTS 2032
21	2032	205	76	295	1	
21	2033	170	74	260	5	
21	2034	136	88	226	1	
21	2035	195	80	285	5	
21	2036	140	80	230	7	
21	2037	176	75	266	5	
21	2038	41	65	131	6	
21	2039	204	69	294	5	
21	2040	130	60	220	5	
21	2041	225	75	315	1	
21	2042	357	50	87	15	
21	2043	223	62	313	9	
21	2044	228	67	318	7	
21	2045	275	80	5	9	
21	2046	259	84	349	8	
21	2047	160	82	250	9	
21	2048	184	86	274	5	
21	2049	130	88	220	4	
21	2050	136	86	226	1	
21	2051	134	86	224	1	
21	2052	210	75	300	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
21	2053	310	89	40	1	
21	2054	163	84	253	1	
21	2055	205	80	295	1	
21	2056	211	75	301	1	
21	2057	201	80	291	1	
21	2058	205	78	295	1	
21	2059	309	84	39	1	
21	2060	163	87	253	5	
21	2061	211	85	301	1	
21	2062	210	80	300	1	
21	2063	165	66	255	11	
21	2064	211	80	301	1	
21	2065	244	77	334	4	
21	2066	155	86	245	4	
21	2067	78	55	168	4	
21	2068	182	85	272	6	
21	2069	130	86	220	9	
21	2070	230	81	320	1	
21	2071	350	70	80	6	
21	2072	214	78	304	9	
21	2073	201	84	291	2	
21	2074	269	69	359	4	
21	2075	211	74	301	5	
21	2076	140	78	230	5	
21	2077	213	77	303	1	
21	2078	178	85	268	4	
21	2079	82	90	172	4	
21	2080	215	71	305	7	
21	2081	315	87	45	4	
21	2082	214	71	304	1	
21	2083	356	90	86	5	
21	2084	323	81	53	4	
21	2085	338	88	68	9	
21	2086	346	87	76	14	
21	2087	272	88	2	14	
21	2088	330	80	60	9	
21	2089	49	80	139	9	
21	2090	209	87	299	9	
21	2091	221	75	311	4	
21	2092	241	80	331	8	
21	2093	288	89	18	4	
21	2094	26	86	116	9	
21	2095	136	78	226	4	
21	2096	47	73	137	8	
21	2097	338	84	68	4	
21	2098	350	80	80	1	
21	2099	338	72	68	5	
21	2100	95	11	185	4	
22	2101	289	83	19	5	
22	2102	230	66	320	8	
22	2103	233	62	323	9	
22	2104	315	90	45	2	
22	2105	139	85	229	4	
22	2106	120	80	210	9	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
22	2107	155	78	245	8	
22	2108	140	81	230	9	
22	2109	113	71	203	6	
22	2110	174	75	264	8	
22	2111	260	80	350	1	
22	2112	324	88	54	5	
22	2113	154	75	244	9	
22	2114	40	80	130	6	
22	2115	320	85	50	3	
22	2116	11	86	101	2	
22	2117	325	89	55	2	
22	2118	235	76	325	13	
22	2119	310	75	40	6	
22	2120	213	65	303	5	
22	2121	205	79	295	11	
22	2122	305	65	35	5	
22	2123	171	80	261	4	
22	2124	335	85	65	11	
22	2125	320	41	50	1	TUBES,SHALLOW PITCHING
22	2126	210	80	300	1	
22	2127	231	89	321	5	
22	2128	319	80	49	10	
22	2129	165	76	255	8	
22	2130	322	77	52	1	
22	2131	318	85	48	1	
22	2132	178	74	268	2	
22	2133	225	70	315	1	
22	2134	131	86	221	1	
22	2135	213	80	303	10	
22	2136	217	78	307	4	
22	2137	42	90	132	4	
22	2138	220	56	310	4	
22	2139	223	86	313	5	
22	2140	145	80	235	5	
22	2141	147	88	237	6	
22	2142	321	75	51	10	
22	2143	317	78	47	10	
22	2144	55	70	145	7	
22	2145	14	88	104	9	
22	2146	315	80	45	5	
22	2147	255	55	345	10	
22	2148	186	64	276	4	
22	2149	240	57	330	5	
22	2150	198	60	288	9	
22	2151	146	63	236	6	
22	2152	340	80	70	4	
22	2153	315	57	45	5	
22	2154	147	86	237	4	
22	2155	158	78	248	4	
22	2156	295	85	25	6	
22	2157	52	84	142	11	
22	2158	315	87	45	1	
22	2159	130	85	220	3	
22	2160	155	80	245	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
22	2161	50	72	140	4	
22	2162	308	84	38	4	
22	2163	315	75	45	4	
22	2164	31	86	121	4	
22	2165	65	90	155	3	
22	2166	145	75	235	5	
22	2167	335	75	65	3	
22	2168	204	65	294	9	
22	2169	321	85	51	5	
22	2170	330	78	60	4	
22	2171	206	70	296	4	
22	2172	220	82	310	1	
22	2173	136	74	226	4	
22	2174	60	86	150	5	
22	2175	260	88	350	5	
22	2176	175	54	265	5	
22	2177	331	75	61	8	
22	2178	100	68	190	7	
22	2179	266	75	356	16	
22	2180	226	80	316	12	
22	2181	77	90	167	7	
22	2182	116	82	206	10	
22	2183	260	70	350	9	
22	2184	355	80	85	6	
22	2185	78	84	168	7	
22	2186	205	65	295	7	
22	2187	245	79	335	11	
22	2188	84	80	174	5	
22	2189	0	88	90	8	
22	2190	251	68	341	9	
22	2191	86	90	176	5	
22	2192	142	74	232	6	
22	2193	66	85	156	3	
22	2194	222	80	312	8	
22	2195	87	80	177	9	
22	2196	190	80	280	10	
22	2197	126	71	216	7	
22	2198	252	53	342	9	
22	2199	150	37	240	9	
22	2200	107	85	197	9	
23	2201	134	81	224	6	
23	2202	145	78	235	5	
23	2203	182	9	272	1	
23	2204	159	85	249	4	
23	2205	79	81	169	6	
23	2206	248	43	338	6	
23	2207	182	85	272	5	
23	2208	259	77	349	4	
23	2209	185	66	275	6	
23	2210	280	88	10	3	
23	2211	226	67	316	5	
23	2212	103	83	193	4	
23	2213	178	70	268	4	
23	2214	346	90	76	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
23	2215	164	80	254	5	
23	2216	210	66	300	5	
23	2217	113	61	203	4	
23	2218	337	75	67	12	
23	2219	15	84	105	9	
23	2220	25	90	115	9	
23	2221	156	60	246	4	
23	2222	111	85	201	7	
23	2223	102	81	192	5	
23	2224	200	56	290	5	
23	2225	54	84	144	5	
23	2226	323	78	53	1	
23	2227	320	84	50	1	
23	2228	241	82	331	9	
23	2229	320	78	50	3	
23	2230	154	83	244	3	
23	2231	229	70	319	1	
23	2232	330	90	60	3	
23	2233	201	75	291	5	
23	2234	199	74	289	5	
23	2235	220	86	310	5	
23	2236	45	85	135	4	
23	2237	206	88	296	4	
23	2238	189	85	279	5	
23	2239	94	85	184	5	
23	2240	324	88	54	1	
23	2241	320	86	50	1	
23	2242	153	77	243	5	
23	2243	309	90	39	8	
23	2244	315	84	45	1	
23	2245	317	83	47	3	
23	2246	159	88	249	2	
23	2247	324	80	54	3	
23	2248	20	74	110	4	
23	2249	321	84	51	2	
23	2250	37	86	127	1	
23	2251	225	77	315	1	
23	2252	283	79	13	3	
23	2253	164	66	254	4	
23	2254	128	88	218	5	
23	2255	294	90	24	9	
23	2256	324	87	54	1	
23	2257	315	84	45	1	
23	2258	221	72	311	1	
23	2259	232	77	322	4	
23	2260	144	84	234	4	
23	2261	315	82	45	1	
23	2262	215	77	305	1	
23	2263	220	84	310	8	
23	2264	220	78	310	1	
23	2265	308	75	38	1	
23	2266	284	90	14	5	
23	2267	1	90	91	5	
23	2268	135	83	225	9	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
23	2269	336	87	66	8	
23	2270	339	84	69	6	
23	2271	216	81	306	1	
23	2272	175	88	265	5	
23	2273	215	85	305	7	
23	2274	156	80	246	4	
23	2275	152	86	242	4	
23	2276	223	75	313	3	
23	2277	157	73	247	6	
23	2278	30	83	120	11	
23	2279	143	85	233	5	
23	2280	193	79	283	5	
23	2281	195	80	285	8	
23	2282	216	79	306	1	
23	2283	139	82	229	4	
23	2284	142	83	232	3	
23	2285	225	59	315	5	
23	2286	230	74	320	3	
23	2287	324	78	54	5	
23	2288	94	86	184	4	
23	2289	52	90	142	9	
23	2290	228	74	318	12	CALICHE-3 cm THICK
23	2291	338	90	68	5	
23	2292	186	86	276	5	
23	2293	221	82	311	1	
23	2294	224	81	314	1	
23	2295	225	76	315	1	
23	2296	102	89	192	7	
23	2297	158	75	248	5	
23	2298	50	85	140	5	
23	2299	135	79	225	6	
23	2300	40	83	130	5	
24	2301	60	86	150	1	
24	2302	190	66	280	4	
24	2303	325	82	55	1	
24	2304	19	79	109	6	
24	2305	110	82	200	5	
24	2306	166	78	256	5	
24	2307	318	88	48	3	CALICHE-15 mm THICK
24	2308	165	77	255	5	
24	2309	330	87	60	5	
24	2310	147	72	237	5	
24	2311	315	77	45	6	
24	2312	200	54	290	9	
24	2313	134	85	224	9	
24	2314	62	79	152	9	
24	2315	130	74	220	5	
24	2316	139	85	229	3	
24	2317	257	52	347	10	
24	2318	328	80	58	2	CALICHE-2 mm THICK
24	2319	86	78	176	5	
24	2320	330	86	60	3	
24	2321	230	84	320	5	
24	2322	25	78	115	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
24	2323	48	81	138	3	
24	2324	140	85	230	3	CALICHE-3 mm THICK
24	2325	147	80	237	4	
24	2326	168	84	258	5	
24	2327	166	86	256	4	
24	2328	291	80	21	3	
24	2329	300	76	30	8	
24	2330	80	74	170	4	
24	2331	200	68	290	4	
24	2332	329	87	59	9	
24	2333	312	85	42	12	
24	2334	162	83	252	5	
24	2335	130	85	220	5	
24	2336	78	83	168	13	
24	2337	230	76	320	1	
24	2338	185	80	275	10	
24	2339	156	79	246	6	
24	2340	202	80	292	7	
24	2341	160	82	250	10	CALICHE
24	2342	272	88	2	10	
24	2343	92	85	182	9	
24	2344	209	75	299	4	
24	2345	200	82	290	11	
24	2346	164	77	254	9	
24	2347	228	68	318	13	
24	2348	137	74	227	5	
24	2349	218	75	308	1	
24	2350	211	80	301	8	
24	2351	316	78	46	5	
24	2352	150	88	240	5	
24	2353	196	81	286	9	
24	2354	185	74	275	9	
24	2355	45	90	135	15	
24	2356	260	71	350	8	
24	2357	165	85	255	12	
24	2358	356	73	86	9	
24	2359	48	90	138	8	
24	2360	190	89	280	13	
24	2361	241	80	331	11	
24	2362	180	85	270	1	
24	2363	50	90	140	9	
24	2364	244	74	334	6	
24	2365	190	79	280	6	CALICHE-1 mm THICK
24	2366	184	62	274	9	CALICHE-1 mm THICK
24	2367	212	68	302	1	CALICHE-FILLED TUBES
24	2368	240	86	330	6	
24	2369	210	74	300	9	
24	2370	319	85	49	1	
24	2371	222	85	312	5	
24	2372	235	86	325	4	CALICHE
24	2373	359	90	89	5	CALICHE
24	2374	190	69	280	5	CALICHE
24	2375	220	80	310	6	CALICHE-5 mm THICK
24	2376	116	60	206	5	CALICHE

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
24	2377	201	74	291	9	CALICHE
24	2378	225	84	315	5	CALICHE
24	2379	319	90	49	1	
24	2380	220	59	310	5	
24	2381	308	90	38	8	
24	2382	213	89	303	5	
24	2383	211	85	301	1	
24	2384	214	74	304	5	
24	2385	50	78	140	4	
24	2386	157	72	247	7	
24	2387	216	75	306	1	
24	2388	200	72	290	5	
24	2389	288	57	18	9	
24	2390	231	81	321	8	
24	2391	185	66	275	4	CALICHE
24	2392	309	56	39	11	CALICHE
24	2393	184	67	274	9	CALICHE
24	2394	352	70	82	8	CALICHE
24	2395	40	80	130	11	
24	2396	224	75	314	1	
24	2397	128	55	218	11	
24	2398	300	62	30	9	
24	2399	351	54	81	9	CALICHE
24	2400	322	61	52	5	CALICHE
25	2401	65	90	155	9	
25	2402	76	86	166	8	
25	2403	176	78	266	8	
25	2404	40	80	130	9	
25	2405	21	75	111	5	
25	2406	148	84	238	10	
25	2407	341	87	71	4	
25	2408	163	76	253	8	CALICHE COATED
25	2409	152	83	242	8	2409-2415 BRECCIATED
25	2410	32	85	122	1	CALICHE
25	2411	300	88	30	5	
25	2412	298	89	28	6	CALICHE
25	2413	15	76	105	9	CALICHE
25	2414	197	86	287	6	CALICHE
25	2415	148	82	238	8	CALICHE
25	2416	212	80	302	1	
25	2417	251	83	341	8	
25	2418	335	85	65	9	
25	2419	216	80	306	1	
25	2420	259	81	349	12	
25	2421	156	65	246	11	
25	2422	224	80	314	1	
25	2423	161	68	251	6	
25	2424	220	75	310	1	
25	2425	235	85	325	7	
25	2426	192	68	282	4	
25	2427	208	74	298	9	
25	2428	302	74	32	11	
25	2429	194	78	284	13	
25	2430	298	90	28	15	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
25	2431	27	85	117	15	
25	2432	167	74	257	14	
25	2433	252	76	342	13	
25	2434	235	84	325	1	
25	2435	172	80	262	10	
25	2436	162	87	252	10	
25	2437	250	84	340	5	
25	2438	14	65	104	1	
25	2439	82	88	172	5	
25	2440	340	90	70	15	
25	2441	300	80	30	11	
25	2442	316	85	46	6	
25	2443	353	20	83	3	
25	2444	101	55	191	4	
25	2445	40	60	130	11	
25	2446	152	80	242	9	
25	2447	58	88	148	9	
25	2448	56	90	146	9	
25	2449	126	71	216	11	
25	2450	131	87	221	11	
25	2451	267	69	357	4	
25	2452	220	74	310	9	
25	2453	174	68	264	9	
25	2454	178	76	268	5	
25	2455	164	79	254	5	
25	2456	179	55	269	15	
25	2457	209	38	299	10	
25	2458	194	70	284	8	
25	2459	188	77	278	11	
25	2460	161	85	251	5	
25	2461	334	79	64	5	
25	2462	338	88	68	6	
25	2463	354	85	84	8	
25	2464	349	90	79	4	
25	2465	330	89	60	9	
25	2466	327	78	57	9	
25	2467	207	79	297	9	
25	2468	260	79	350	10	
25	2469	323	77	53	1	
25	2470	142	85	232	1	
25	2471	150	88	240	1	
25	2472	320	80	50	1	
25	2473	144	87	234	1	
25	2474	238	73	328	13	
25	2475	314	76	44	1	
25	2476	18	86	108	4	
25	2477	24	85	114	13	
25	2478	315	84	45	3	
25	2479	310	88	40	11	
25	2480	348	82	78	8	
25	2481	331	79	61	9	
25	2482	340	80	70	9	
25	2483	180	82	270	9	
25	2484	107	88	197	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
25	2485	65	84	155	6	
25	2486	225	77	315	1	
25	2487	231	79	321	1	
25	2488	161	83	251	11	
25	2489	351	81	81	7	
25	2490	157	84	247	7	
25	2491	105	81	195	9	
25	2492	275	64	5	4	
25	2493	21	88	111	9	
25	2494	330	74	60	1	
25	2495	318	78	48	1	BRECCIA,SLICKENSIDE STRIATIONS
25	2496	322	83	52	1	PLUNGING 5^0 SE
25	2497	143	88	233	1	
25	2498	314	79	44	1	
25	2499	224	80	314	1	
25	2500	45	90	135	8	
26	2501	324	85	54	1	
26	2502	145	82	235	1	
26	2503	142	86	232	1	
26	2504	148	88	238	1	
26	2505	204	79	294	1	
26	2506	152	84	242	7	
26	2507	219	76	309	9	
26	2508	329	80	59	12	
26	2509	226	68	316	10	
26	2510	140	85	230	6	
26	2511	98	75	188	11	
26	2512	196	87	286	7	
26	2513	17	90	107	10	
26	2514	204	88	294	6	
26	2515	151	88	241	2	
26	2516	145	85	235	2	
26	2517	205	83	295	4	
26	2518	353	81	83	4	
26	2519	104	86	194	9	
26	2520	165	88	255	5	
26	2521	65	85	155	5	
26	2522	58	64	148	5	
26	2523	36	65	126	6	
26	2524	190	53	280	6	
26	2525	109	80	199	9	
26	2526	153	82	243	3	
26	2527	231	83	321	1	CALICHE
26	2528	137	89	227	9	
26	2529	158	84	248	7	
26	2530	214	77	304	7	
26	2531	227	79	317	7	
26	2532	220	76	310	10	
26	2533	127	86	217	1	
26	2534	160	85	250	11	
26	2535	172	78	262	8	
26	2536	208	82	298	1	
26	2537	117	81	207	9	
26	2538	223	85	313	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
26	2539	22	89	112	11	
26	2540	318	84	48	13	
26	2541	235	85	325	5	
26	2542	204	66	294	7	
26	2543	2	49	92	18	
26	2544	173	75	263	13	
26	2545	66	85	156	17	
26	2546	180	76	270	13	
26	2547	14	79	104	16	
26	2548	232	85	322	12	
26	2549	282	69	12	9	
26	2550	225	87	315	9	
26	2551	222	88	312	5	
26	2552	124	77	214	9	
26	2553	165	79	255	5	
26	2554	220	85	310	9	
26	2555	328	82	58	8	
26	2556	148	79	238	13	
26	2557	188	71	278	12	
26	2558	42	87	132	9	
26	2559	34	76	124	13	
26	2560	22	85	112	19	
26	2561	130	62	220	10	
26	2562	153	82	243	9	
26	2563	154	85	244	11	
26	2564	159	88	249	9	
26	2565	156	76	246	12	
26	2566	155	83	245	8	
26	2567	167	79	257	8	
26	2568	259	71	349	7	
26	2569	172	78	262	8	
26	2570	152	89	242	9	
26	2571	61	82	151	9	
26	2572	131	78	221	10	
26	2573	200	87	290	9	
26	2574	55	88	145	9	
26	2575	256	85	346	9	
26	2576	231	83	321	14	
26	2577	216	80	306	3	
26	2578	322	88	52	1	
26	2579	290	56	20	9	
26	2580	300	73	30	11	
26	2581	96	82	186	9	
26	2582	58	85	148	9	
26	2583	164	85	254	8	
26	2584	235	75	325	9	
26	2585	345	71	75	10	
26	2586	219	85	309	9	
26	2587	346	74	76	10	
26	2588	300	70	30	9	
26	2589	328	90	58	8	
26	2590	228	74	318	1	
26	2591	83	78	173	1	
26	2592	41	85	131	4	

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STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
26	2593	162	82	252	1	
26	2594	164	84	254	5	
26	2595	161	81	251	2	
26	2596	144	79	234	1	
26	2597	356	75	86	10	
26	2598	351	90	81	12	
26	2599	314	79	44	13	
26	2600	165	76	255	4	
27	2601	55	85	145	1	
27	2602	311	74	41	9	
27	2603	30	75	120	9	
27	2604	315	67	45	9	
27	2605	315	73	45	2	
27	2606	53	70	143	10	
27	2607	29	89	119	8	
27	2608	6	85	96	10	
27	2609	6	89	96	5	
27	2610	76	44	166	2	
27	2611	2	87	92	5	
27	2612	45	84	135	10	
27	2613	342	69	72	5	
27	2614	319	76	49	4	
27	2615	284	62	14	5	
27	2616	198	60	288	6	
27	2617	303	68	33	5	
27	2618	155	77	245	3	
27	2619	24	60	114	4	
27	2620	333	63	63	4	
27	2621	333	81	63	5	
27	2622	171	88	261	5	
27	2623	343	64	73	5	
27	2624	343	60	73	5	
27	2625	341	78	71	5	
27	2626	242	62	332	11	
27	2627	253	58	343	9	
27	2628	2	66	92	5	
27	2629	299	70	29	9	
27	2630	187	85	277	7	
27	2631	341	88	71	5	
27	2632	0	76	90	13	
27	2633	210	75	300	11	
27	2634	179	85	269	5	
27	2635	3	74	93	6	
27	2636	60	78	150	1	
27	2637	176	81	266	6	
27	2638	189	80	279	5	
27	2639	241	64	331	9	
27	2640	356	90	86	4	
27	2641	189	89	279	4	
27	2642	200	89	290	4	
27	2643	343	78	73	5	
27	2644	286	81	16	6	
27	2645	197	77	287	5	
27	2646	176	80	266	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
27	2647	169	81	259	4	
27	2648	173	88	263	5	
27	2649	150	78	240	9	
27	2650	247	83	337	8	
27	2651	166	75	256	4	
27	2652	263	68	353	9	
27	3653	12	79	102	5	
27	2654	328	64	58	3	
27	2655	242	74	332	9	
27	2656	100	41	190	1	
27	2657	292	73	22	3	
27	2658	307	77	37	5	
27	2659	192	82	282	5	
27	2660	199	80	289	5	
27	2661	288	67	18	6	
27	2662	316	75	46	7	
27	2663	225	79	315	3	
27	2664	294	88	24	10	
27	2655	324	90	54	5	
27	2666	42	90	132	11	
27	2667	20	75	110	5	
27	2668	17	74	107	6	
27	2669	286	64	16	5	
27	2670	349	89	79	3	
27	2671	270	72	360	4	
27	2672	174	68	264	4	
27	2673	72	75	162	6	
27	2674	338	83	68	5	
27	2675	164	87	254	6	
27	2676	150	22	240	4	
27	2677	338	70	68	5	
27	2678	59	90	149	6	
27	2679	245	85	335	13	
27	2680	182	77	272	11	
27	2681	272	78	2	7	
27	2682	342	90	72	7	
27	2683	151	87	241	9	
27	2684	157	77	247	8	
27	2685	73	84	163	11	
27	2686	153	83	243	7	
27	2687	330	77	60	5	
27	2688	82	64	172	4	
27	2689	275	74	5	1	
27	2690	286	88	16	1	
27	2691	326	89	56	3	
27	2692	232	84	322	12	
27	2693	327	83	57	4	
27	2694	349	79	79	5	
27	2695	245	87	335	10	
27	2696	342	79	72	9	
27	2697	357	82	87	4	
27	2698	162	76	252	6	
27	2699	345	90	75	8	
27	2700	335	80	65	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
28	2701	327	64	57	7	
28	2702	318	72	48	8	
28	2703	180	75	270	5	
28	2704	3	82	93	8	
28	2705	64	90	154	4	
28	2706	235	75	325	12	
28	2707	143	84	233	5	
28	2708	333	86	63	5	
28	2709	102	43	192	3	
28	2710	159	87	249	9	
28	2711	323	75	53	7	
28	2712	321	90	51	6	
28	2713	83	88	173	6	
28	2714	42	58	132	4	
28	2715	151	76	241	3	
28	2716	153	74	243	4	
28	2717	61	78	151	11	ABUTS 2715 & 2716
28	2718	239	87	329	1	
28	2719	314	65	44	11	
28	2720	340	88	70	5	
28	2721	337	76	67	6	
28	2722	341	83	71	10	
28	2723	341	82	71	5	
28	2724	161	72	251	5	
28	2725	85	83	175	5	
28	2726	341	88	71	5	
28	2727	349	89	79	5	
28	2728	53	76	143	10	
28	2729	153	69	243	7	
28	2730	263	78	353	9	
28	2731	336	63	66	4	
28	2732	349	55	79	8	
28	2733	211	84	301	13	
28	2734	345	85	75	9	
28	2735	165	69	255	5	
28	2736	88	83	178	8	
28	2737	145	84	235	5	
28	2738	343	74	73	4	
28	2739	89	45	179	3	
28	2740	154	50	244	3	
28	2741	140	80	230	5	
28	2742	73	78	163	4	
28	2743	339	88	69	5	
28	2744	98	76	188	4	
28	2745	344	76	74	9	
28	2746	342	90	72	5	
28	2747	256	89	346	11	
28	2748	297	65	27	4	
28	2749	223	72	313	4	
28	2750	356	86	86	5	
28	2751	2	90	92	5	
28	2752	283	83	13	8	
28	2753	149	78	239	7	
28	2754	218	84	308	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
28	2755	237	80	327	3	
28	2756	161	88	251	3	
28	2757	80	13	170	3	
28	2758	162	78	252	6	
28	2759	296	23	26	1	
28	2760	55	90	145	4	
28	2761	128	77	218	5	
28	2762	323	73	53	5	
28	2763	223	84	313	4	
28	2764	334	78	64	5	
28	2765	222	81	312	3	
28	2766	337	90	67	4	
28	2767	140	73	230	4	
28	2768	218	74	308	2	
28	2769	299	90	29	5	
28	2770	342	90	72	5	
28	2771	156	62	246	5	
28	2772	354	84	84	1	
28	2773	248	86	338	15	
28	2774	145	70	235	4	
28	2775	141	61	231	5	
28	2776	133	65	223	5	
28	2777	340	90	70	4	
28	2778	22	20	112	2	
28	2779	150	72	240	5	
28	2780	216	74	306	3	
28	2781	150	82	240	5	
28	2782	121	70	211	1	
28	2783	213	83	303	4	
28	2784	151	76	241	3	
28	2785	334	88	64	3	
28	2786	168	75	258	5	
28	2787	178	76	268	3	
28	2788	331	90	61	5	
28	2789	218	77	308	0	
28	2790	273	74	3	0	
28	2791	109	65	199	3	
28	2792	335	84	65	8	
28	2793	158	65	248	7	
28	2794	128	76	218	11	
28	2795	308	88	38	10	
28	2796	349	90	79	4	
28	2797	247	43	337	2	
28	2798	200	70	290	5	
28	2799	75	88	165	9	
28	2800	150	81	240	3	
29	2801	180	67	270	5	
29	2802	240	65	330	5	
29	2803	322	80	52	15	
29	2804	1	76	91	5	
29	2805	352	70	82	5	
29	2806	356	90	86	6	
29	2807	128	67	218	3	
29	2808	226	89	316	4	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
29	2809	155	70	245	5	
29	2810	132	78	222	3	
29	2811	331	85	61	6	
29	2812	259	72	349	10	
29	2813	67	42	157	1	
29	2814	331	88	61	4	
29	2815	335	72	65	7	
29	2816	343	90	73	9	
29	2817	145	77	235	5	
29	2818	338	83	68	5	
29	2819	247	76	337	5	
29	2820	335	79	65	5	
29	2821	167	60	257	5	
29	2822	344	90	74	4	
29	2823	288	87	18	9	
29	2824	349	78	79	3	
29	2825	346	72	76	4	
29	2826	281	51	11	1	
29	2827	96	40	186	1	
29	2828	96	46	186	1	
29	2829	79	74	169	1	
29	2830	152	81	242	5	
29	2831	148	83	238	6	
29	2832	178	64	268	9	
29	2833	109	45	199	5	
29	2834	333	90	63	4	
29	2835	149	75	239	4	
29	2836	158	64	248	5	
29	2837	168	58	258	3	
29	2838	147	74	237	6	
29	2839	242	88	332	8	
29	2840	91	50	181	1	
29	2841	165	88	255	4	
29	2842	101	35	191	1	
29	2843	334	53	64	1	
29	2844	149	81	239	3	
29	2845	155	65	245	3	
29	2846	250	71	340	12	
29	2847	128	83	218	5	
29	2848	237	61	327	1	
29	2849	187	86	277	1	
29	2850	221	46	311	1	
29	2851	331	83	61	7	
29	2852	182	66	272	3	
29	2853	181	62	271	5	
29	2854	199	75	289	1	
29	2855	126	84	216	3	
29	2856	128	23	218	1	
29	2857	82	25	172	3	
29	2858	326	72	56	1	
29	2859	271	70	1	1	
29	2860	30	90	120	9	
29	2861	342	79	72	5	
29	2862	264	70	354	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
29	2863	6	85	96	2	
29	2864	335	90	65	4	
29	2865	76	85	166	4	
29	2866	12	83	102	6	
29	2867	332	89	62	5	
29	2868	258	77	348	7	
29	2869	52	62	142	1	
29	2870	224	70	314	2	
29	2871	261	13	351	1	
29	2872	195	61	285	12	
29	2873	231	80	321	1	
29	2874	157	86	247	5	
29	2875	240	87	330	6	
29	2876	325	85	55	1	
29	2877	64	55	154	1	
29	2878	208	80	298	1	
29	2879	300	86	30	4	
29	2880	160	85	250	4	
29	2881	66	82	156	5	
29	2882	345	90	75	5	
29	2883	151	89	241	5	
29	2884	163	72	253	5	
29	2885	165	86	255	5	
29	2886	165	47	255	3	
29	2887	340	65	70	3	
29	2888	162	77	252	4	
29	2889	152	76	242	5	
29	2890	155	56	245	5	
29	2891	139	78	229	11	
29	2892	39	90	129	6	
29	2893	123	83	213	5	
29	2894	359	90	89	5	
29	2895	226	72	316	1	
29	2896	140	82	230	4	
29	2897	59	27	149	2	
29	2898	113	75	203	5	
29	2899	328	73	58	3	
29	2900	206	88	296	1	
30	2901	228	87	318	1	
30	2902	146	80	236	3	
30	2903	157	86	247	4	
30	2904	93	85	183	3	
30	2905	333	57	63	4	
30	2906	344	83	74	4	
30	2907	217	82	307	5	
30	2908	328	90	58	5	
30	2909	347	75	77	5	
30	2910	195	84	285	4	
30	2911	319	68	49	5	
30	2912	43	87	133	1	
30	2913	312	90	42	5	
30	2914	254	85	344	4	
30	2915	151	87	241	3	
30	2916	156	80	246	3	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
30	2917	46	90	136	3	
30	2918	154	85	244	4	
30	2919	165	83	255	4	
30	2920	260	83	350	5	
30	2921	253	70	343	5	
30	2922	337	88	67	5	
30	2923	157	73	247	5	
30	2924	334	68	64	3	
30	2925	336	82	66	5	
30	2926	238	82	328	5	
30	2927	348	71	78	6	
30	2928	79	82	169	3	
30	2929	44	58	134	2	
30	2930	66	58	156	1	
30	2931	334	67	64	3	
30	2932	352	72	82	4	
30	2933	157	88	247	3	
30	2934	70	45	160	2	
30	2935	270	36	360	1	
30	2936	306	75	36	5	
30	2937	136	83	226	4	
30	2938	316	76	46	5	
30	2939	310	10	40	2	
30	2940	187	66	277	7	
30	2941	131	81	221	5	
30	2942	138	88	228	4	
30	2943	160	80	250	5	
30	2944	144	76	234	4	
30	2945	152	81	242	5	
30	2946	343	90	73	6	
30	2947	146	52	236	3	
30	2948	159	70	249	4	
30	2949	43	76	133	6	
30	2950	340	58	70	5	
30	2951	165	80	255	4	
30	2952	64	89	154	4	
30	2953	174	85	264	5	
30	2954	135	15	225	1	
30	2955	86	17	176	2	
30	2956	166	80	256	5	
30	2957	285	89	15	5	
30	2958	146	80	236	5	
30	2959	55	29	145	1	
30	2960	332	89	62	4	
30	2961	74	90	164	6	
30	2962	307	87	37	3	
30	2963	7	89	97	4	
30	2964	128	75	218	4	
30	2965	204	76	294	5	
30	2966	332	63	62	7	
30	2967	160	75	250	6	
30	2968	143	87	233	7	
30	2969	152	80	242	5	
30	2970	163	72	253	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
30	2971	170	86	260	5	
30	2972	215	81	305	5	
30	2973	343	90	73	5	
30	2974	189	54	279	4	
30	2975	103	74	193	6	
30	2976	130	84	220	4	
30	2977	182	80	272	7	
30	2978	137	86	227	9	
30	2979	226	86	316	3	
30	2980	70	69	160	2	
30	2981	173	70	263	3	
30	2982	226	83	316	5	
30	2983	205	57	295	5	
30	2984	215	58	305	6	
30	2985	192	74	282	5	
30	2986	175	84	265	4	
30	2987	165	76	255	4	
30	2988	160	75	250	7	
30	2989	298	23	28	1	
30	2990	285	79	15	7	
30	2991	160	72	250	5	
30	2992	182	81	272	5	
30	2993	94	88	184	11	
30	2994	75	56	165	5	
30	2995	153	88	243	9	
30	2996	359	88	89	5	
30	2997	196	81	286	4	
30	2998	251	86	341	6	
30	2999	166	62	256	4	
30	3000	151	80	241	11	
31	3001	162	82	252	5	
31	3002	168	82	258	9	
31	3003	159	84	249	6	
31	3004	153	82	243	10	
31	3005	55	85	145	1	
31	3006	118	67	208	3	
31	3007	224	78	314	3	
31	3008	165	74	255	10	
31	3009	239	78	329	10	
31	3010	244	76	334	5	
31	3011	152	80	242	1	
31	3012	167	69	257	3	
31	3013	155	60	245	3	
31	3014	237	82	327	5	
31	3015	51	84	141	15	
31	3016	57	86	147	8	
31	3017	355	79	85	9	
31	3018	339	89	69	7	
31	3019	344	89	74	8	
31	3020	347	90	77	9	
31	3021	93	53	183	7	
31	3022	91	52	181	8	
31	3023	338	80	68	9	
31	3024	303	85	33	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
31	3025	164	64	254	4	
31	3026	205	53	295	4	
31	3027	42	70	132	6	
31	3028	309	83	39	10	
31	3029	276	74	6	5	
31	3030	213	77	303	5	
31	3031	152	78	242	6	
31	3032	301	85	31	5	
31	3033	158	76	248	9	
31	3034	347	20	77	4	
31	3035	180	70	270	5	
31	3036	301	88	31	8	
31	3037	227	86	317	3	
31	3038	159	77	249	8	
31	3039	138	66	228	10	
31	3040	192	83	282	5	
31	3041	37	81	127	5	
31	3042	146	88	236	9	
31	3043	165	88	255	2	
31	3044	224	71	314	11	
31	3045	216	80	306	2	
31	3046	340	82	70	3	
31	3047	165	78	255	6	
31	3048	255	78	345	1	
31	3049	338	80	68	11	
31	3050	334	83	64	5	
31	3051	337	86	67	5	
31	3052	325	70	55	5	
31	3053	28	90	118	4	
31	3054	147	84	237	5	
31	3055	160	85	250	4	
31	3056	263	78	353	13	
31	3057	25	63	115	9	
31	3058	144	84	234	1	
31	3059	178	78	268	10	
31	3060	184	84	274	9	
31	3061	253	79	343	12	
31	3062	350	84	80	8	
31	3063	62	72	152	7	
31	3064	331	86	61	9	
31	3065	335	90	65	5	
31	3066	176	81	266	4	
31	3067	313	90	43	9	
31	3068	187	64	277	6	
31	3069	143	70	233	5	
31	3070	149	86	239	1	
31	3071	275	84	5	3	
31	3072	41	88	131	4	
31	3073	133	80	223	5	
31	3074	225	77	315	6	
31	3075	93	67	183	4	
31	3076	79	57	169	11	
31	3077	26	70	116	5	
31	3078	195	67	285	5	

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STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
31	3079	158	82	248	5	
31	3080	161	71	251	6	
31	3081	163	80	253	9	
31	3082	177	75	267	13	
31	3083	188	78	278	9	
31	3084	163	83	253	5	
31	3085	333	89	63	15	
31	3086	345	78	75	9	
31	3087	343	90	73	9	
31	3088	348	90	78	6	
31	3089	324	72	54	6	
31	3090	196	79	286	6	
31	3091	337	77	67	5	
31	3092	22	78	112	6	
31	3093	163	84	253	5	
31	3094	39	79	129	5	
31	3095	316	84	46	11	
31	3096	60	87	150	10	
31	3097	144	79	234	4	
31	3098	1	74	91	4	
31	3099	317	80	47	11	
31	3100	195	85	285	4	
32	3101	230	78	320	12	
32	3102	161	84	251	5	
32	3103	205	87	295	11	
32	3104	161	73	251	13	
32	3105	85	78	175	9	
32	3106	345	88	75	9	
32	3107	210	78	300	9	
32	3108	162	87	252	5	
32	3109	151	85	241	8	
32	3110	72	80	162	7	
32	3111	191	84	281	5	
32	3112	218	78	308	9	
32	3113	149	80	239	5	
32	3114	153	74	243	3	
32	3115	154	87	244	3	
32	3116	156	85	246	5	
32	3117	160	88	250	4	
32	3118	244	84	334	9	
32	3119	157	87	247	5	
32	3120	155	84	245	8	
32	3121	198	83	288	7	
32	3122	194	66	284	5	
32	3123	17	80	107	11	
32	3124	329	77	59	5	
32	3125	330	88	60	9	
32	3126	55	90	145	9	
32	3127	102	86	192	3	
32	3128	77	90	167	1	
32	3129	140	87	230	4	
32	3130	143	83	233	5	
32	3131	171	85	261	6	
32	3132	328	87	58	5	

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STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
32	3133	74	75	164	5	
32	3134	149	88	239	6	
32	3135	159	74	249	2	
32	3136	169	77	259	4	
32	3137	339	81	69	12	
32	3138	277	84	7	5	
32	3139	223	77	313	4	
32	3140	312	90	42	9	
32	3141	155	76	245	4	
32	3142	34	85	124	3	
32	3143	64	81	154	13	
32	3144	327	60	57	5	
32	3145	149	76	239	5	
32	3146	225	76	315	9	
32	3147	146	76	236	4	
32	3148	325	86	55	7	
32	3149	330	82	60	5	
32	3150	34	75	124	3	
32	3151	30	82	120	4	
32	3152	340	80	70	1	
32	3153	333	71	63	9	
32	3154	69	83	159	9	
32	3155	340	83	70	8	
32	3156	144	82	234	5	
32	3157	151	59	241	5	
32	3158	235	77	325	9	
32	3159	132	78	222	6	
32	3160	319	90	49	4	
32	3161	342	76	72	5	
32	3162	170	88	260	5	
32	3163	323	85	53	4	
32	3164	316	78	46	4	
32	3165	147	88	237	3	
32	3166	325	72	55	5	
32	3167	151	77	241	8	
32	3168	150	77	240	6	
32	3169	159	70	249	13	
32	3170	134	88	224	10	
32	3171	325	88	55	6	
32	3172	222	88	312	9	
32	3173	140	75	230	9	
32	3174	152	75	242	5	
32	3175	42	88	132	5	
32	3176	161	82	251	10	
32	3177	195	77	285	9	
32	3178	29	90	119	9	
32	3179	167	82	257	4	
32	3180	359	68	89	5	
32	3181	161	71	251	11	
32	3182	174	73	264	5	
32	3183	77	90	167	6	
32	3184	85	90	175	5	
32	3185	256	87	346	13	
32	3186	333	90	63	6	

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STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
32	3187	337	90	67	6	
32	3188	336	89	66	1	
32	3189	51	78	141	5	
32	3190	150	88	240	1	
32	3191	249	80	339	9	
32	3192	152	75	242	3	
32	3193	333	84	63	10	
32	3194	296	84	26	11	
32	3195	82	87	172	12	
32	3196	352	75	82	8	
32	3197	171	85	261	6	
32	3198	84	83	174	4	
32	3199	176	87	266	5	
32	3200	126	85	216	4	
33	3201	155	74	245	7	
33	3202	207	32	297	4	
33	3203	332	82	62	1	
33	3204	28	83	118	2	
33	3205	342	82	72	4	
33	3206	46	90	136	5	
33	3207	165	81	255	5	
33	3208	8	88	98	5	
33	3209	126	83	216	8	
33	3210	134	88	224	4	
33	3211	308	89	38	1	
33	3212	312	84	42	1	
33	3213	169	88	259	1	
33	3214	8	80	98	13	
33	3215	318	83	48	1	
33	3216	136	83	226	1	
33	3217	154	84	244	1	
33	3218	315	81	45	1	
33	3219	140	81	230	9	
33	3220	281	72	11	6	
33	3221	352	88	82	9	
33	3222	173	87	263	5	
33	3223	232	83	322	1	
33	3224	54	90	144	7	
33	3225	214	83	304	1	
33	3226	233	85	323	1	
33	3227	165	81	255	5	
33	3228	216	84	306	1	
33	3229	224	85	314	1	
33	3230	227	85	317	1	
33	3231	230	84	320	1	
33	3232	221	68	311	1	
33	3233	303	85	33	5	
33	3234	225	84	315	1	
33	3235	83	80	173	11	
33	3236	221	80	311	1	
33	3237	57	30	147	1	3237-3244 IN 1 m BY 1.5 m AREA
33	3238	328	88	58	9	
33	3239	321	90	51	6	CUTS 3241,ABUTS 3242
33	3240	228	82	318	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
33	3241	229	85	319	1	
33	3242	154	60	244	1	ABUTS 3240
33	3243	222	84	312	5	
33	3244	340	82	70	1	CUTS 3241 & 3243
33	3245	79	90	169	1	
33	3246	54	75	144	1	CURVED,ABUTS 3245
33	3247	316	47	46	4	CUTS 3245,3246,& 3252
33	3248	321	57	51	5	CUTS 3252
33	3249	130	80	220	4	
33	3250	328	86	58	18	
33	3251	215	83	305	1	
33	3252	221	77	311	1	
33	3253	217	80	307	1	
33	3254	229	86	319	1	
33	3255	233	66	323	1	
33	3256	224	82	314	1	
33	3257	116	77	206	9	CUTS 3258
33	3258	229	76	319	1	
33	3259	226	78	316	1	
33	3260	168	83	258	5	CUTS 3258 & 3259
33	3261	179	88	269	4	CUTS 3258,3259,& 3262
33	3262	231	66	321	1	
33	3263	232	77	322	1	
33	3264	311	87	41	1	SW EDGE OF EXPOSED PAVEMENT
33	3265	39	84	129	1	
33	3266	67	85	157	7	
33	3267	231	78	321	1	
33	3268	133	77	223	5	
33	3269	145	89	235	5	
33	3270	323	81	53	5	
33	3271	225	80	315	1	
33	3272	225	81	315	1	
33	3273	326	86	56	4	
33	3274	344	78	74	4	
33	3275	188	87	278	6	
33	3276	228	74	318	1	
33	3277	224	65	314	1	
33	3278	230	77	320	1	
33	3279	227	77	317	1	
33	3280	226	77	316	1	
33	3281	226	80	316	1	
33	3282	231	82	321	1	
33	3283	228	80	318	1	
33	3284	132	87	222	9	CUTS 3277-3286,ABUTS 3276
33	3285	227	81	317	1	
33	3286	222	82	312	1	
33	3287	172	67	262	5	ABUTS 3286
33	3288	52	68	142	5	ABUTS 3284
33	3289	179	78	269	6	
33	3290	14	71	104	6	CUTS 3281,ABUTS 3280
33	3291	347	80	77	5	ABUTS 3280 & 3281,0.3 m LONG
33	3292	315	82	45	11	
33	3293	206	78	296	9	
33	3294	170	80	260	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
33	3295	143	89	233	7	
33	3296	157	76	247	5	
33	3297	157	85	247	5	
33	3298	55	88	145	8	
33	3299	168	78	258	3	
33	3300	55	73	145	4	
34	3301	217	85	307	5	
34	3302	17	80	107	6	
34	3303	45	87	135	5	
34	3304	222	66	312	5	
34	3305	61	77	151	5	
34	3306	69	53	159	4	
34	3307	217	80	307	1	
34	3308	113	68	203	5	
34	3309	314	87	44	1	
34	3310	234	77	324	1	
34	3311	163	80	253	4	CUTS 3310
34	3312	142	82	232	12	
34	3313	222	74	312	9	
34	3314	225	66	315	8	CUTS 3309
34	3315	156	88	246	2	
34	3316	123	61	213	11	CUTS 3310
34	3317	349	88	79	5	
34	3318	227	69	317	5	
34	3319	226	74	316	1	
34	3320	324	90	54	8	CUTS 3319
34	3321	185	74	275	6	
34	3322	313	85	43	9	
34	3323	190	85	280	12	
34	3324	320	83	50	1	
34	3325	309	74	39	1	
34	3326	144	68	234	5	
34	3327	320	82	50	1	
34	3328	232	89	322	1	3327 & 3328 CROSS,NO OFFSET
34	3329	342	74	72	6	
34	3330	166	78	256	8	
34	3331	73	43	163	11	
34	3332	73	61	163	10	
34	3333	302	82	32	9	
34	3334	56	70	146	6	
34	3335	293	78	23	10	
34	3336	222	77	312	1	
34	3337	205	85	295	7	
34	3338	49	82	139	6	
34	3339	223	80	313	5	
34	3340	163	82	253	4	
34	3341	1	86	91	5	
34	3342	15	88	105	5	
34	3343	18	59	108	4	
34	3344	39	80	129	5	
34	3345	353	83	83	3	
34	3346	183	62	273	4	
34	3347	166	64	256	3	
34	3348	336	85	66	4	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
34	3349	77	85	167	4	
34	3350	9	47	99	6	
34	3351	142	77	232	4	
34	3352	151	88	241	3	
34	3353	161	81	251	5	
34	3354	51	80	141	5	
34	3355	333	84	63	3	
34	3356	167	65	257	4	
34	3357	114	66	204	13	
34	3358	121	78	211	5	
34	3359	125	84	215	5	
34	3360	53	85	143	8	
34	3361	129	80	219	12	
34	3362	229	74	319	1	
34	3363	229	75	319	1	
34	3364	225	78	315	1	
34	3365	149	86	239	4	
34	3366	172	71	262	8	
34	3367	138	89	228	3	
34	3368	14	90	104	11	
34	3369	153	78	243	3	
34	3370	119	77	209	10	
34	3371	24	75	114	7	
34	3372	27	68	117	6	
34	3373	147	79	237	3	
34	3374	213	89	303	5	
34	3375	152	82	242	3	
34	3376	160	78	250	3	
34	3377	290	73	20	9	
34	3378	224	77	314	1	
34	3379	207	73	297	4	
34	3380	174	81	264	5	
34	3381	123	88	213	6	
34	3382	318	90	48	4	
34	3383	83	88	173	8	
34	3384	31	83	121	4	
34	3385	354	78	84	10	
34	3386	256	87	346	5	
34	3387	142	87	232	3	
34	3388	112	88	202	11	
34	3389	127	72	217	9	
34	3390	150	87	240	4	
34	3391	300	87	30	4	
34	3392	187	74	277	4	
34	3393	294	87	24	5	
34	3394	335	83	65	6	
34	3395	177	77	267	4	
34	3396	339	88	69	3	
34	3397	119	76	209	9	
34	3398	153	73	243	4	
34	3399	216	88	306	5	
34	3400	141	77	231	4	
35	3401	322	63	52	4	
35	3402	317	62	47	4	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
35	3403	308	59	38	12	
35	3404	203	65	293	10	
35	3405	193	76	283	5	
35	3406	53	89	143	5	
35	3407	164	69	254	10	
35	3408	220	69	310	4	
35	3409	335	74	65	6	
35	3410	203	64	293	5	
35	3411	318	82	48	1	
35	3412	240	80	330	5	
35	3413	322	88	52	1	
35	3414	152	83	242	5	
35	3415	314	78	44	10	
35	3416	331	90	61	5	
35	3417	330	72	60	1	
35	3418	324	79	54	1	
35	3419	311	74	41	1	3418-3420 ABOUT 20 cm APART
35	3420	329	81	59	1	
35	3421	321	79	51	1	
35	3422	200	55	290	5	
35	3423	149	81	239	8	
35	3424	226	86	316	13	
35	3425	200	74	290	6	
35	3426	178	87	268	6	
35	3427	51	74	141	5	
35	3428	83	80	173	13	
35	3429	197	84	287	8	
35	3430	318	85	48	1	
35	3431	324	85	54	1	
35	3432	321	84	51	1	
35	3433	217	84	307	1	
35	3434	325	82	55	2	
35	3435	317	82	47	1	
35	3436	262	88	352	8	
35	3437	252	86	342	10	
35	3438	220	83	310	6	
35	3439	197	80	287	4	
35	3440	203	88	293	5	
35	3441	351	84	81	5	
35	3442	120	85	210	3	
35	3443	207	87	297	6	
35	3444	13	90	103	6	
35	3445	193	80	283	8	
35	3446	230	84	320	11	
35	3447	122	73	212	7	
35	3448	161	88	251	5	
35	3449	330	90	60	5	
35	3450	225	87	315	10	
35	3451	166	84	256	7	
35	3452	140	87	230	4	
35	3453	194	77	284	9	
35	3453	327	90	57	11	
35	3455	45	81	135	10	
35	3456	328	90	58	15	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
35	3457	163	76	253	5	
35	3458	281	88	11	11	
35	3459	195	88	285	13	
35	3460	44	80	134	8	
35	3461	315	75	45	5	
35	3462	164	88	254	10	
35	3463	318	90	48	6	
35	3464	224	77	314	10	
35	3465	131	83	221	9	
35	3466	222	68	312	4	
35	3467	344	82	74	1	
35	3468	239	85	329	5	
35	3469	167	70	257	5	
35	3470	321	73	51	10	
35	3471	1	84	91	6	
35	3472	114	80	204	8	
35	3473	62	85	152	9	
35	3474	186	80	276	4	
35	3475	129	83	219	6	
35	3476	126	73	216	6	
35	3477	337	85	67	9	
35	3478	337	82	67	9	
35	3479	176	73	266	4	
35	3480	137	89	227	5	
35	3481	160	84	250	5	
35	3482	128	75	218	5	
35	3483	33	90	123	6	
35	3484	123	82	213	4	
35	3485	166	69	256	4	
35	3486	283	65	13	5	
35	3487	46	81	136	7	
35	3488	138	80	228	6	
35	3489	39	83	129	11	
35	3490	276	85	6	6	
35	3491	136	79	226	4	
35	3492	224	76	314	1	
35	3493	223	79	313	1	
35	3494	155	86	245	5	
35	3495	38	72	128	4	
35	3496	355	62	85	9	
35	3497	230	76	320	1	3497-3500 IN SWARM
35	3498	229	77	319	1	
35	3499	230	75	320	1	
35	3500	231	73	321	1	
36	3501	61	84	151	5	
36	3502	138	66	228	4	
36	3503	223	78	313	6	
36	3504	198	87	288	6	
36	3505	179	85	269	7	
36	3506	72	82	162	10	
36	3507	324	74	54	9	
36	3508	216	67	306	6	
36	3509	87	79	177	8	
36	3510	161	74	251	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
36	3511	189	84	279	4	
36	3512	4	79	94	11	
36	3513	334	62	64	13	
36	3514	237	87	327	16	
36	3515	36	87	126	4	
36	3516	144	74	234	11	
36	3517	256	81	346	9	
36	3518	176	89	266	4	
36	3519	165	82	255	5	
36	3520	227	85	317	4	
36	3521	341	83	71	4	
36	3522	163	74	253	8	
36	3523	153	78	243	9	
36	3524	153	83	243	3	
36	3525	317	69	47	4	
36	3526	327	83	57	4	
36	3527	341	90	71	5	
36	3528	284	88	14	11	
36	3529	285	75	15	7	
36	3530	240	74	330	10	
36	3531	89	65	179	10	
36	3532	341	81	71	5	
36	3533	19	90	109	5	
36	3534	339	90	69	5	
36	3535	337	67	67	10	
36	3536	10	72	100	13	
36	3537	156	64	246	5	
36	3538	145	77	235	5	
36	3539	158	84	248	8	
36	3540	341	87	71	10	
36	3541	219	80	309	4	
36	3542	145	73	235	10	
36	3543	151	80	241	10	
36	3544	312	80	42	8	
36	3545	11	88	101	9	
36	3546	12	85	102	9	
36	3547	76	90	166	8	
36	3548	295	90	25	8	
36	3549	293	76	23	4	
36	3550	325	76	55	1	
36	3551	222	77	312	1	ABUTS 3550 & 3552,0.5 m LONG
36	3552	333	81	63	1	
36	3553	232	84	322	4	
36	3554	173	82	263	11	
36	3555	351	87	81	5	
36	3556	182	82	272	9	
36	3557	329	90	59	8	
36	3558	25	90	115	5	
36	3559	5	59	95	8	
36	3560	289	90	19	5	
36	3561	16	46	106	10	
36	3562	108	78	198	4	
36	3563	8	52	98	9	
36	3564	246	85	336	9	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
36	3565	172	83	262	12	
36	3566	71	76	161	11	
36	3567	253	85	343	11	
36	3568	158	84	248	13	
36	3569	146	84	236	6	
36	3570	38	90	128	3	
36	3571	293	88	23	5	
36	3572	89	90	179	4	
36	3573	290	88	20	3	
36	3574	338	90	68	9	
36	3575	243	89	333	10	
36	3576	158	83	248	6	
36	3577	158	83	248	5	
36	3578	154	79	244	4	
36	3579	144	79	234	3	
36	3580	310	87	40	6	
36	3581	142	88	232	10	
36	3582	261	84	351	8	
36	3583	165	88	255	3	
36	3584	179	83	269	12	
36	3585	356	77	86	11	
36	3586	178	88	268	4	
36	3587	314	81	44	1	
36	3588	166	86	256	4	
36	3589	160	87	250	5	
36	3590	146	88	236	5	
36	3591	339	90	69	5	
36	3592	96	81	186	5	
36	3593	153	79	243	5	
36	3594	326	81	56	1	
36	3595	322	81	52	1	
36	3596	319	85	49	1	
36	3597	326	76	56	1	
36	3598	91	88	181	12	
36	3599	14	90	104	4	
36	3600	323	80	53	1	
37	3601	353	90	83	7	
37	3602	357	90	87	11	
37	3603	89	88	179	8	
37	3604	313	89	43	5	
37	3605	64	84	154	5	
37	3606	158	74	248	5	
37	3607	44	79	134	11	
37	3608	134	79	224	14	
37	3609	67	85	157	13	
37	3610	356	88	86	6	
37	3611	35	83	125	9	
37	3612	20	82	110	7	
37	3613	13	90	103	9	
37	3614	212	88	302	5	
37	3615	157	88	247	9	
37	3616	290	74	20	8	
37	3617	323	81	53	1	
37	3618	99	83	189	11	CUTS 3617

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
37	3619	192	83	282	11	
37	3620	232	82	322	11	
37	3621	182	71	272	5	
37	3622	119	80	209	11	
37	3623	140	80	230	11	
37	3624	211	87	301	1	
37	3625	229	83	319	1	
37	3626	165	87	255	5	
37	3627	320	78	50	1	
37	3628	212	65	302	8	3628 & 3629 CROSS
37	3629	320	82	50	1	
37	3630	172	84	262	4	
37	3631	336	82	66	9	
37	3632	179	70	269	9	
37	3633	57	75	147	7	
37	3634	313	78	43	1	3634-3637 IN SWARM
37	3635	313	84	43	1	
37	3636	317	83	47	1	
37	3637	312	83	42	1	
37	3638	207	84	297	9	
37	3639	53	81	143	10	
37	3640	204	68	294	5	
37	3641	211	77	301	11	
37	3642	319	82	49	1	
37	3643	213	82	303	5	
37	3644	62	90	152	11	
37	3645	155	81	245	4	
37	3646	252	84	342	9	
37	3647	82	86	172	5	
37	3648	323	84	53	1	
37	3649	160	75	250	5	
37	3650	322	82	52	1	
37	3651	328	90	58	4	
37	3652	222	89	312	5	
37	3653	108	78	198	8	
37	3654	337	66	67	5	
37	3655	154	85	244	4	
37	3656	240	80	330	4	
37	3657	151	88	241	5	
37	3658	346	86	76	5	
37	3659	342	90	72	4	
37	3660	224	74	314	8	
37	3661	226	77	316	1	
37	3662	214	88	304	4	
37	3663	155	79	245	5	
37	3664	265	83	355	4	
37	3665	205	80	295	5	
37	3666	323	88	53	5	
37	3667	46	82	136	5	
37	3668	223	76	313	12	
37	3669	316	85	46	13	
37	3670	77	67	167	5	
37	3671	224	87	314	1	
37	3672	339	72	69	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
37	3673	300	90	30	11	
37	3674	58	84	148	5	
37	3675	244	74	334	5	
37	3676	166	57	256	6	
37	3677	170	77	260	4	
37	3678	156	79	246	5	
37	3679	292	87	22	5	
37	3680	213	84	303	7	
37	3681	157	60	247	11	
37	3682	49	87	139	11	
37	3683	142	68	232	10	
37	3684	37	89	127	10	
37	3685	70	84	160	5	
37	3686	7	87	97	4	
37	3687	354	71	84	4	
37	3688	187	84	277	8	
37	3689	157	80	247	5	
37	3690	240	83	330	8	
37	3691	223	78	313	1	
37	3692	317	80	47	5	
37	3693	222	88	312	9	
37	3694	34	63	124	4	
37	3695	296	81	26	6	
37	3696	243	84	333	4	
37	3697	223	79	313	9	
37	3698	358	83	88	5	
37	3699	329	84	59	6	
37	3700	347	87	77	6	
38	3701	9	88	99	4	
38	3702	236	59	326	13	
38	3703	164	85	254	5	
38	3704	187	83	277	7	
38	3705	314	90	44	9	
38	3706	192	86	282	9	
38	3707	110	83	200	7	
38	3708	328	85	58	9	
38	3709	169	84	259	4	
38	3710	161	88	251	4	
38	3711	206	83	296	15	
38	3712	160	82	250	3	
38	3713	69	58	159	14	
38	3714	137	64	227	6	
38	3715	138	88	228	9	
38	3716	25	87	115	16	
38	3717	172	88	262	15	
38	3718	337	85	67	9	
38	3719	272	75	2	10	
38	3720	124	85	214	4	
38	3721	166	72	256	5	
38	3722	126	88	216	5	
38	3723	115	76	205	8	
38	3724	157	77	247	13	
38	3725	102	85	192	6	
38	3726	347	85	77	9	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
38	3727	65	66	155	6	
38	3728	350	87	80	5	
38	3729	123	75	213	3	
38	3730	83	87	173	5	
38	3731	154	74	244	4	
38	3732	137	77	227	4	
38	3733	98	67	188	5	
38	3734	130	78	220	4	
38	3735	150	75	240	5	
38	3736	326	81	56	5	
38	3737	211	88	301	8	
38	3738	127	87	217	5	
38	3739	120	81	210	3	
38	3740	205	85	295	9	
38	3741	137	80	227	5	
38	3742	321	82	51	5	
38	3743	150	88	240	6	
38	3744	146	82	236	6	
38	3745	260	82	350	8	
38	3746	119	82	209	11	
38	3747	192	78	282	9	
38	3748	58	88	148	9	
38	3749	153	85	243	4	
38	3750	253	88	343	5	
38	3751	13	90	103	6	
38	3752	175	89	265	5	
38	3753	328	86	58	10	
38	3754	215	89	305	9	
38	3755	250	88	340	9	
38	3756	200	62	290	7	
38	3757	320	85	50	6	
38	3758	197	83	287	9	
38	3759	339	81	69	9	
38	3760	224	89	314	5	
38	3761	157	79	247	6	
38	3762	324	84	54	1	
38	3763	316	81	46	1	
38	3764	312	82	42	1	
38	3765	59	78	149	10	
38	3766	219	73	309	1	
38	3767	178	74	268	4	
38	3768	234	74	324	1	
38	3769	317	79	47	1	
38	3770	319	82	49	1	
38	3771	11	82	101	11	
38	3772	242	77	332	11	
38	3773	319	86	49	1	
38	3774	319	81	49	1	
38	3775	324	80	54	1	
38	3776	290	81	20	4	
38	3777	347	88	77	10	
38	3778	216	88	306	9	
38	3779	108	74	198	6	
38	3780	238	75	328	8	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
38	3781	3	60	93	11	
38	3782	165	87	255	5	
38	3783	266	86	356	6	
38	3784	125	84	215	5	
38	3785	36	76	126	8	
38	3786	43	50	133	4	
38	3787	351	79	81	6	
38	3788	325	90	55	8	
38	3789	311	82	41	1	
38	3790	320	83	50	1	
38	3791	227	80	317	1	
38	3792	194	86	284	3	
38	3793	16	83	106	3	
38	3794	214	84	304	5	
38	3795	325	85	55	1	
38	3796	10	90	100	5	
38	3797	315	80	45	1	
38	3798	320	80	50	1	
38	3799	160	84	250	3	
38	3800	63	54	153	5	
39	3801	27	64	117	3	
39	3802	13	87	103	11	
39	3803	230	73	320	5	
39	3804	138	77	228	9	
39	3805	245	78	335	5	
39	3806	14	73	104	8	
39	3807	54	78	144	5	
39	3808	327	87	57	9	
39	3809	32	65	122	13	
39	3810	326	82	56	1	
39	3811	13	85	103	8	
39	3812	212	77	302	1	ABOUT 5 cm FROM 3813
39	3813	212	77	302	1	
39	3814	162	69	252	5	
39	3815	186	83	276	7	
39	3816	334	85	64	7	
39	3817	110	71	200	11	
39	3818	168	84	258	11	
39	3819	320	67	50	6	
39	3820	342	88	72	6	
39	3821	184	74	274	10	
39	3822	329	86	59	9	
39	3823	186	72	276	6	
39	3824	180	78	270	9	
39	3825	320	80	50	1	
39	3826	167	88	257	11	
39	3827	139	78	229	5	
39	3828	55	86	145	12	
39	3829	250	75	340	11	
39	3830	317	75	47	13	
39	3831	150	78	240	5	
39	3832	160	75	250	7	
39	3833	179	85	269	4	
39	3834	284	76	14	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
39	3835	157	69	247	3	
39	3836	150	73	240	12	
39	3837	92	79	182	13	
39	3838	212	79	302	8	
39	3839	177	89	267	5	
39	3840	149	67	239	9	
39	3841	160	88	250	5	
39	3842	153	79	243	9	
39	3843	158	72	248	3	
39	3844	148	85	238	5	
39	3845	48	78	138	6	
39	3846	291	70	21	8	
39	3847	264	74	354	5	
39	3848	356	87	86	5	
39	3849	64	84	154	13	
39	3850	158	82	248	9	
39	3851	156	84	246	5	
39	3852	341	81	71	8	
39	3853	157	82	247	6	
39	3854	153	85	243	5	
39	3855	142	84	232	5	
39	3856	226	78	316	11	
39	3857	157	83	247	5	
39	3858	27	90	117	4	
39	3859	156	80	246	11	
39	3860	58	87	148	10	
39	3861	336	86	66	5	
39	3862	342	80	72	5	
39	3863	5	71	95	11	
39	3864	186	87	276	5	
39	3865	334	84	64	13	
39	3866	238	85	328	9	
39	3867	17	75	107	9	
39	3868	51	88	141	10	
39	3869	154	85	244	6	
39	3870	352	85	82	1	
39	3871	320	80	50	1	
39	3872	352	82	82	5	
39	3873	311	78	41	1	
39	3874	141	86	231	1	
39	3875	318	81	48	8	
39	3876	325	83	55	1	
39	3877	314	75	44	1	
39	3878	344	90	74	7	
39	3879	60	90	150	9	
39	3880	234	88	324	9	
39	3881	321	83	51	1	
39	3882	227	84	317	9	
39	3883	227	80	317	6	
39	3884	311	80	41	1	
39	3885	44	69	134	9	
39	3886	322	83	52	2	
39	3887	140	76	230	5	
39	3888	210	77	300	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
39	3889	324	80	54	1	
39	3890	352	89	82	11	
39	3891	36	89	126	11	
39	3892	162	82	252	9	
39	3893	72	86	162	5	
39	3894	223	78	313	1	
39	3895	327	88	57	1	
39	3896	224	86	314	4	
39	3897	319	85	49	1	
39	3898	309	86	39	13	
39	3899	301	77	31	6	
39	3900	210	84	300	4	
40	3901	311	74	41	5	
40	3902	315	82	45	9	
40	3903	344	88	74	1	
40	3904	222	75	312	5	
40	3905	150	58	240	5	
40	3906	338	84	68	8	
40	3907	234	83	324	8	
40	3908	327	78	57	9	
40	3909	145	86	235	9	
40	3910	217	70	307	13	
40	3911	225	78	315	6	
40	3912	167	88	257	10	
40	3913	114	71	204	8	
40	3914	32	72	122	5	
40	3915	318	83	48	1	
40	3916	62	85	152	5	
40	3917	217	83	307	7	
40	3918	159	63	249	10	
40	3919	131	79	221	12	
40	3920	343	77	73	9	
40	3921	153	83	243	10	
40	3922	343	75	73	8	
40	3923	232	86	322	4	
40	3924	337	87	67	7	
40	3925	163	86	253	6	
40	3926	210	81	300	8	
40	3927	153	81	243	5	
40	3928	58	35	148	5	
40	3929	212	71	302	9	
40	3930	305	90	35	11	
40	3931	235	82	325	9	
40	3932	322	80	52	15	
40	3933	334	90	64	12	
40	3934	193	89	283	13	
40	3935	202	85	292	8	
40	3936	22	90	112	6	
40	3937	164	78	254	5	
40	3938	210	87	300	4	
40	3939	19	90	109	8	
40	3940	148	80	238	4	
40	3941	98	82	188	5	
40	3942	13	87	103	8	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
40	3943	232	80	322	4	
40	3944	179	84	269	11	
40	3945	168	87	258	13	
40	3946	220	82	310	13	
40	3947	189	85	279	13	
40	3948	244	84	334	10	
40	3949	66	80	156	8	
40	3950	150	86	240	9	
40	3951	175	73	265	8	
40	3952	16	68	106	3	
40	3953	223	87	313	10	
40	3954	133	86	223	8	
40	3955	0	79	90	11	
40	3956	285	66	15	8	
40	3957	115	50	205	5	
40	3958	355	77	85	4	
40	3959	343	77	73	1	
40	3960	236	72	326	5	
40	3961	243	81	333	6	
40	3962	203	80	293	5	
40	3963	107	88	197	4	
40	3964	129	62	219	3	
40	3965	185	85	275	10	
40	3966	110	84	200	5	
40	3967	259	76	349	3	
40	3968	299	80	29	6	
40	3969	345	84	75	3	
40	3970	138	58	228	9	
40	3971	158	84	248	4	
40	3972	145	49	235	8	
40	3973	176	59	266	6	
40	3974	130	83	220	9	
40	3975	350	81	80	9	
40	3976	48	70	138	13	
40	3977	352	65	82	7	
40	3978	228	88	318	7	
40	3979	253	57	343	6	
40	3980	310	80	40	8	
40	3981	119	82	209	6	
40	3982	97	70	187	9	
40	3983	138	77	228	12	
40	3984	211	84	301	12	
40	3985	300	82	30	12	
40	3986	270	87	360	10	
40	3987	316	82	46	7	
40	3988	265	75	355	5	
40	3989	324	83	54	1	
40	3990	50	85	140	5	
40	3991	249	84	339	3	
40	3992	285	88	15	9	
40	3993	278	89	8	8	
40	3994	156	75	246	3	
40	3995	9	65	99	2	
40	3996	337	89	67	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
40	3997	191	70	281	3	
40	3998	322	90	52	1	
40	3999	222	78	312	1	
40	4000	359	80	89	3	
41	4001	71	76	161	9	
41	4002	220	62	310	5	
41	4003	314	80	44	1	
41	4004	82	88	172	11	
41	4005	332	66	62	9	
41	4006	324	80	54	9	
41	4007	51	84	141	13	
41	4008	168	83	258	11	
41	4009	149	68	239	5	
41	4010	212	78	302	1	
41	4011	170	88	260	3	
41	4012	158	66	248	3	
41	4013	156	72	246	2	
41	4014	318	82	48	1	
41	4015	180	89	270	3	
41	4016	13	84	103	6	
41	4017	296	79	26	11	
41	4018	172	85	262	1	
41	4019	224	80	314	1	
41	4020	27	84	117	5	
41	4021	281	70	11	5	
41	4022	165	78	255	9	
41	4023	133	77	223	5	
41	4024	172	88	262	5	
41	4025	218	74	308	1	
41	4026	119	73	209	3	
41	4027	217	80	307	1	
41	4028	154	77	244	2	
41	4029	167	76	257	2	
41	4030	156	77	246	1	
41	4031	326	83	56	1	
41	4032	323	90	53	6	
41	4033	165	87	255	5	
41	4034	212	78	302	1	
41	4035	305	76	35	5	
41	4036	5	90	95	5	
41	4037	325	80	55	1	
41	4038	316	81	46	1	
41	4039	319	90	49	1	
41	4040	326	85	56	1	
41	4041	215	79	305	1	
41	4042	138	89	228	6	
41	4043	162	72	252	5	
41	4044	66	75	156	10	
41	4045	323	84	53	1	
41	4046	144	65	234	5	
41	4047	150	88	240	6	
41	4048	313	70	43	5	
41	4049	172	84	262	5	
41	4050	130	66	220	4	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
41	4051	337	89	67	4	
41	4052	359	78	89	4	
41	4053	353	82	83	5	
41	4054	250	84	340	7	
41	4055	228	80	318	1	
41	4056	319	90	49	9	
41	4057	25	70	115	5	
41	4058	338	84	68	5	
41	4059	222	85	312	4	
41	4060	156	64	246	8	
41	4061	158	62	248	4	
41	4062	241	81	331	9	
41	4063	144	83	234	8	
41	4064	158	79	248	9	
41	4065	193	84	283	9	
41	4066	125	80	215	7	
41	4067	32	89	122	5	
41	4068	152	88	242	11	
41	4069	347	86	77	11	
41	4070	337	85	67	13	
41	4071	44	77	134	3	
41	4072	32	90	122	12	
41	4073	169	80	259	9	
41	4074	333	83	63	9	
41	4075	158	73	248	6	
41	4076	328	81	58	9	
41	4077	54	88	144	3	
41	4078	326	75	56	5	
41	4079	332	81	62	5	HORIZONTAL SLICKENSIDE STRIATIONS
41	4080	348	82	78	5	
41	4081	312	88	42	5	
41	4082	211	83	301	5	
41	4083	16	77	106	3	CALICHE FILLED
41	4084	125	49	215	10	
41	4085	22	86	112	6	
41	4086	202	89	292	8	CALICHE
41	4087	314	90	44	9	CALICHE
41	4088	285	84	15	8	
41	4089	160	84	250	9	
41	4090	66	78	156	14	
41	4091	59	88	149	11	
41	4092	180	47	270	10	
41	4093	140	50	230	9	
41	4094	68	74	158	11	
41	4095	81	90	171	9	
41	4096	320	79	50	1	
41	4097	313	81	43	1	
41	4098	227	88	317	8	
41	4099	321	78	51	1	
41	4100	158	76	248	1	
42	4101	66	65	156	6	
42	4102	157	85	247	6	
42	4103	154	70	244	7	
42	4104	34	78	124	11	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
42	4105	147	83	237	1	
42	4106	168	85	258	12	
42	4107	318	77	48	1	
42	4108	358	66	88	11	
42	4109	156	80	246	4	CROSSES 4110
42	4110	321	81	51	1	
42	4111	217	68	307	13	
42	4112	157	79	247	4	
42	4113	322	83	52	1	
42	4114	312	83	42	1	
42	4115	214	86	304	9	
42	4116	162	79	252	3	
42	4117	322	81	52	1	
42	4118	120	84	210	3	
42	4119	163	54	253	7	
42	4120	120	85	210	4	
42	4121	141	78	231	10	
42	4122	63	52	153	5	
42	4123	48	54	138	5	
42	4124	61	74	151	5	
42	4125	176	80	266	5	
42	4126	187	78	277	10	
42	4127	120	80	210	9	
42	4128	204	73	294	1	
42	4129	43	75	133	5	
42	4130	318	90	48	5	
42	4131	171	77	261	1	
42	4132	235	84	325	11	
42	4133	139	75	229	4	
42	4134	214	73	304	1	
42	4135	343	70	73	5	
42	4136	173	84	263	4	
42	4137	86	66	176	9	
42	4138	319	83	49	1	
42	4139	60	77	150	6	
42	4140	62	61	152	5	
42	4141	327	86	57	1	
42	4142	141	80	231	5	
42	4143	66	85	156	11	
42	4144	155	83	245	4	
42	4145	218	85	308	12	
42	4146	42	70	132	11	
42	4147	70	86	160	11	
42	4148	123	68	213	5	
42	4149	143	67	233	5	
42	4150	51	77	141	10	
42	4151	351	81	81	5	
42	4152	158	79	248	2	
42	4153	240	72	330	5	
42	4154	309	75	39	1	
42	4155	211	80	301	5	
42	4156	79	88	169	13	
42	4157	333	90	63	10	
42	4158	311	74	41	1	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
42	4159	314	79	44	1	
42	4160	214	78	304	1	
42	4161	318	82	48	1	
42	4162	231	80	321	5	
42	4163	25	89	115	1	CURVED SLIGHTLY
42	4164	343	80	73	1	
42	4165	216	75	306	9	
42	4166	316	80	46	1	
42	4167	144	49	234	12	
42	4168	168	60	258	5	
42	4169	319	79	49	1	
42	4170	193	84	283	14	
42	4171	26	86	116	10	
42	4172	320	77	50	1	
42	4173	259	88	349	8	
42	4174	78	88	168	8	
42	4175	276	87	6	5	
42	4176	28	86	118	5	
42	4177	164	82	254	6	
42	4178	310	81	40	7	
42	4179	338	79	68	10	
42	4180	271	90	1	6	
42	4181	345	89	75	5	
42	4182	73	90	163	7	
42	4183	346	86	76	10	
42	4184	158	76	248	9	
42	4185	308	74	38	7	
42	4186	157	42	247	12	
42	4187	337	90	67	9	
42	4188	158	85	248	12	
42	4189	344	69	74	8	
42	4190	115	53	205	16	
42	4191	132	70	222	13	
42	4192	83	67	173	6	
42	4193	142	44	232	9	
42	4194	188	81	278	4	
42	4195	347	58	77	4	
42	4196	348	72	78	9	
42	4197	342	72	72	11	
42	4198	345	88	75	9	CROSSES 4199,NO OFFSET
42	4199	219	79	309	4	
42	4200	354	88	84	5	
43	4201	309	87	39	1	
43	4202	14	79	104	6	
43	4203	5	83	95	5	
43	4204	157	63	247	6	
43	4205	154	88	244	4	
43	4206	318	81	48	1	
43	4207	195	88	285	6	
43	4208	234	80	324	6	
43	4209	310	81	40	1	
43	4210	245	75	335	5	
43	4211	319	85	49	1	
43	4212	319	80	49	4	

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STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
43	4213	265	85	355	9	
43	4214	212	69	302	5	
43	4215	52	68	142	5	
43	4216	179	87	269	6	
43	4217	133	79	223	1	
43	4218	56	63	146	7	
43	4219	162	78	252	5	
43	4220	162	82	252	3	
43	4221	350	82	80	4	
43	4222	162	81	252	4	
43	4223	324	85	54	1	
43	4224	25	89	115	5	
43	4225	199	63	289	9	
43	4226	167	85	257	3	
43	4227	257	62	347	9	
43	4228	159	89	249	4	
43	4229	317	78	47	1	
43	4230	337	83	67	8	
43	4231	40	86	130	10	
43	4232	359	88	89	6	
43	4233	159	85	249	6	
43	4234	25	87	115	1	
43	4235	248	75	338	7	
43	4236	75	58	165	5	
43	4237	206	84	296	10	
43	4238	327	86	57	1	
43	4239	158	87	248	9	
43	4240	56	73	146	9	
43	4241	154	85	244	5	
43	4242	323	83	53	1	
43	4243	150	83	240	1	
43	4244	159	83	249	7	
43	4245	59	81	149	7	
43	4246	310	79	40	1	
43	4247	315	82	45	1	
43	4248	158	81	248	4	
43	4249	315	78	45	1	
43	4250	240	82	330	11	
43	4251	23	80	113	14	
43	4252	217	80	307	3	
43	4253	134	87	224	1	
43	4254	355	75	85	3	
43	4255	160	85	250	8	
43	4256	317	88	47	4	
43	4257	163	86	253	12	
43	4258	321	87	51	1	
43	4259	41	83	131	10	
43	4260	356	85	86	6	
43	4261	174	77	264	4	
43	4262	340	81	70	13	
43	4263	215	80	305	1	
43	4264	187	60	277	5	
43	4265	42	72	132	6	
43	4266	37	50	127	10	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
43	4267	323	79	53	1	
43	4268	110	75	200	5	
43	4269	129	88	219	1	
43	4270	310	80	40	1	
43	4271	290	90	20	5	
43	4272	110	77	200	6	
43	4273	321	81	51	4	
43	4274	315	72	45	1	
43	4275	274	78	4	9	
43	4276	214	81	304	1	
43	4277	196	71	286	4	
43	4278	158	82	248	5	
43	4279	236	76	326	9	
43	4280	182	84	272	15	
43	4281	310	88	40	3	
43	4282	91	88	181	4	
43	4283	212	65	302	9	
43	4284	140	77	230	8	
43	4285	144	78	234	5	
43	4286	358	81	88	6	
43	4287	153	56	243	7	
43	4288	122	65	212	9	
43	4289	162	74	252	6	
43	4290	225	82	315	6	
43	4291	45	88	135	12	
43	4292	132	79	222	11	
43	4293	173	70	263	11	
43	4294	177	70	267	11	
43	4295	336	90	66	9	
43	4296	179	88	269	5	
43	4297	117	78	207	5	
43	4298	154	76	244	5	
43	4299	233	83	323	5	
43	4300	27	87	117	6	
44	4301	132	80	222	5	
44	4302	212	79	302	6	
44	4303	259	80	349	1	
44	4304	17	83	107	5	
44	4305	245	78	335	7	
44	4306	167	80	257	5	
44	4307	232	52	322	9	
44	4308	318	88	48	1	
44	4309	14	85	104	4	
44	4310	136	64	226	15	
44	4311	218	73	308	1	
44	4312	145	79	235	5	
44	4313	199	88	289	12	
44	4314	12	71	102	5	
44	4315	220	73	310	1	BREAKS INTO EN ECHELON PATTERN
44	4316	158	81	248	5	
44	4317	152	70	242	8	
44	4318	204	83	294	8	
44	4319	220	75	310	1	
44	4320	51	44	141	9	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
44	4321	352	82	82	7	
44	4322	352	84	82	1	ABUTS 4419 & 4423
44	4323	126	78	216	6	
44	4324	185	68	275	8	
44	4325	178	83	268	8	
44	4326	315	88	45	1	
44	4327	224	71	314	1	
44	4328	311	87	41	1	
44	4329	127	49	217	9	
44	4330	46	79	136	9	
44	4331	314	88	44	1	
44	4332	144	72	234	4	
44	4333	227	73	317	1	
44	4334	157	83	247	4	
44	4335	166	81	256	4	
44	4336	269	74	359	13	
44	4337	334	82	64	11	
44	4338	320	87	50	3	
44	4339	16	72	106	7	
44	4340	162	89	252	5	
44	4341	219	85	309	10	
44	4342	153	87	243	7	
44	4343	339	88	69	10	
44	4344	322	85	52	1	
44	4345	203	75	293	1	
44	4346	132	81	222	7	
44	4347	325	85	55	1	
44	4348	358	90	88	8	
44	4349	321	88	51	2	
44	4350	13	90	103	3	
44	4351	336	82	66	1	CURVED SLIGHTLY
44	4352	320	82	50	1	
44	4353	336	84	66	4	
44	4354	209	87	299	10	
44	4355	329	76	59	1	
44	4356	320	80	50	1	
44	4357	153	79	243	4	
44	4358	153	80	243	5	
44	4359	230	85	320	5	
44	4360	175	82	265	10	
44	4361	130	83	220	5	
44	4362	199	89	289	5	
44	4363	344	83	74	13	
44	4364	183	47	273	11	
44	4365	341	88	71	5	
44	4366	216	79	306	1	
44	4367	336	90	66	8	
44	4368	197	81	287	7	
44	4369	195	88	285	10	
44	4370	310	85	40	1	
44	4371	264	83	354	7	
44	4372	27	88	117	9	
44	4373	309	78	39	1	
44	4374	208	86	298	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
44	4375	347	83	77	5	
44	4376	156	82	246	9	
44	4377	164	89	254	5	
44	4378	118	67	208	10	
44	4379	13	90	103	8	
44	4380	47	87	137	4	
44	4381	39	86	129	11	
44	4382	221	86	311	5	
44	4383	249	84	339	12	
44	4384	192	82	282	3	
44	4385	51	90	141	5	
44	4386	260	88	350	10	
44	4387	186	74	276	9	
44	4388	51	89	141	5	
44	4389	73	82	163	13	
44	4390	30	88	120	11	
44	4391	81	85	171	15	
44	4392	122	88	212	6	
44	4393	152	78	242	9	
44	4394	347	83	77	10	
44	4395	43	78	133	8	
44	4396	70	67	160	8	
44	4397	338	90	68	5	
44	4398	335	88	65	9	
44	4399	41	83	131	13	
44	4400	135	79	225	5	
45	4401	339	84	69	3	
45	4402	349	82	79	3	
45	4403	272	80	2	5	
45	4404	167	89	257	5	
45	4405	62	85	152	11	
45	4406	160	84	250	9	
45	4407	190	78	280	3	
45	4408	344	83	74	11	
45	4409	188	83	278	11	
45	4410	238	84	328	6	
45	4411	51	86	141	8	
45	4412	122	88	212	4	
45	4413	132	84	222	8	
45	4414	202	84	292	10	
45	4415	110	82	200	4	
45	4416	166	86	256	13	
45	4417	98	82	188	5	
45	4418	84	66	174	11	
45	4419	181	80	271	5	
45	4420	34	90	124	3	
45	4421	161	81	251	4	
45	4422	245	83	335	9	
45	4423	171	81	261	4	
45	4424	224	74	314	1	5 cm OFFSET 4423
45	4425	257	78	347	3	BREAKS INTO EN ECHELON PATTERN
45	4426	259	78	349	3	BREAKS INTO EN ECHELON PATTERN
45	4427	259	81	349	3	BREAKS INTO EN ECHELON PATTERN
45	4428	249	74	339	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
45	4429	186	79	276	9	
45	4430	55	85	145	11	
45	4431	180	86	270	4	
45	4432	236	89	326	5	
45	4433	153	81	243	5	
45	4434	32	90	122	11	
45	4435	35	86	125	4	
45	4436	138	76	228	4	
45	4437	30	73	120	5	
45	4438	311	86	41	8	
45	4439	219	89	309	2	
45	4440	154	82	244	2	
45	4441	43	84	133	5	
45	4442	44	76	134	5	
45	4443	163	79	253	6	
45	4444	242	82	332	10	
45	4445	231	76	321	9	
45	4446	230	76	320	1	
45	4447	95	81	185	1	
45	4448	268	88	358	1	
45	4449	86	83	176	10	
45	4450	134	83	224	10	
45	4451	306	80	36	14	
45	4452	233	77	323	11	
45	4453	23	82	113	8	
45	4454	350	83	80	9	
45	4455	349	90	79	9	
45	4456	79	85	169	9	
45	4457	49	87	139	1	
45	4458	99	69	189	8	
45	4459	311	90	41	8	
45	4460	41	86	131	10	
45	4461	140	83	230	6	
45	4462	314	83	44	5	
45	4463	118	31	208	9	
45	4464	354	85	84	5	
45	4465	38	73	128	9	
45	4466	287	81	17	9	
45	4467	25	88	115	5	
45	4468	97	15	187	5	
45	4469	326	86	56	7	
45	4470	130	55	220	6	
45	4471	41	61	131	12	
45	4472	284	83	14	7	
45	4473	199	76	289	10	
45	4474	126	84	216	8	
45	4475	92	86	182	10	
45	4476	212	89	302	4	
45	4477	122	57	212	9	
45	4478	143	67	233	10	
45	4479	16	81	106	11	
45	4480	135	80	225	5	
45	4481	356	80	86	8	
45	4482	328	85	58	5	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
45	4483	213	84	303	10	
45	4484	355	84	85	10	
45	4485	316	85	46	9	
45	4486	58	22	148	10	
45	4487	15	77	105	12	
45	4488	165	70	255	14	
45	4489	220	78	310	1	
45	4490	159	80	249	4	
45	4491	341	85	71	1	
45	4492	178	79	268	7	
45	4493	8	81	98	10	
45	4494	154	82	244	8	
45	4495	34	89	124	8	
45	4496	242	88	332	8	
45	4497	251	83	341	9	
45	4498	320	84	50	1	
45	4499	234	80	324	5	
45	4500	324	90	54	4	
46	4501	312	83	42	1	
46	4502	28	80	118	13	
46	4503	294	84	24	7	
46	4504	40	87	130	10	
46	4505	120	76	210	11	
46	4506	158	33	248	9	
46	4507	114	76	204	11	
46	4508	225	66	315	10	
46	4509	221	87	311	10	
46	4510	250	84	340	8	
46	4511	73	86	163	8	
46	4512	2	85	92	7	
46	4513	67	62	157	8	
46	4514	165	81	255	11	
46	4515	228	74	318	1	
46	4516	1	88	91	5	
46	4517	227	65	317	10	
46	4518	98	82	188	9	
46	4519	99	64	189	14	
46	4520	359	67	89	6	
46	4521	252	86	342	9	
46	4522	1	79	91	11	
46	4523	332	78	62	5	
46	4524	177	82	267	9	
46	4525	183	70	273	17	
46	4526	7	76	97	9	
46	4527	343	89	73	5	
46	4528	77	84	167	5	
46	4529	234	56	324	12	
46	4530	46	85	136	15	
46	4531	225	73	315	1	
46	4532	2	81	92	8	
46	4533	152	85	242	12	
46	4534	35	84	125	12	
46	4535	192	88	282	7	
46	4536	71	82	161	11	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
46	4537	330	78	60	8	
46	4538	190	66	280	4	
46	4539	196	69	286	10	
46	4540	125	68	215	5	
46	4541	234	75	324	1	
46	4542	178	52	268	13	
46	4543	60	80	150	11	
46	4544	340	76	70	7	
46	4545	307	85	37	5	
46	4546	346	80	76	5	
46	4547	339	74	69	12	
46	4548	215	74	305	1	4548-4556 IN SWARM,8-25 cm
46	4549	160	68	250	14	SPACING
46	4550	231	75	321	1	
46	4551	227	76	317	1	
46	4552	225	76	315	1	
46	4553	227	76	317	1	
46	4554	229	78	319	1	
46	4555	230	73	320	1	
46	4556	43	84	133	9	
46	4557	167	70	257	9	
46	4558	266	83	356	11	
46	4559	234	75	324	1	
46	4560	143	89	233	9	
46	4561	80	59	170	7	
46	4562	49	78	139	10	
46	4563	224	74	314	8	
46	4564	351	83	81	10	
46	4565	124	40	214	11	
46	4566	334	90	64	10	
46	4567	160	86	250	9	
46	4568	234	75	324	1	
46	4569	245	84	335	8	
46	4570	340	73	70	11	
46	4571	184	79	274	9	
46	4572	60	80	150	6	
46	4573	20	75	110	6	
46	4574	90	87	180	8	
46	4575	171	79	261	10	
46	4576	129	70	219	9	
46	4577	85	40	175	9	
46	4578	64	87	154	9	
46	4579	152	84	242	6	
46	4580	308	89	38	8	
46	4581	117	55	207	9	
46	4582	139	66	229	9	
46	4583	15	79	105	4	
46	4584	135	84	225	8	
46	4585	149	86	239	12	
46	4586	143	70	233	10	
46	4587	170	76	260	8	
46	4588	244	83	334	13	
46	4589	184	82	274	14	
46	4590	356	67	86	6	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
46	4591	0	75	90	8	
46	4592	131	81	221	16	
46	4593	70	83	160	5	
46	4594	172	89	262	8	
46	4595	30	81	120	11	
46	4596	164	70	254	9	
46	4597	146	82	236	5	
46	4598	61	84	151	5	
46	4599	236	80	326	6	
46	4600	142	76	232	9	
47	4601	55	90	145	10	
47	4602	317	88	47	11	
47	4603	152	85	242	13	
47	4604	286	83	16	12	
47	4605	272	65	2	5	
47	4606	186	77	276	14	
47	4607	12	51	102	9	
47	4608	123	22	213	4	
47	4609	44	78	134	9	
47	4610	237	88	327	10	
47	4611	89	85	179	4	
47	4612	34	83	124	15	
47	4613	252	85	342	6	
47	4614	60	78	150	14	
47	4615	5	78	95	10	
47	4616	39	84	129	5	
47	4617	156	64	246	9	
47	4618	172	68	262	6	
47	4619	57	86	147	9	
47	4620	160	75	250	5	
47	4621	158	75	248	4	
47	4622	109	68	199	11	
47	4623	241	82	331	10	
47	4624	144	77	234	9	
47	4625	121	87	211	6	
47	4626	142	85	232	10	
47	4627	142	73	232	11	
47	4628	41	88	131	17	
47	4629	152	79	242	11	
47	4630	55	83	145	10	
47	4631	238	80	328	6	
47	4632	328	79	58	6	
47	4633	143	78	233	9	
47	4634	149	71	239	9	
47	4635	138	56	228	6	
47	4636	75	87	165	5	
47	4637	232	22	322	13	
47	4638	237	85	327	11	
47	4639	23	66	113	9	
47	4640	173	76	263	9	
47	4641	65	90	155	10	
47	4642	167	76	257	13	
47	4643	80	89	170	7	
47	4644	170	74	260	4	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
47	4645	356	70	86	10	
47	4646	144	89	234	10	
47	4647	162	80	252	7	
47	4648	277	65	7	6	
47	4649	168	68	258	11	
47	4650	172	69	262	10	
47	4651	141	89	231	5	
47	4652	27	77	117	6	
47	4653	21	80	111	9	
47	4654	97	89	187	5	
47	4655	165	87	255	5	
47	4656	135	81	225	5	
47	4657	55	67	145	6	
47	4658	145	75	235	5	
47	4659	163	75	253	5	
47	4660	350	85	80	5	
47	4661	175	85	265	6	
47	4662	5	84	95	4	
47	4663	352	81	82	5	
47	4664	93	80	183	5	
47	4665	180	88	270	5	
47	4666	260	85	350	4	
47	4667	180	72	270	4	
47	4668	40	80	130	6	
47	4669	156	73	246	9	
47	4670	56	78	146	10	
47	4671	139	65	229	13	
47	4672	247	44	337	9	
47	4673	340	77	70	3	
47	4674	68	67	158	4	
47	4675	343	88	73	3	
47	4676	327	85	57	9	
47	4677	44	85	134	4	
47	4678	138	88	228	13	
47	4679	131	67	221	13	
47	4680	341	83	71	5	
47	4681	358	75	88	4	
47	4682	190	64	280	4	
47	4683	175	66	265	4	
47	4684	330	87	60	9	
47	4685	357	72	87	5	
47	4686	80	76	170	12	
47	4687	272	80	2	10	
47	4688	18	76	108	6	
47	4689	190	69	280	15	
47	4690	80	80	170	11	
47	4691	309	81	39	8	
47	4692	131	62	221	8	
47	4693	62	77	152	9	
47	4694	11	69	101	7	
47	4695	234	69	324	1	
47	4696	51	76	141	4	
47	4697	342	90	72	5	
47	4698	353	86	83	9	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
47	4699	313	81	43	1	
47	4700	8	52	98	4	
48	4701	163	84	253	3	
48	4702	100	83	190	3	
48	4703	254	75	344	1	
48	4704	354	82	84	5	
48	4705	140	51	230	8	
48	4706	224	73	314	1	
48	4707	138	55	228	5	
48	4708	167	81	257	6	
48	4709	220	85	310	10	
48	4710	132	54	222	8	
48	4711	62	88	152	14	
48	4712	15	90	105	12	
48	4713	42	85	132	10	
48	4714	172	80	262	6	
48	4715	319	90	49	14	
48	4716	182	79	272	14	
48	4717	320	90	50	12	
48	4718	77	88	167	14	
48	4719	192	55	282	10	
48	4720	73	73	163	15	
48	4721	173	55	263	8	
48	4722	228	73	318	9	
48	4723	42	72	132	9	
48	4724	158	77	248	5	
48	4725	197	79	287	7	
48	4726	68	84	158	6	
48	4727	57	75	147	14	
48	4728	234	76	324	1	
48	4729	242	82	332	14	
48	4730	234	64	324	2	
48	4731	314	88	44	1	
48	4732	152	87	242	3	
48	4733	32	78	122	9	
48	4734	231	80	321	1	4734-4741 IN SWARM
48	4735	229	78	319	1	
48	4736	218	77	308	1	
48	4737	226	79	316	1	
48	4738	222	78	312	1	
48	4739	223	76	313	1	
48	4740	230	70	320	1	
48	4741	224	73	314	1	
48	4742	333	82	63	10	
48	4743	150	63	240	8	
48	4744	242	79	332	9	
48	4745	158	80	248	5	
48	4746	231	84	321	14	
48	4747	213	89	303	14	
48	4748	132	81	222	5	
48	4749	165	69	255	8	
48	4750	155	71	245	9	
48	4751	231	73	321	1	
48	4752	152	85	242	11	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
48	4753	149	70	239	6	
48	4754	233	70	323	1	
48	4755	124	78	214	6	
48	4756	144	88	234	5	
48	4757	305	77	35	5	
48	4758	140	85	230	5	
48	4759	92	66	182	7	
48	4760	144	72	234	5	
48	4761	153	74	243	4	
48	4762	358	80	88	5	
48	4763	126	88	216	6	
48	4764	152	76	242	8	
48	4765	158	88	248	9	
48	4766	165	81	255	9	
48	4767	150	75	240	4	
48	4768	73	85	163	9	
48	4769	209	47	299	8	
48	4770	259	81	349	9	
48	4771	170	75	260	8	
48	4772	144	46	234	11	
48	4773	295	77	25	11	
48	4774	35	38	125	9	
48	4775	20	88	110	9	
48	4776	233	74	323	4	
48	4777	326	78	56	3	
48	4778	51	90	141	9	
48	4779	157	80	247	6	
48	4780	241	72	331	6	
48	4781	218	81	308	9	
48	4782	153	80	243	3	
48	4783	25	84	115	8	
48	4784	38	81	128	14	
48	4785	159	87	249	16	
48	4786	331	90	61	9	
48	4787	34	68	124	6	
48	4788	164	88	254	4	
48	4789	103	84	193	11	
48	4790	67	34	157	7	
48	4791	161	82	251	11	
48	4792	127	69	217	11	
48	4793	140	67	230	13	
48	4794	220	88	310	9	
48	4795	1	56	91	7	
48	4796	60	90	150	9	
48	4797	121	81	211	11	
48	4798	154	83	244	5	
48	4799	213	78	303	12	
48	4800	221	78	311	1	
49	4801	157	81	247	9	
49	4802	251	65	341	13	
49	4803	155	89	245	10	
49	4804	340	90	70	4	
49	4805	267	66	357	11	
49	4806	351	86	81	8	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
49	4807	53	66	143	5	
49	4808	57	53	147	6	
49	4809	335	88	65	9	
49	4810	158	89	248	9	
49	4811	54	37	144	5	
49	4812	340	84	70	6	
49	4813	151	85	241	5	
49	4814	215	75	305	3	
49	4815	59	75	149	5	
49	4816	10	81	100	10	
49	4817	242	85	332	14	
49	4818	175	80	265	4	
49	4819	75	32	165	4	
49	4820	181	81	271	11	
49	4821	136	75	226	13	
49	4822	247	61	337	14	
49	4823	104	65	194	8	
49	4824	9	86	99	10	
49	4825	3	66	93	11	
49	4826	324	81	54	9	
49	4827	155	67	245	9	
49	4828	133	88	223	8	
49	4829	73	87	163	13	
49	4830	165	58	255	4	
49	4831	66	73	156	3	
49	4832	352	88	82	9	
49	4833	103	88	193	8	
49	4834	249	88	339	14	
49	4835	34	87	124	13	
49	4836	46	89	136	11	
49	4837	111	81	201	9	
49	4838	64	80	154	10	
49	4839	165	85	255	3	
49	4840	324	86	54	6	
49	4841	231	71	321	1	
49	4842	229	74	319	1	
49	4843	35	72	125	4	
49	4844	32	56	122	9	
49	4845	142	75	232	6	
49	4846	232	77	322	1	
49	4847	101	88	191	10	
49	4848	136	63	226	10	
49	4849	320	74	50	9	
49	4850	139	80	229	4	
49	4851	165	80	255	4	
49	4852	60	88	150	9	
49	4853	166	79	256	9	
49	4854	68	85	158	11	
49	4855	348	81	78	9	
49	4856	253	78	343	10	
49	4857	138	80	228	10	
49	4858	227	79	317	9	
49	4859	92	60	182	13	
49	4860	15	77	105	13	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
49	4861	245	79	335	9	
49	4862	35	85	125	15	
49	4863	157	78	247	8	
49	4864	183	77	273	7	
49	4865	355	80	85	12	
49	4866	164	70	254	3	
49	4867	155	65	245	4	
49	4868	180	68	270	8	
49	4869	341	75	71	9	
49	4870	39	66	129	12	
49	4871	328	75	58	5	
49	4872	60	77	150	9	
49	4873	350	86	80	4	
49	4874	358	68	88	4	
49	4875	155	67	245	5	
49	4876	209	85	299	13	
49	4877	8	77	98	11	
49	4878	330	90	60	3	
49	4879	339	78	69	5	
49	4880	340	90	70	6	
49	4881	300	90	30	7	
49	4882	149	81	239	9	
49	4883	174	78	264	5	
49	4884	228	84	318	11	
49	4885	175	86	265	5	
49	4886	56	85	146	9	
49	4887	171	80	261	11	
49	4888	215	85	305	13	
49	4889	334	88	64	3	
49	4890	203	76	293	9	
49	4891	163	85	253	10	
49	4892	130	88	220	9	
49	4893	353	86	83	5	
49	4894	25	81	115	13	
49	4895	99	58	189	14	
49	4896	130	81	220	9	
49	4897	4	85	94	9	
49	4898	26	90	116	8	
49	4899	305	72	35	10	
49	4900	337	82	67	6	
50	4901	193	85	283	9	
50	4902	59	83	149	9	
50	4903	340	77	70	4	
50	4904	350	88	80	3	
50	4905	325	84	55	4	
50	4906	207	70	297	9	
50	4907	152	77	242	10	
50	4908	100	82	190	9	
50	4909	145	81	235	9	
50	4910	338	79	68	3	
50	4911	66	78	156	9	
50	4912	323	90	53	10	
50	4913	267	68	357	9	
50	4914	122	82	212	10	

APPENDIX 1--CONTINUED

STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
50	4915	168	80	258	8	
50	4916	193	76	283	9	
50	4917	71	85	161	9	
50	4918	46	78	136	10	
50	4919	162	76	252	11	
50	4920	139	75	229	12	
50	4921	88	80	178	9	
50	4922	139	59	229	6	
50	4923	95	85	185	9	
50	4924	135	78	225	5	
50	4925	350	75	80	6	
50	4926	174	65	264	5	
50	4927	182	87	272	5	
50	4928	88	85	178	10	
50	4929	157	78	247	5	
50	4930	332	78	62	7	
50	4931	335	82	65	1	
50	4932	354	84	84	9	
50	4933	352	88	82	8	
50	4934	225	50	315	9	
50	4935	342	70	72	8	
50	4936	164	83	254	4	
50	4937	170	82	260	5	
50	4938	354	86	84	5	
50	4939	178	87	268	12	
50	4940	83	85	173	7	
50	4941	65	89	155	13	
50	4942	259	79	349	9	
50	4943	134	78	224	5	
50	4944	338	72	68	4	
50	4945	197	67	287	7	
50	4946	138	89	228	3	
50	4947	140	71	230	9	
50	4948	156	64	246	2	
50	4949	160	78	250	8	
50	4950	240	75	330	9	
50	4951	107	73	197	10	
50	4952	186	70	276	5	
50	4953	332	76	62	11	
50	4954	34	66	124	9	
50	4955	338	87	68	9	
50	4956	165	73	255	9	
50	4957	350	71	80	9	
50	4958	155	79	245	8	
50	4959	219	54	309	9	
50	4960	146	68	236	1	
50	4961	272	88	2	9	
50	4962	193	77	283	6	
50	4963	40	80	130	5	
50	4964	317	88	47	9	
50	4965	153	67	243	9	
50	4966	15	78	105	5	
50	4967	170	83	260	7	
50	4968	26	54	116	5	

APPENDIX 1--CONTINUED

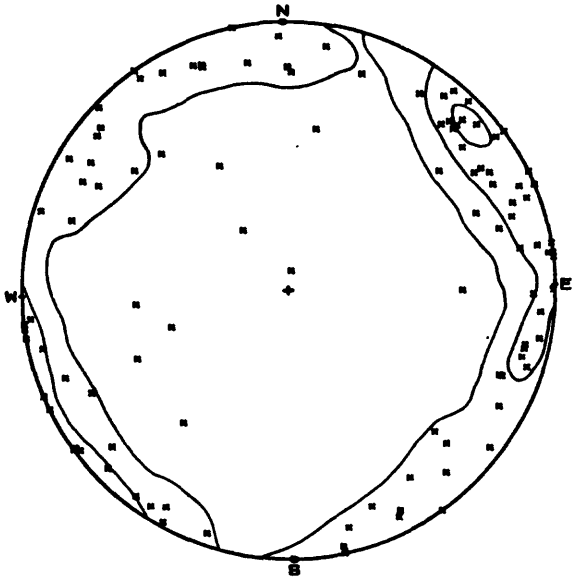
STATION	FRACTURE NUMBER	AZI	DIP	DIP DIR	RC	REMARKS
50	4969	19	88	109	4	
50	4970	131	84	221	5	
50	4971	239	75	329	9	
50	4972	230	73	320	11	
50	4973	86	79	176	11	
50	4974	51	85	141	9	
50	4975	20	88	110	11	
50	4976	145	82	235	9	
50	4977	286	89	16	4	
50	4978	30	83	120	11	
50	4979	130	75	220	9	
50	4980	216	63	306	9	
50	4981	160	80	250	13	
50	4982	358	48	88	8	
50	4983	261	61	351	9	
50	4984	208	89	298	8	
50	4985	159	89	249	5	
50	4986	315	89	45	5	
50	4987	110	88	200	9	
50	4988	232	75	322	9	
50	4989	28	82	118	14	
50	4990	210	74	300	9	
50	4991	349	78	79	9	
50	4992	348	88	78	5	
50	4993	67	63	157	10	
50	4994	341	84	71	4	
50	4995	341	69	71	5	
50	4996	251	84	341	5	
50	4997	12	84	102	9	
50	4998	190	85	280	10	
50	4999	4	90	94	11	
50	5000	239	85	329	4	

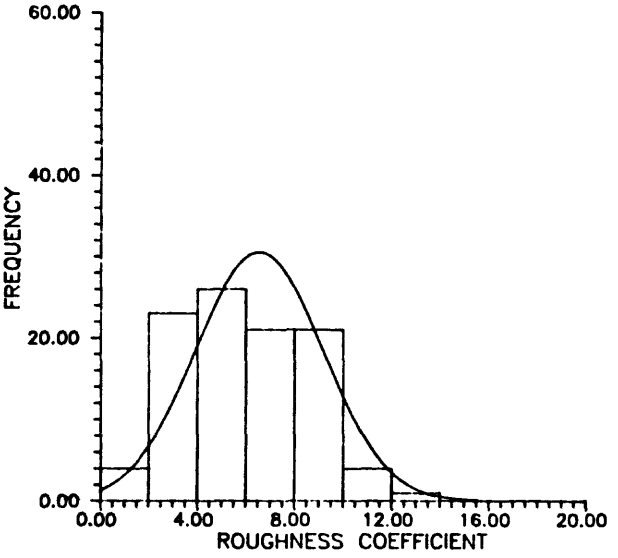
APPENDIX 2

Contoured lower-hemisphere equal-area plots of poles to fracture orientations, and frequency plots of roughness coefficient for each station. On the equal-area plots, 33.3 percent of the total distribution falls within each of the contour intervals.

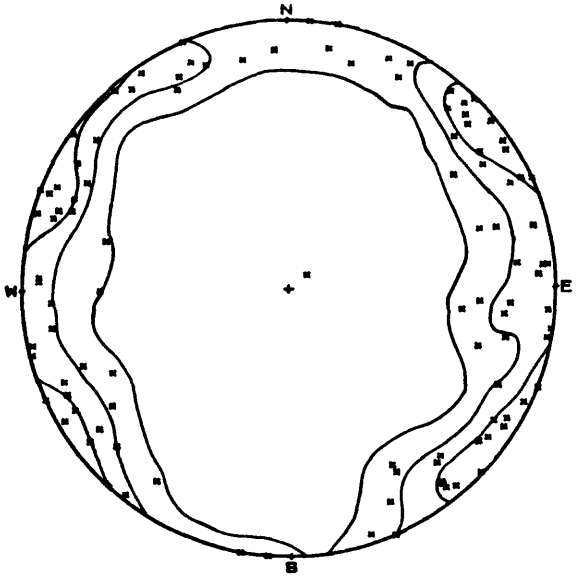
Appendix 2

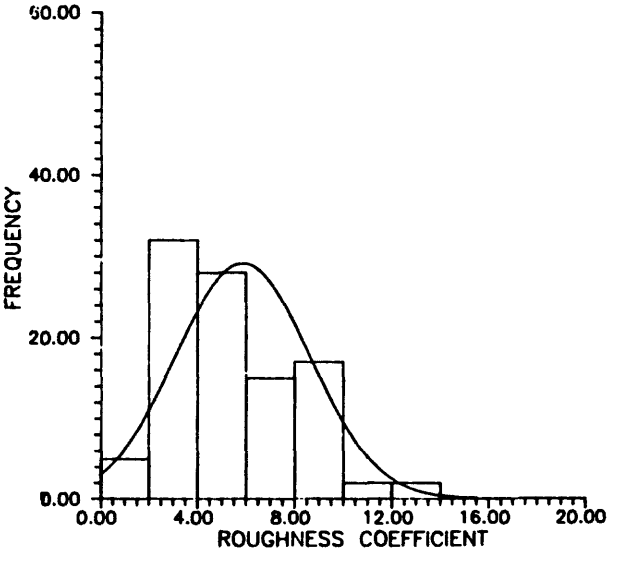
Station 1





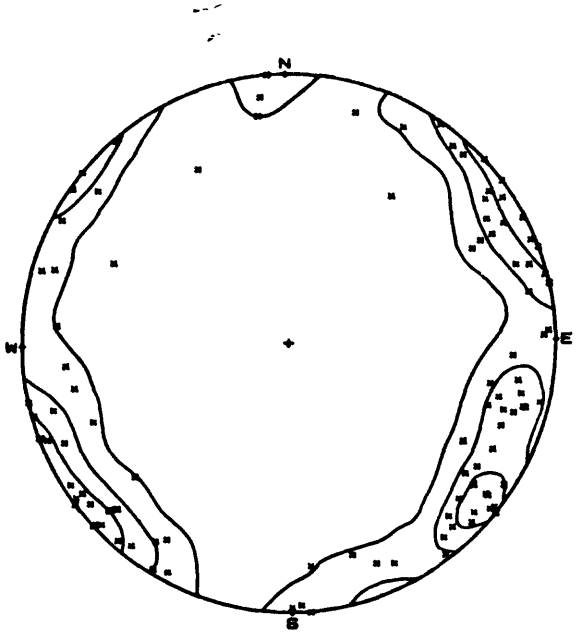
Station 2

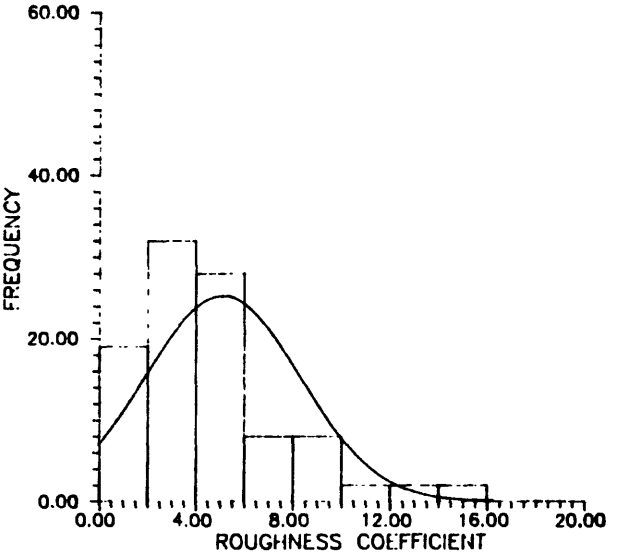




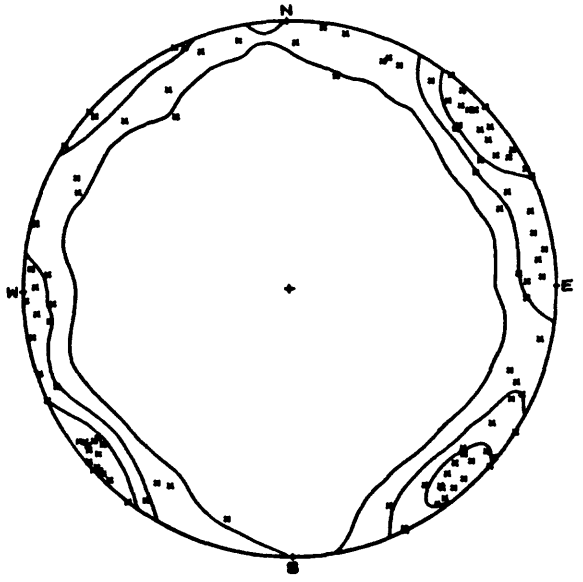
Appendix 2 (continued)

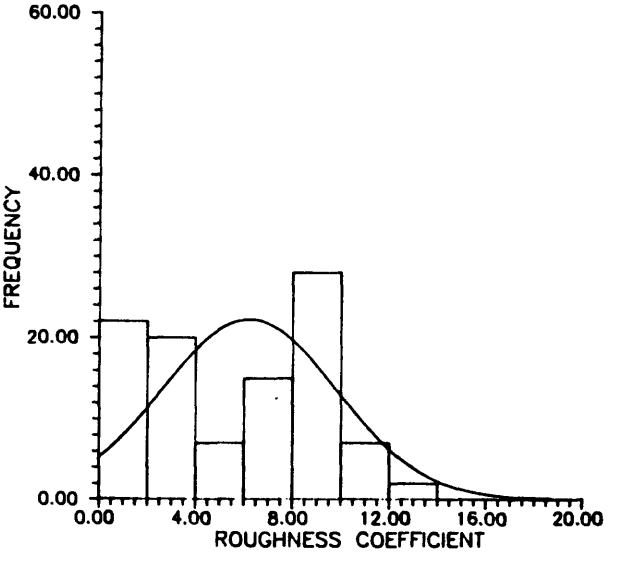
Station 3





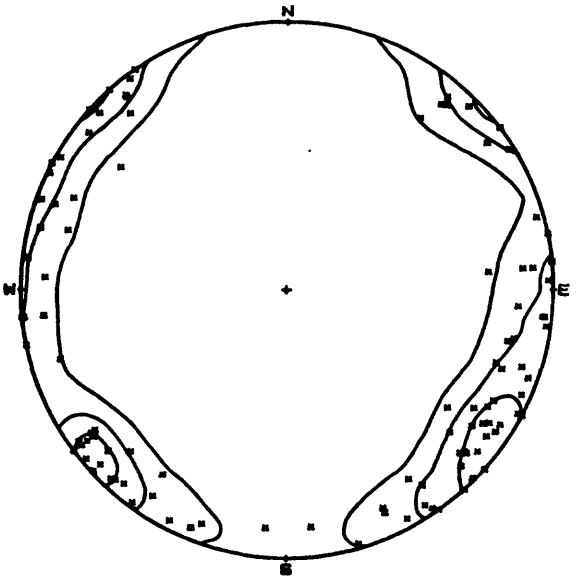
Station 4

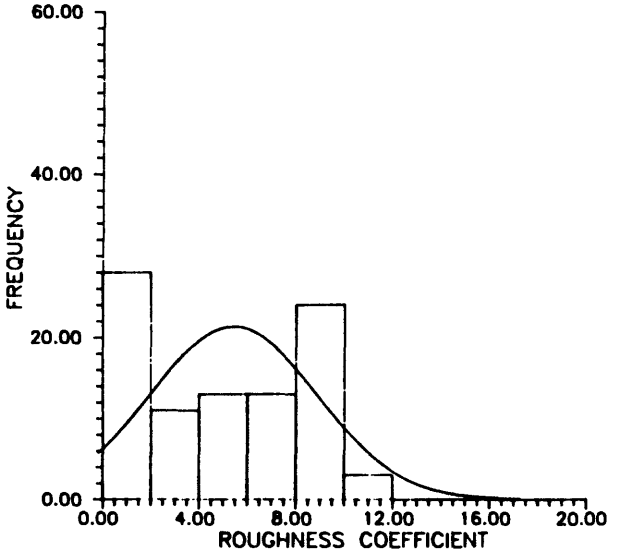




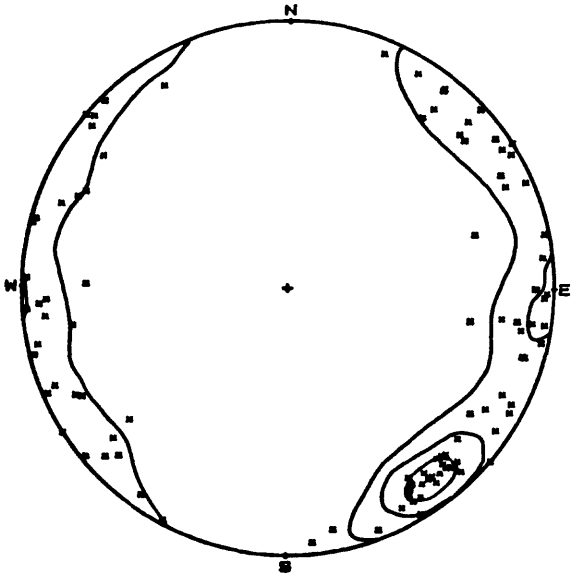
Appendix 2 (continued)

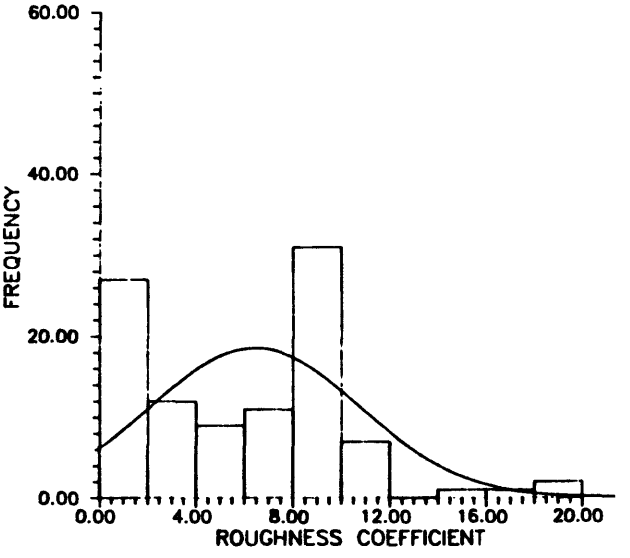
Station 5





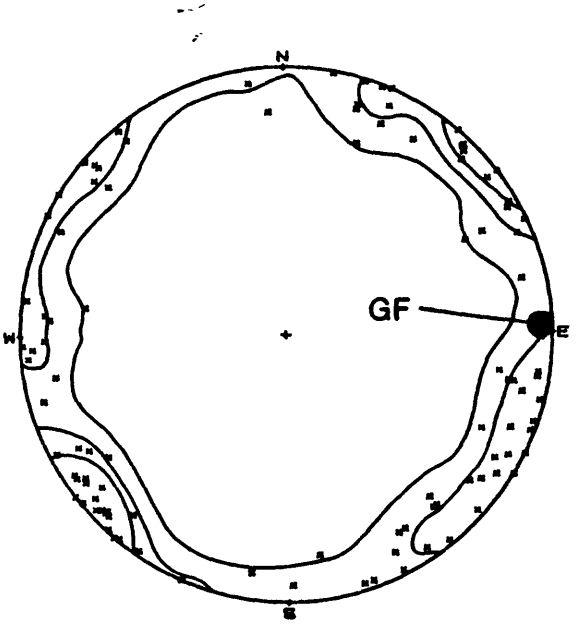
Station 6

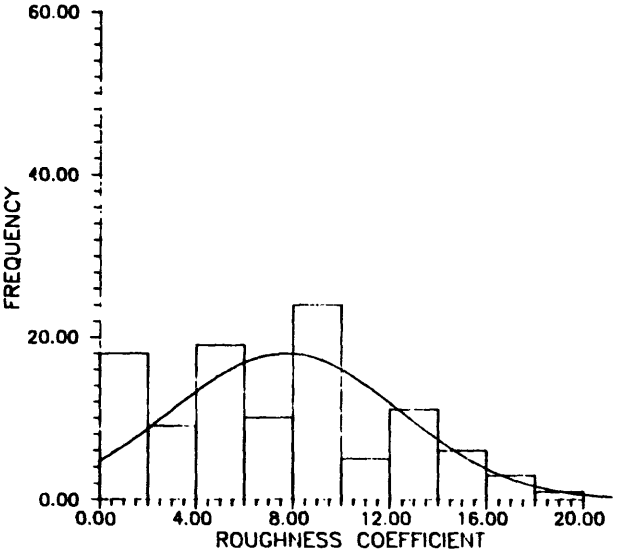




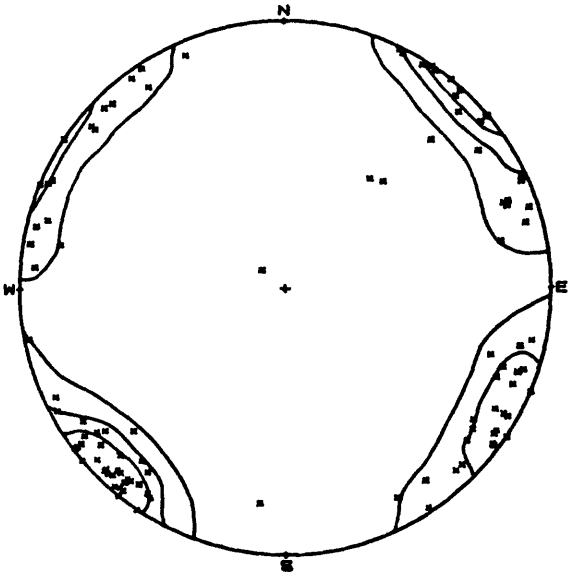
Appendix 2 (continued)

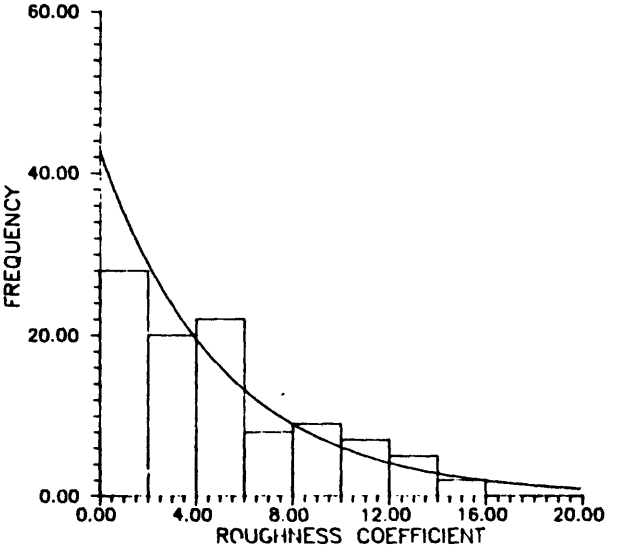
Station 7





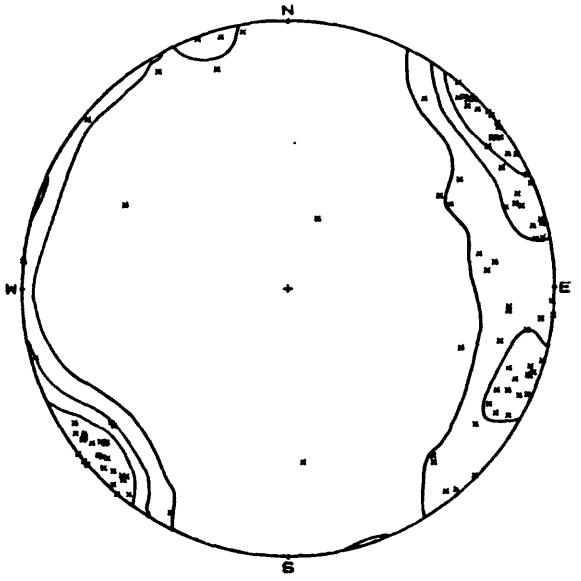
Station 8

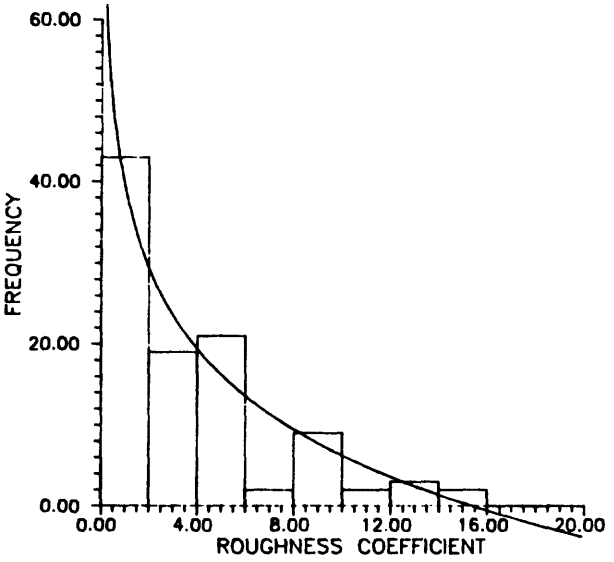




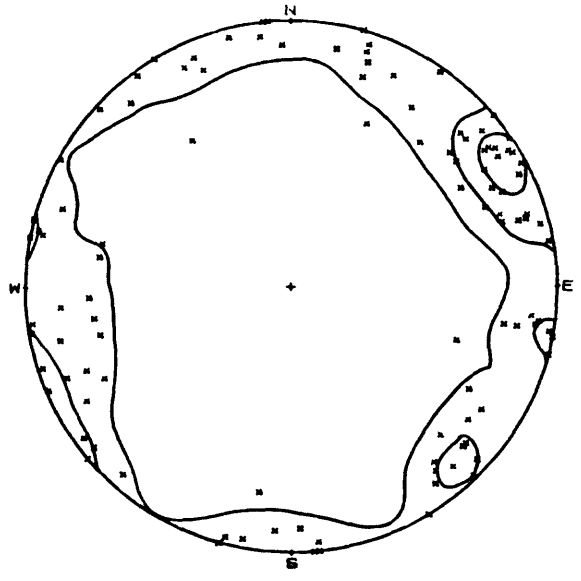
Appendix 2 (continued)

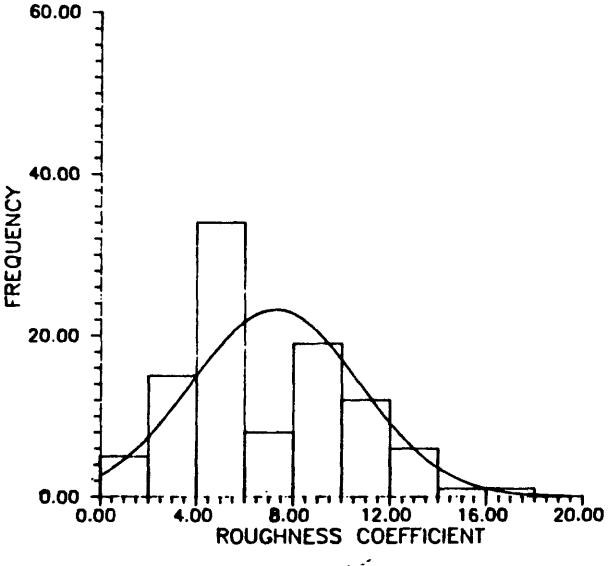
Station 9





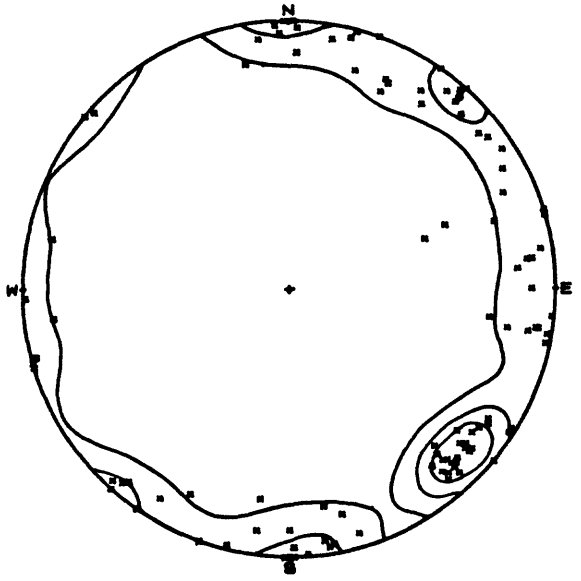
Station 10

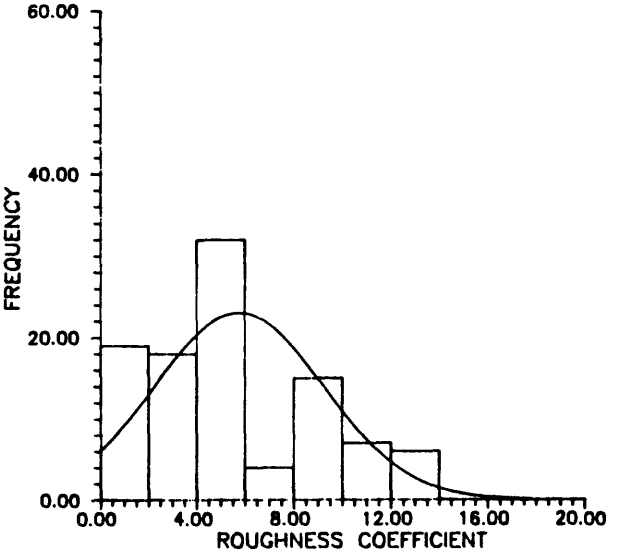




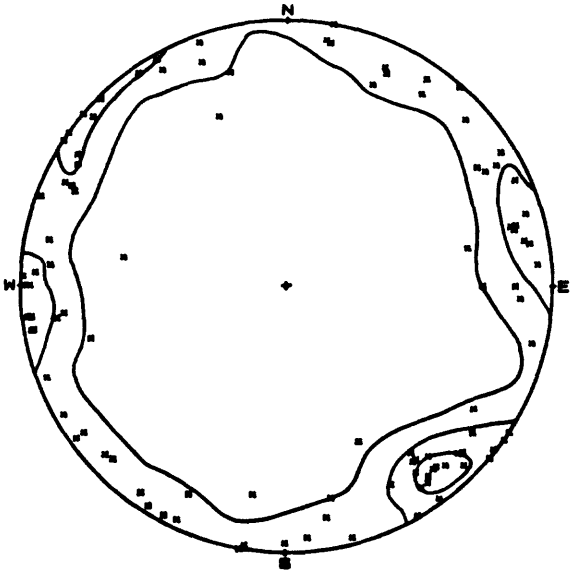
Appendix 2 (continued)

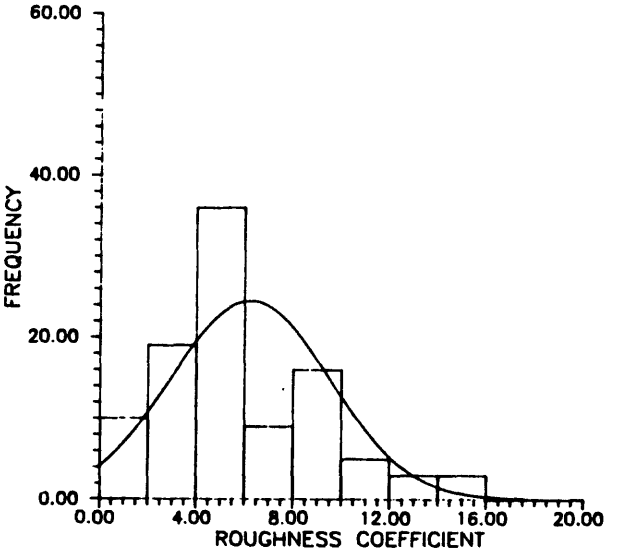
Station 11





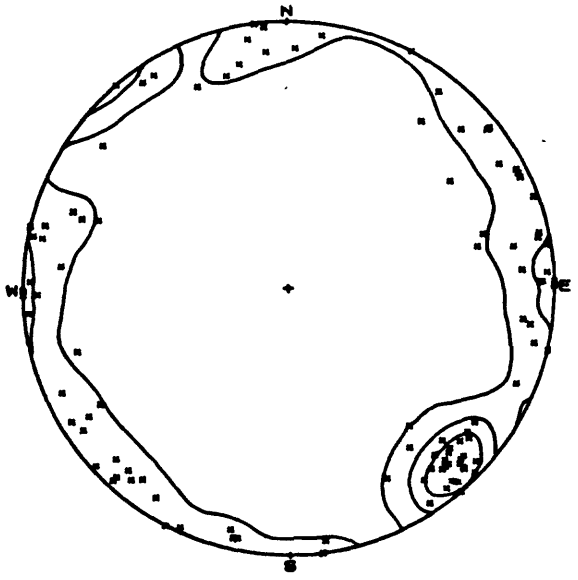
Station 12

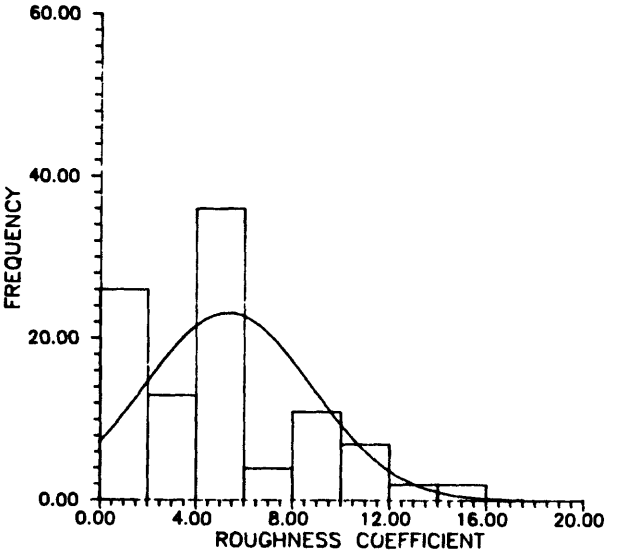




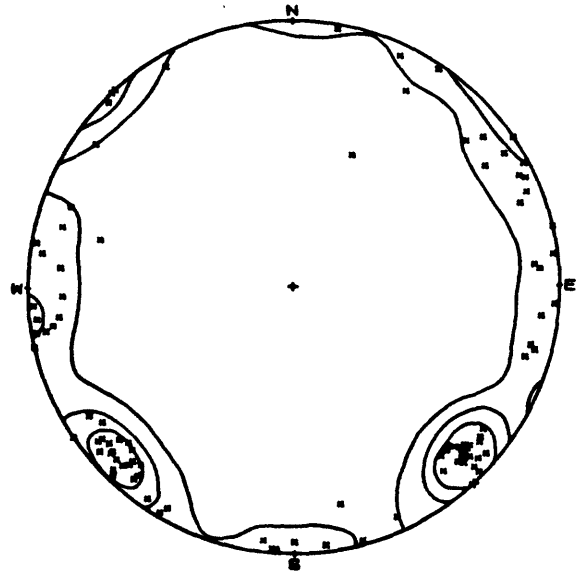
Appendix 2 (continued)

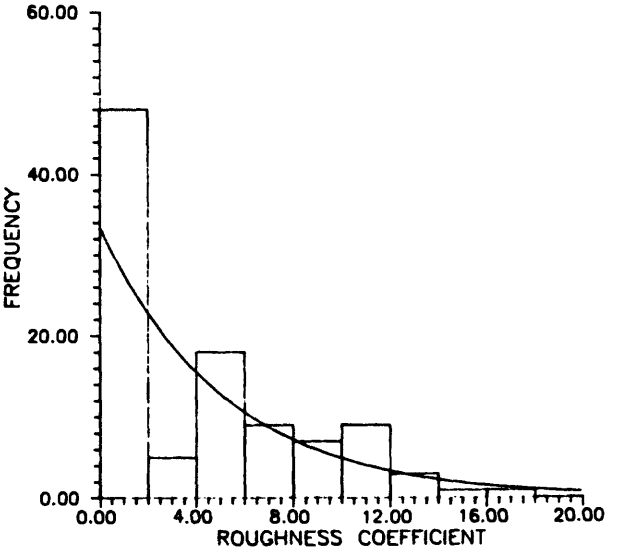
Station 13





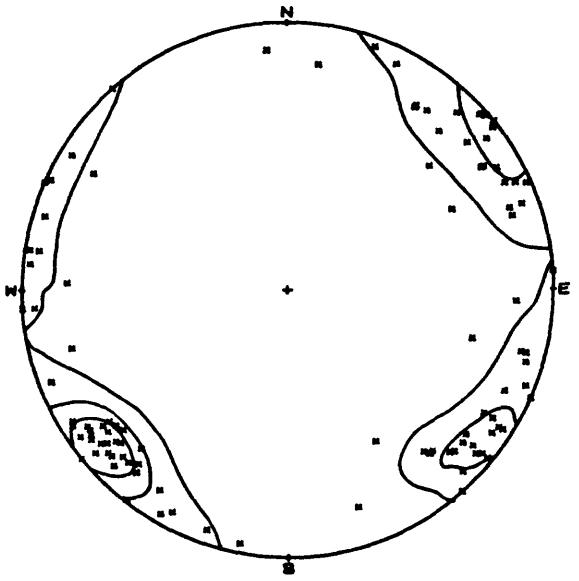
Station 14

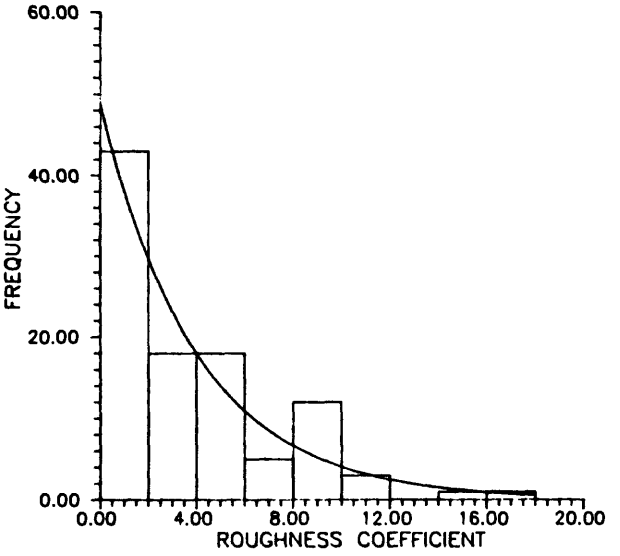




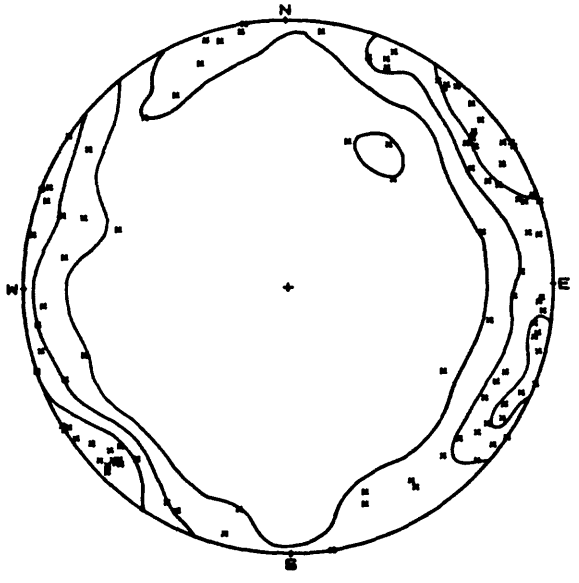
Appendix 2 (continued)

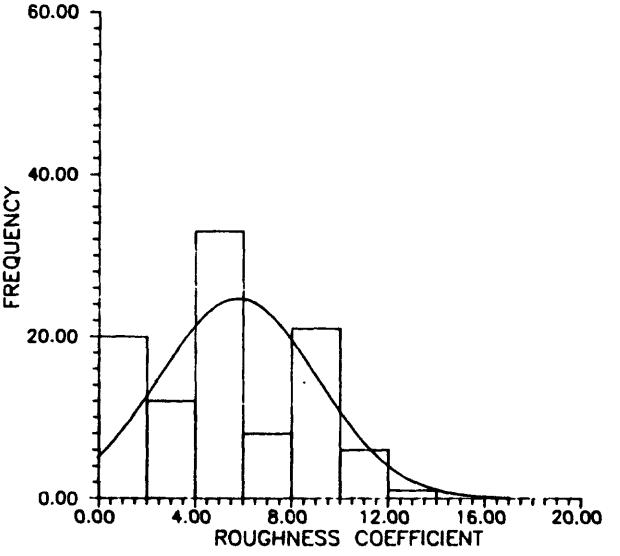
Station 15





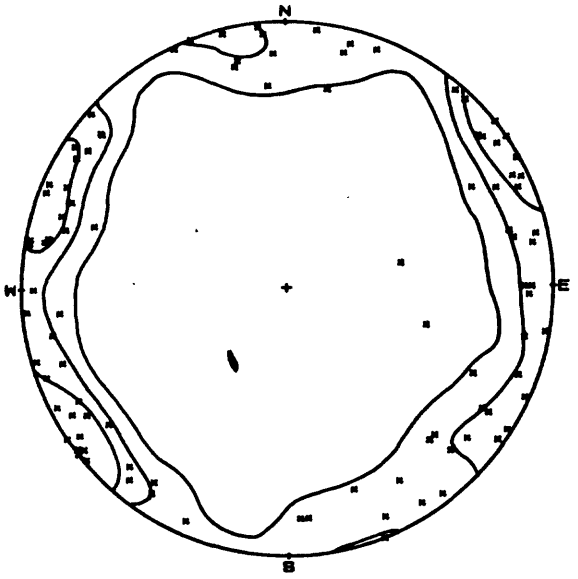
Station 16

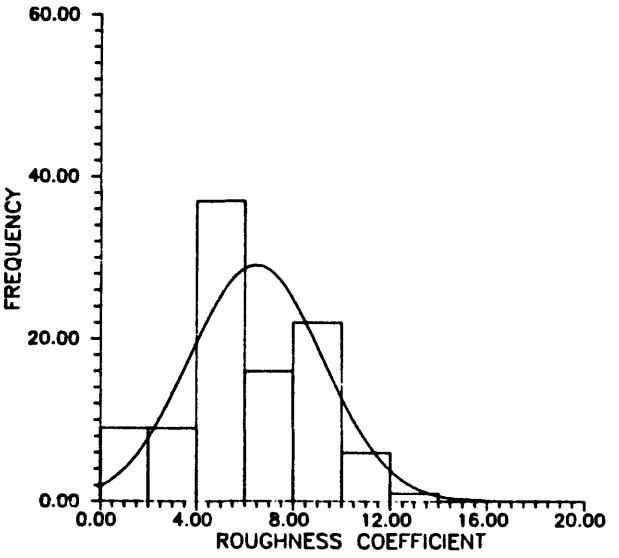




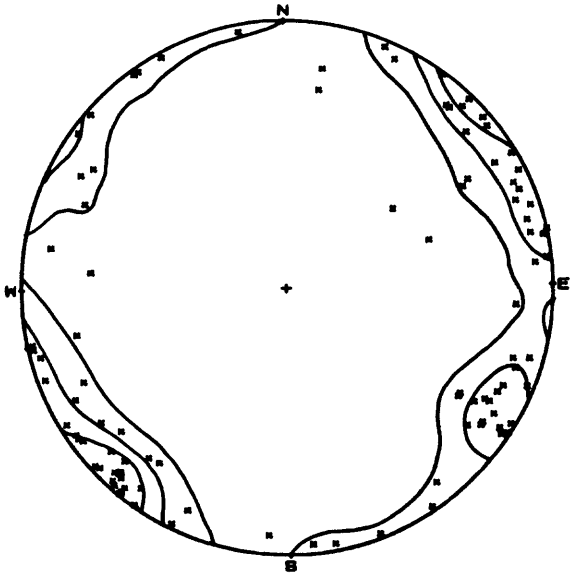
Appendix 2 (continued)

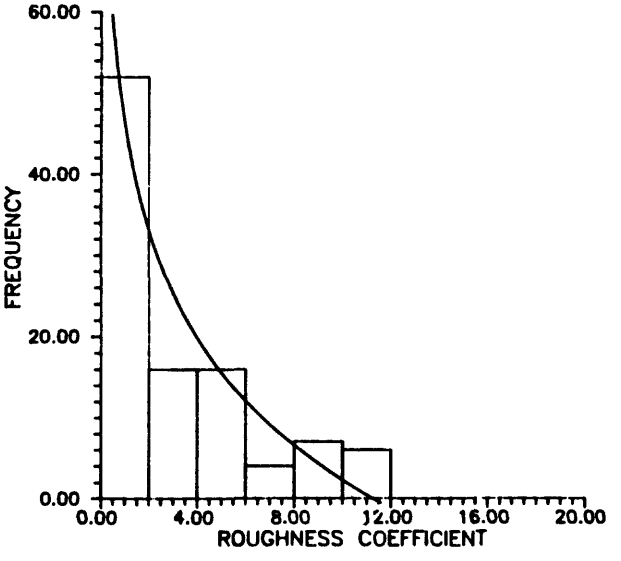
Station 17



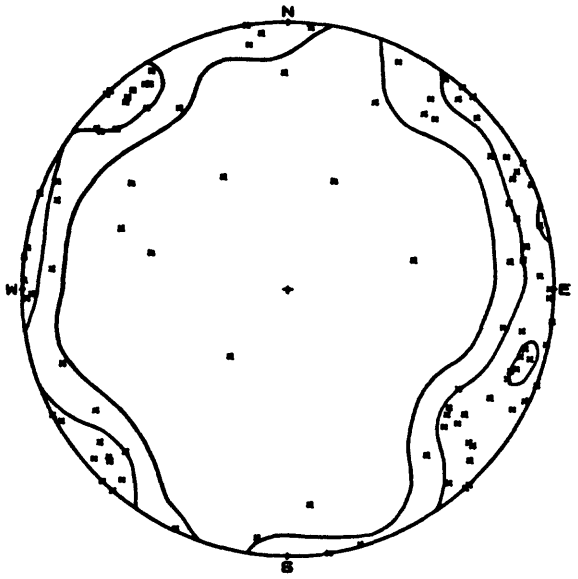


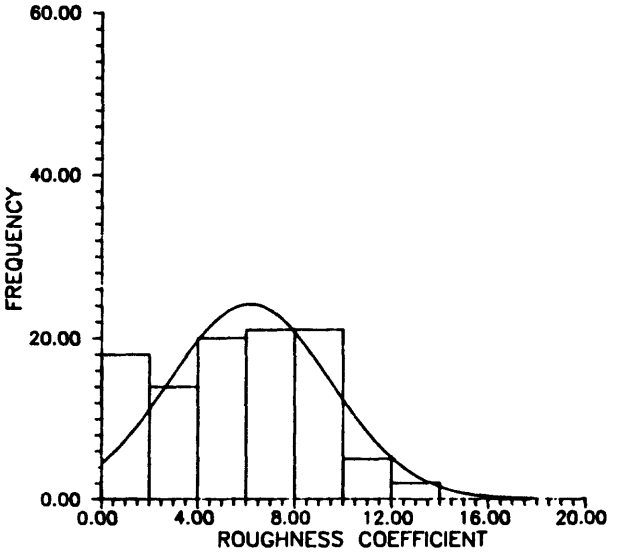
Station 18



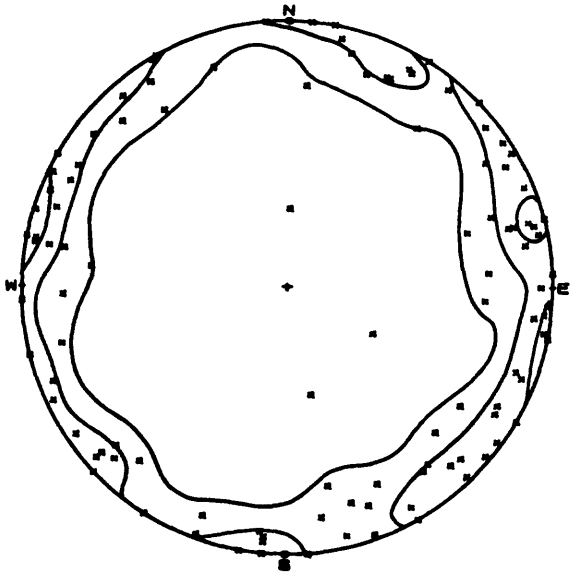


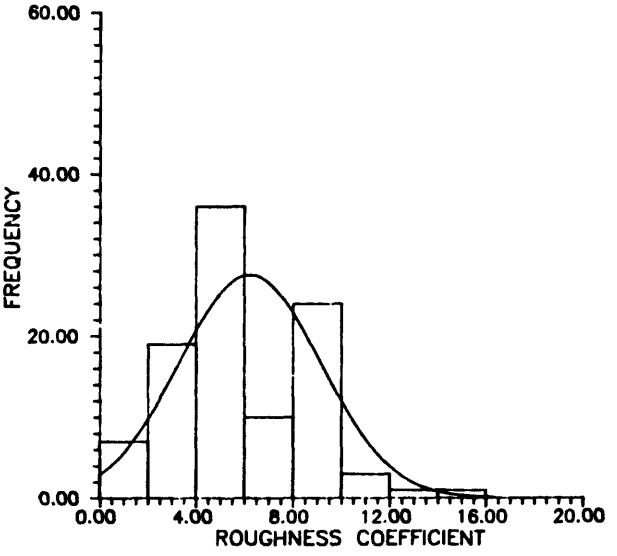
Station 19





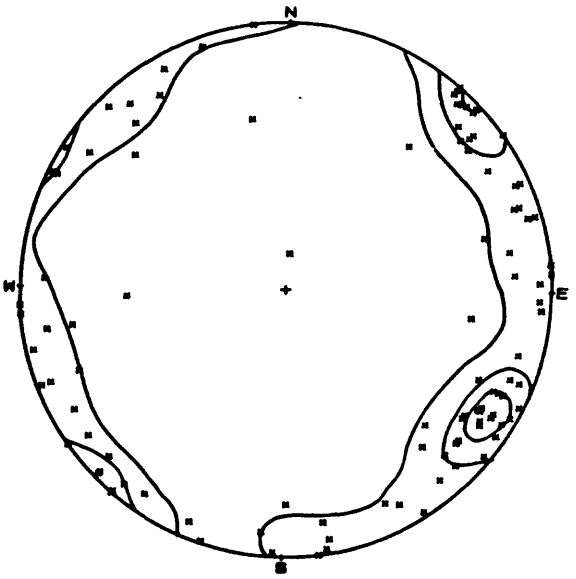
Station 20

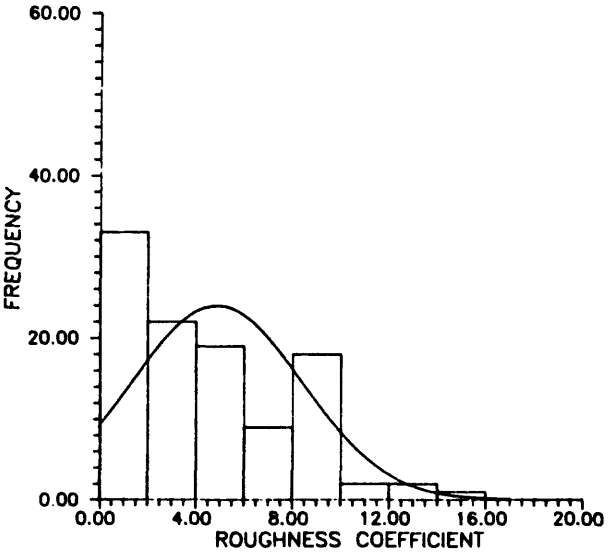




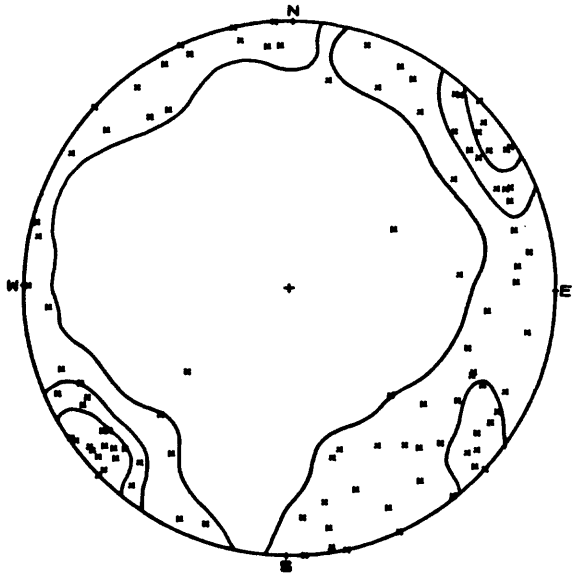
Appendix 2 (continued)

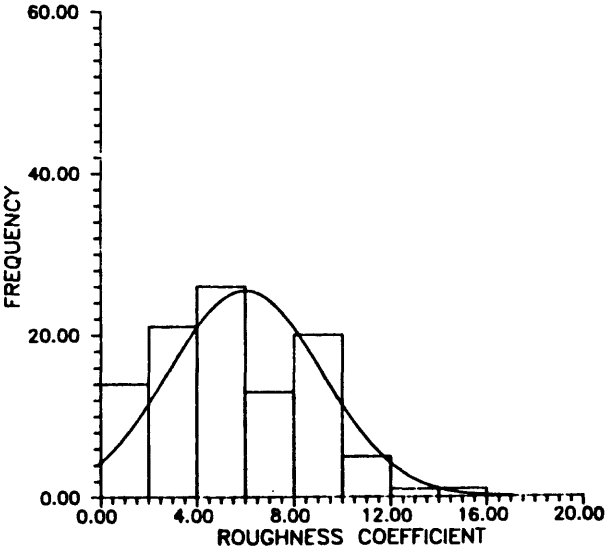
Station 21





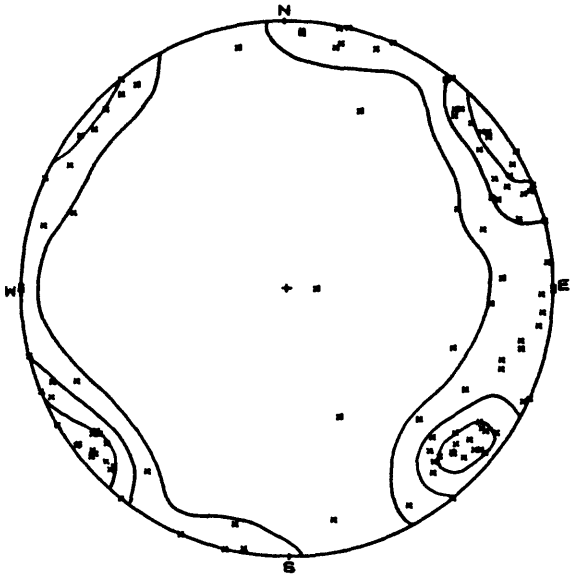
Station 22

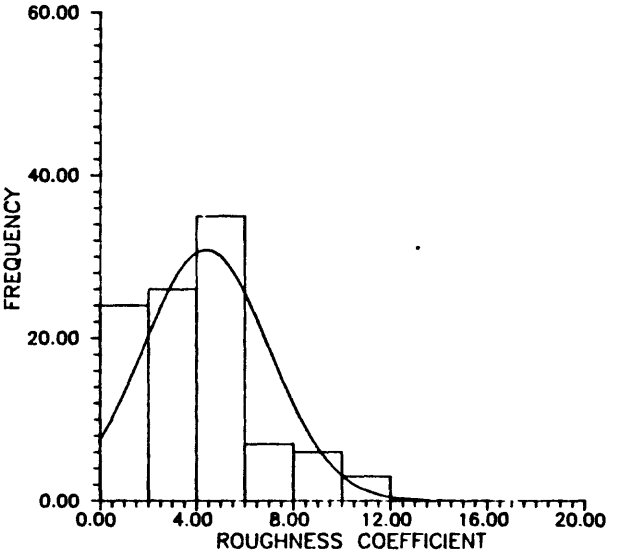




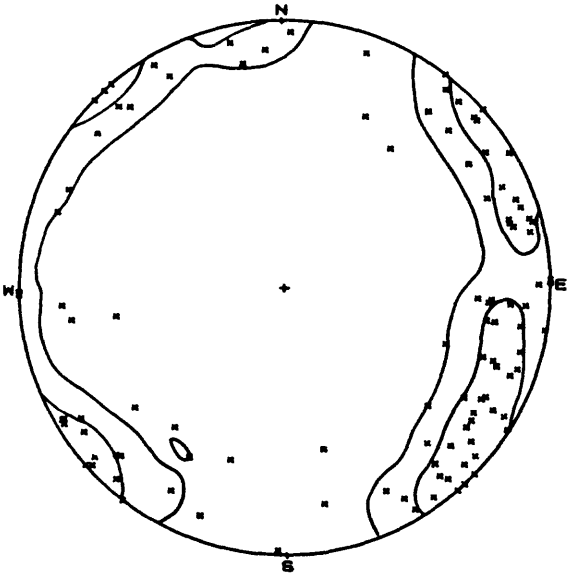
Appendix 2 (continued)

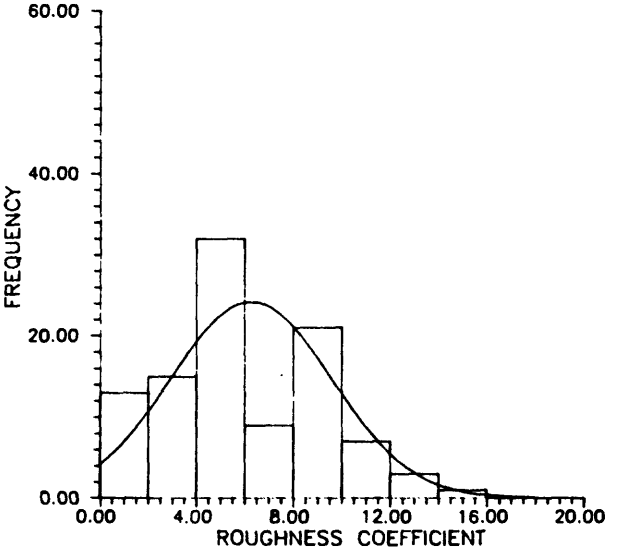
Station 23





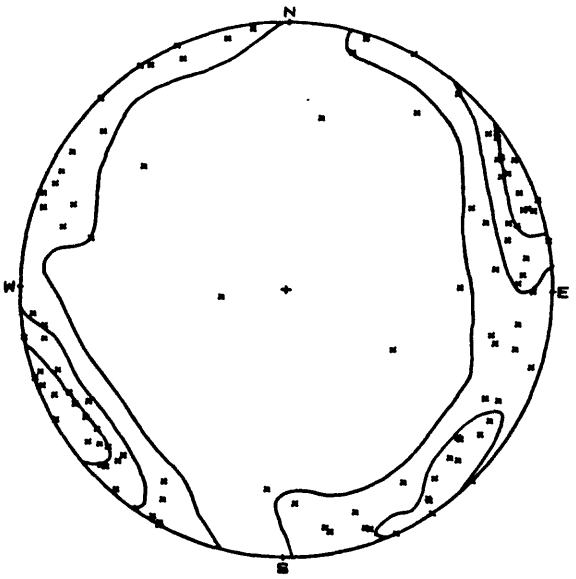
Station 24

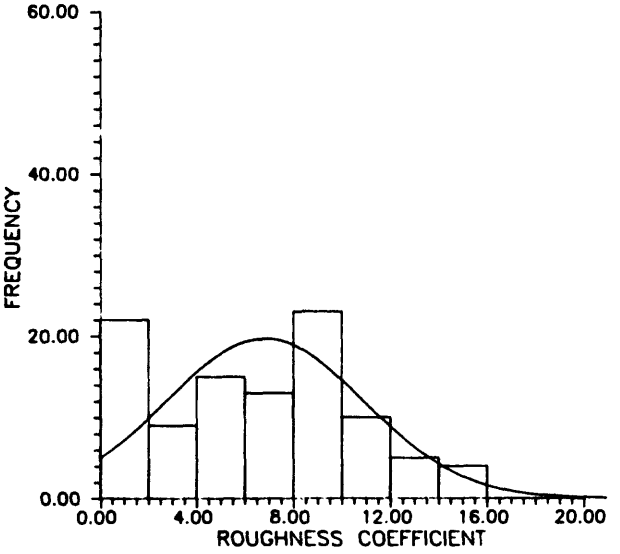




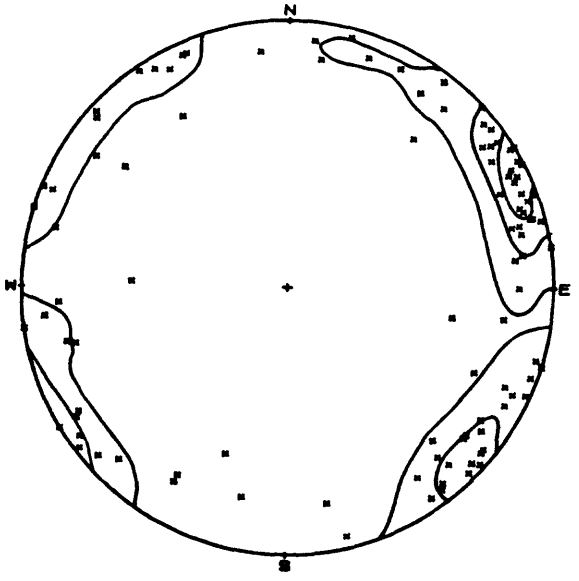
Appendix 2 (continued)

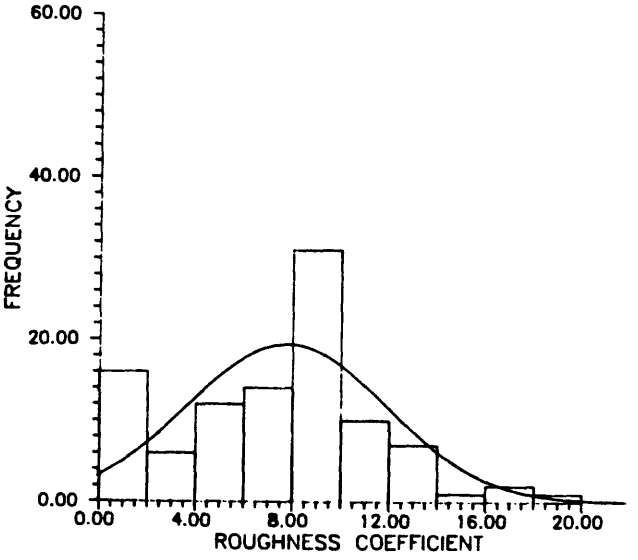
Station 25



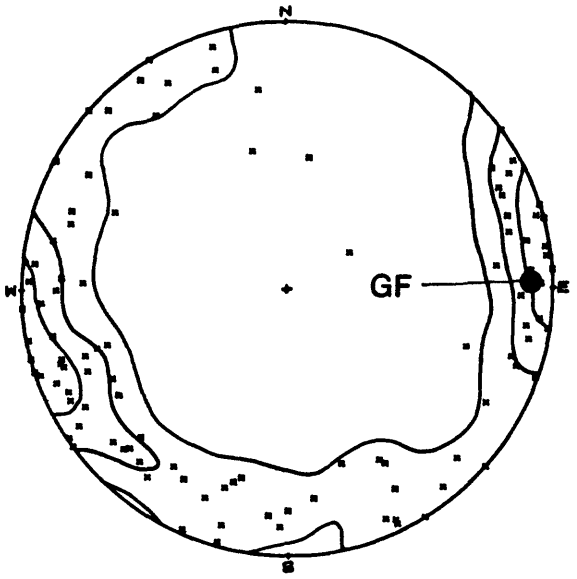


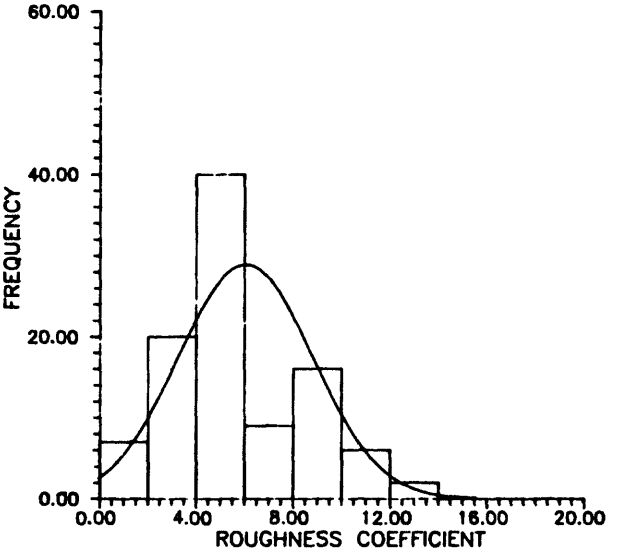
Station 26



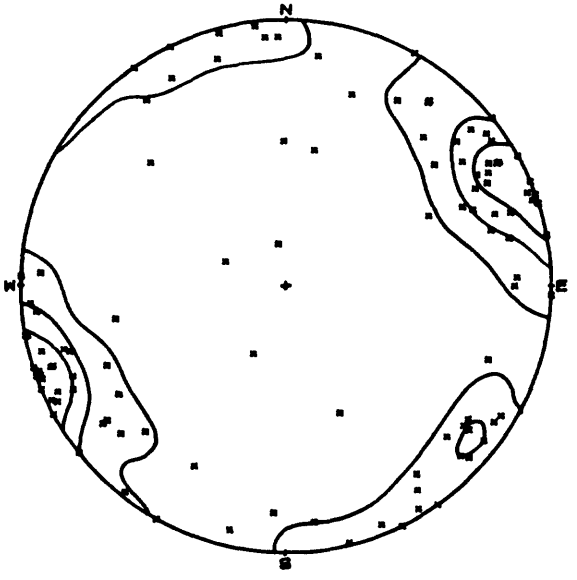


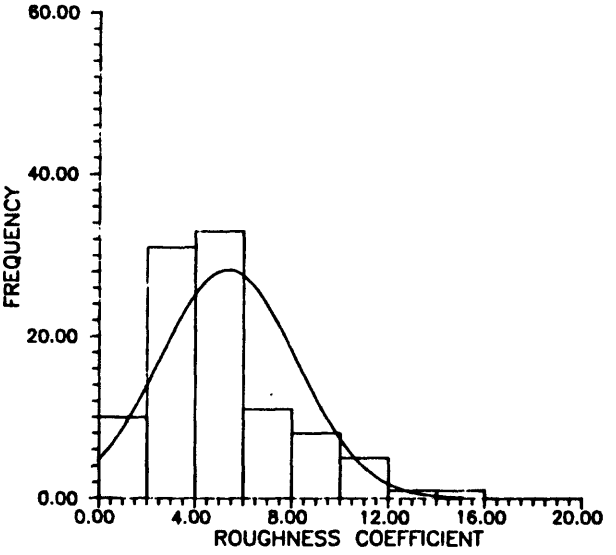
Station 27





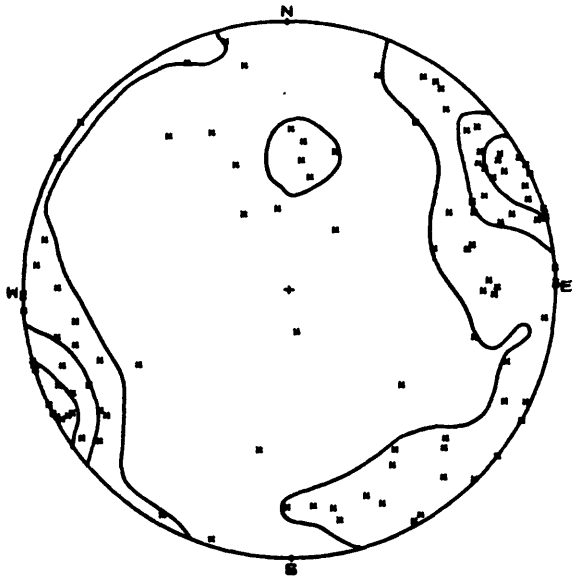
Station 28

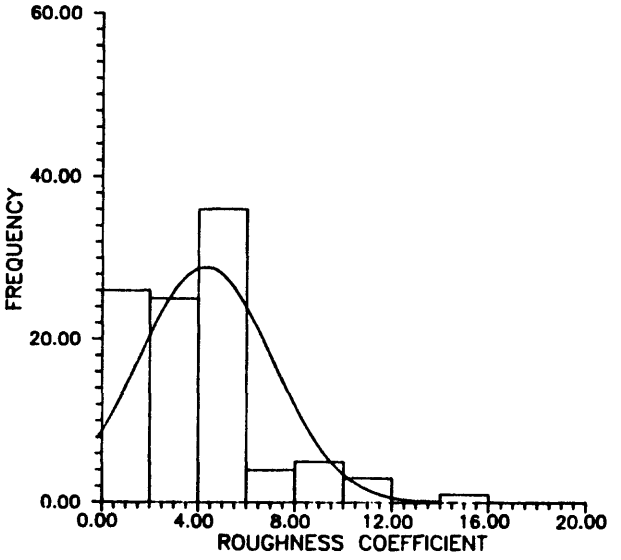




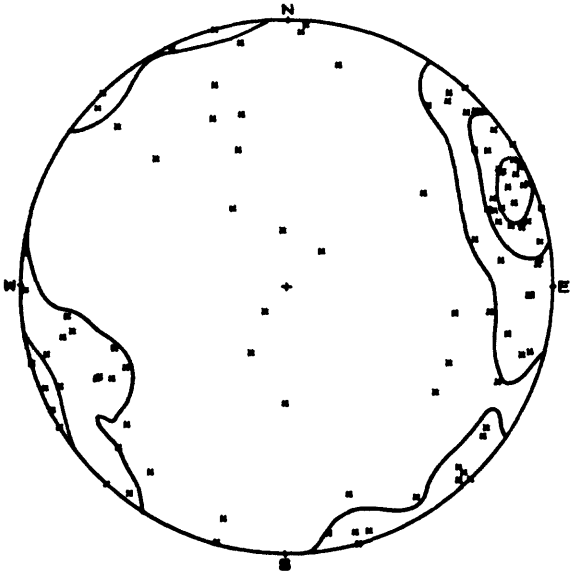
Appendix 2 (continued)

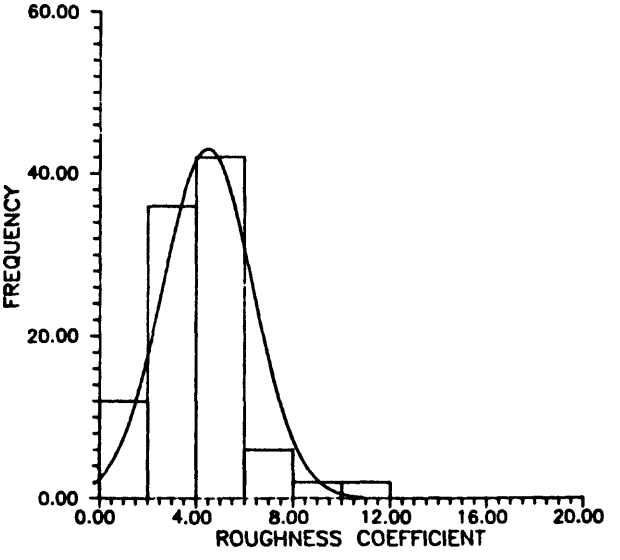
Station 29





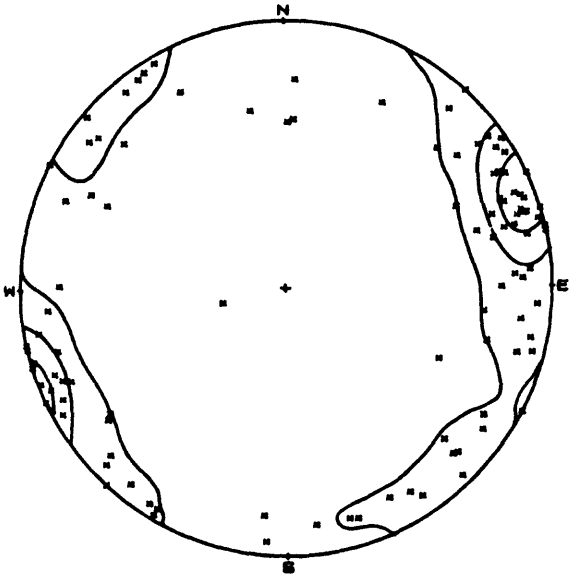
Station 30

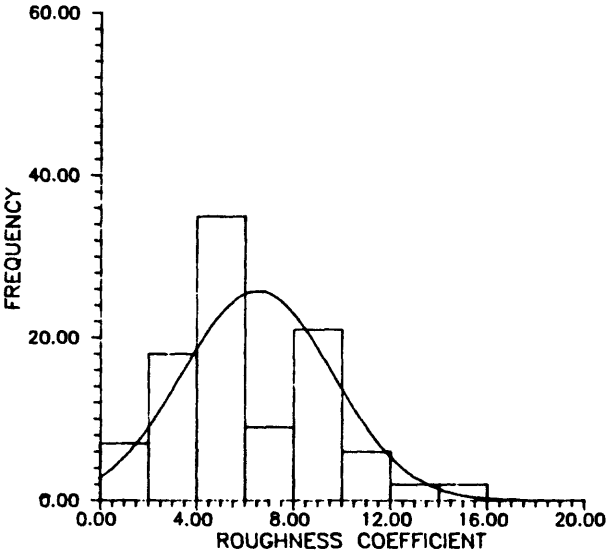




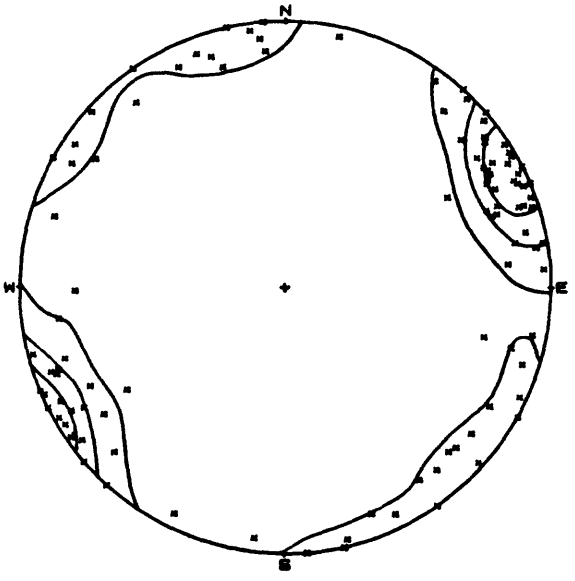
Appendix 2 (continued)

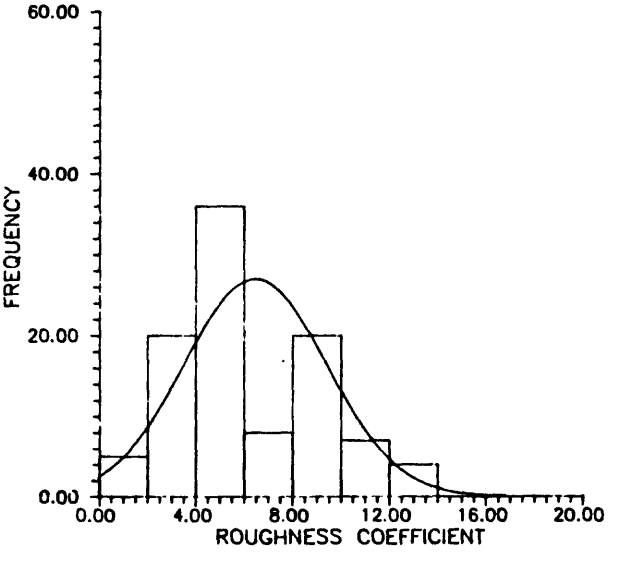
Station 31





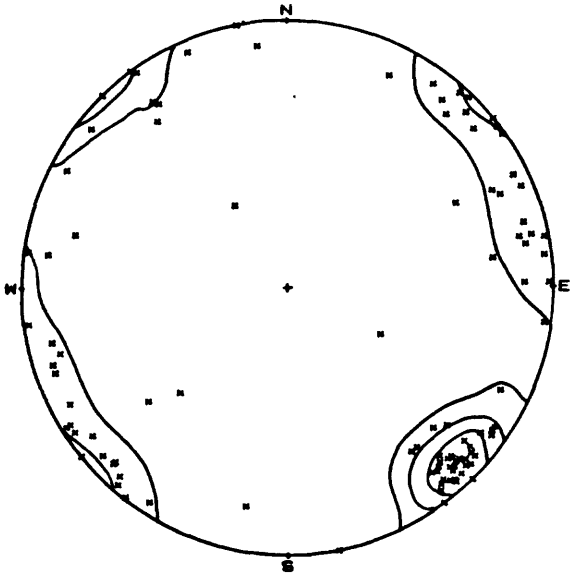
Station 32

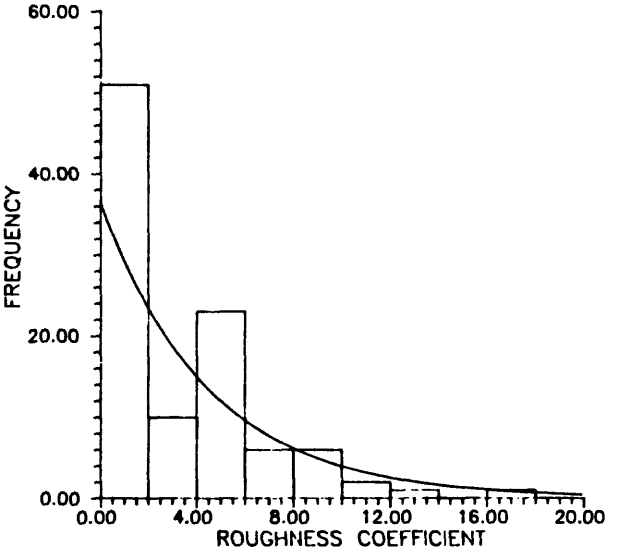




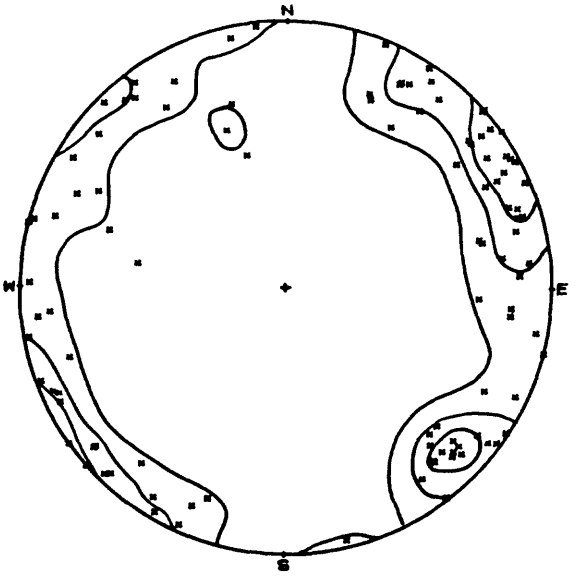
Appendix 2 (continued)

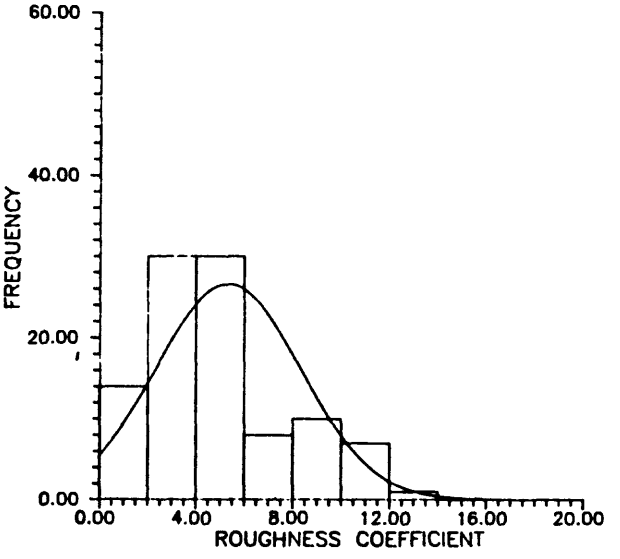
Station 33





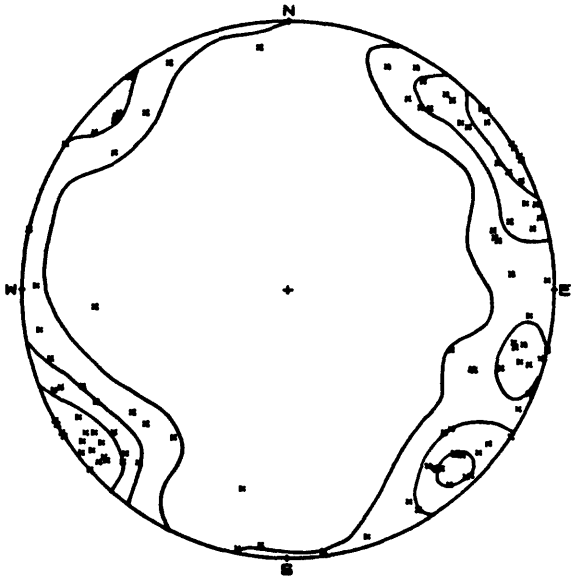
Station 34

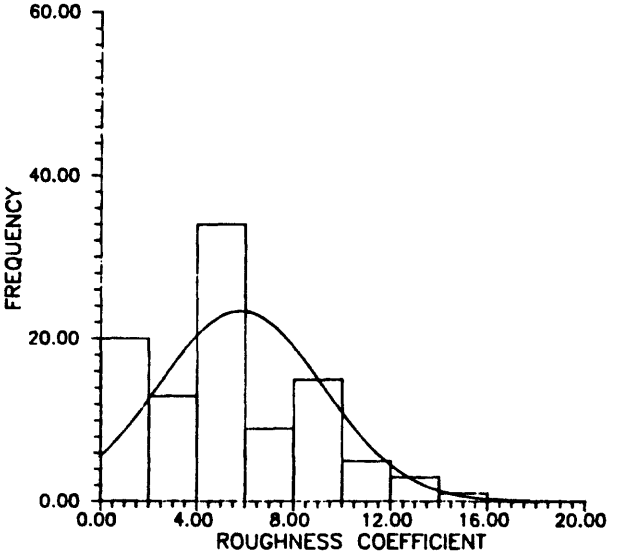




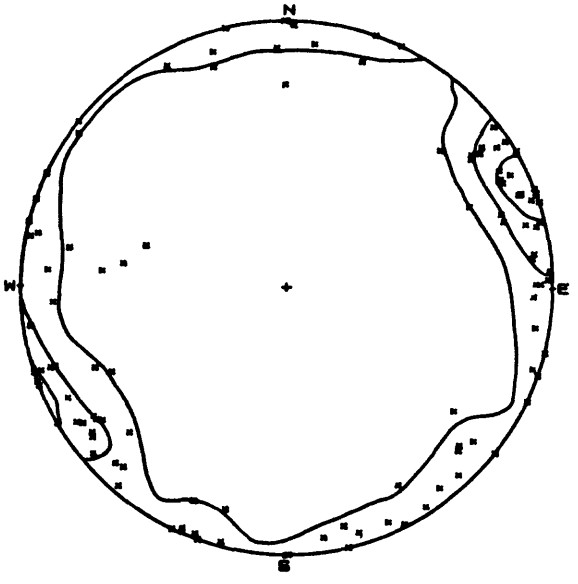
Appendix 2 (continued)

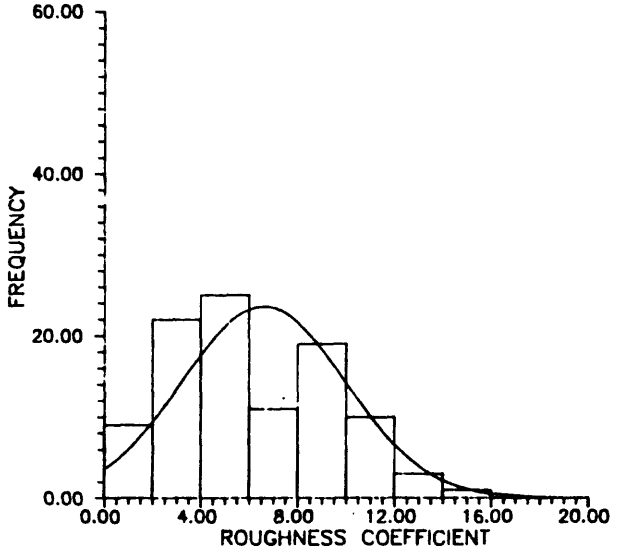
Station 35





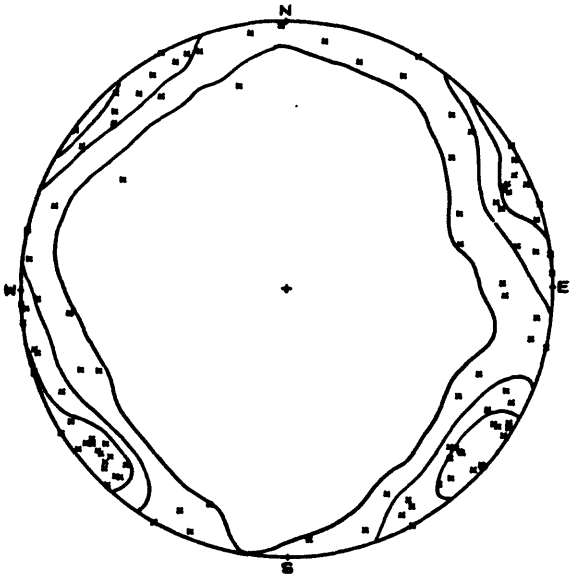
Station 36

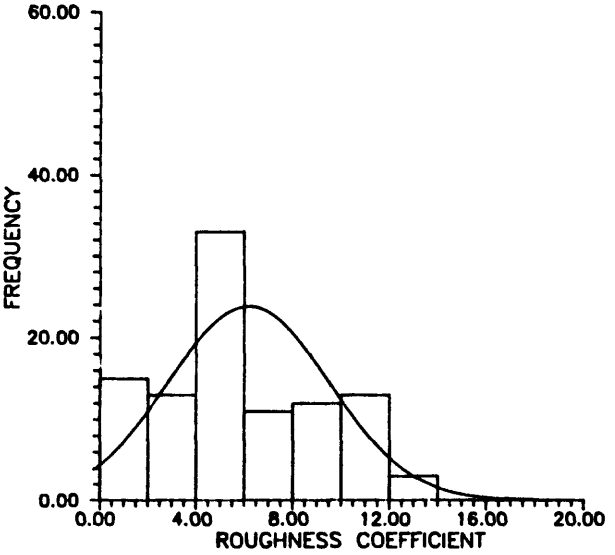




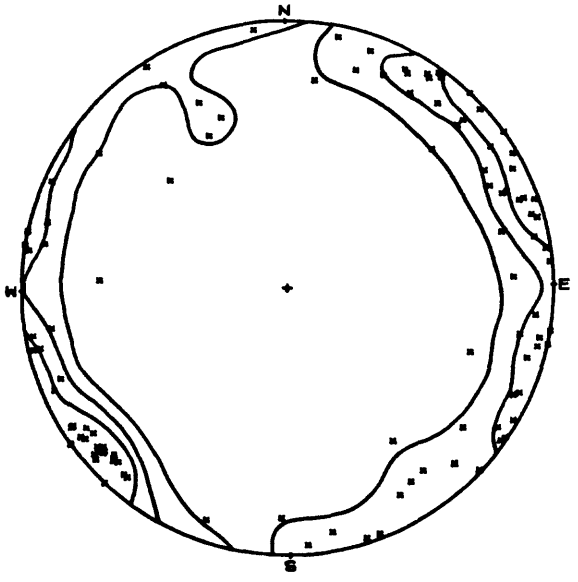
Appendix 2 (continued)

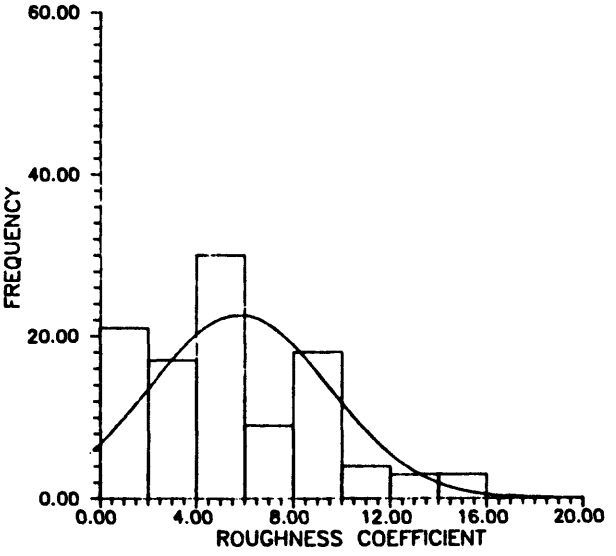
Station 37





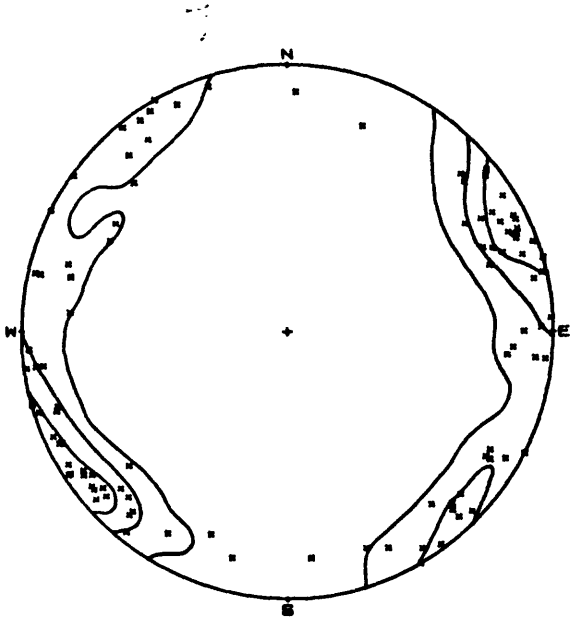
Station 38

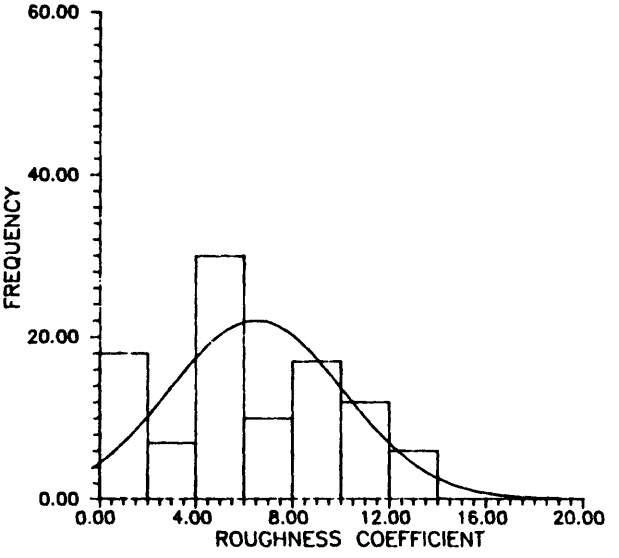




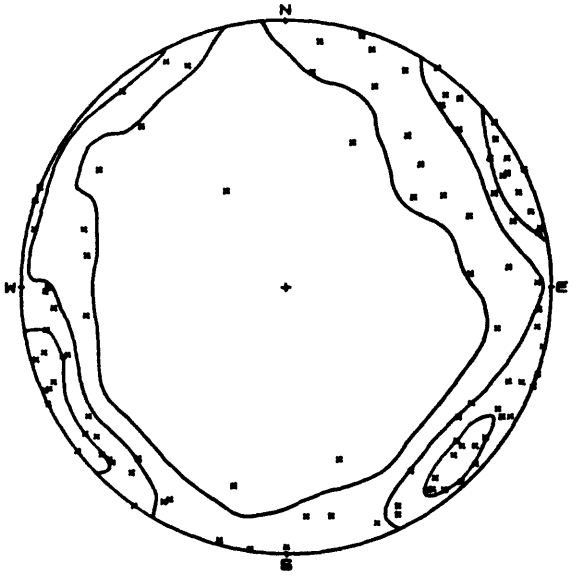
Appendix 2 (continued)

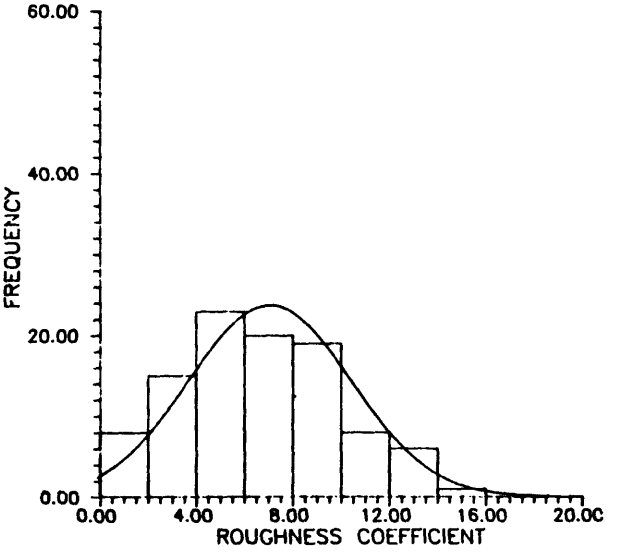
Station 39





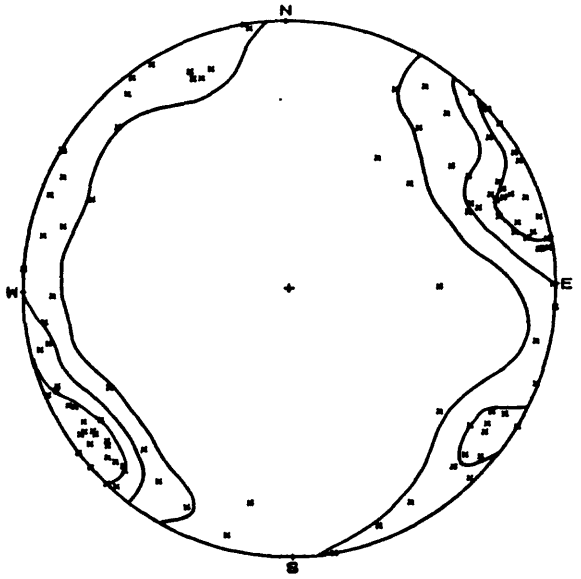
Station 40

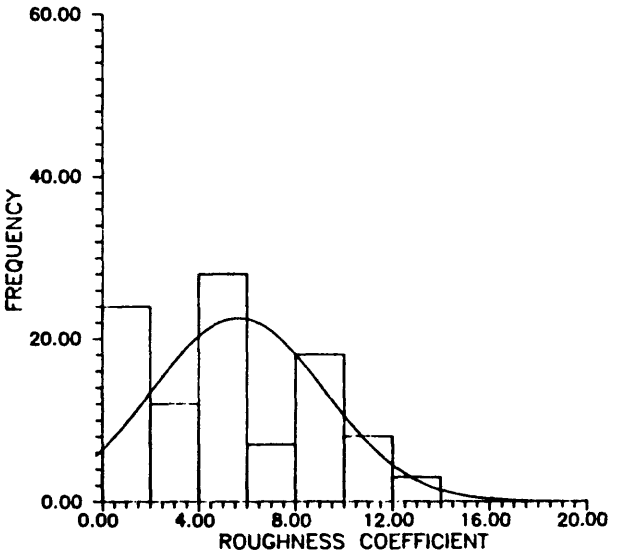




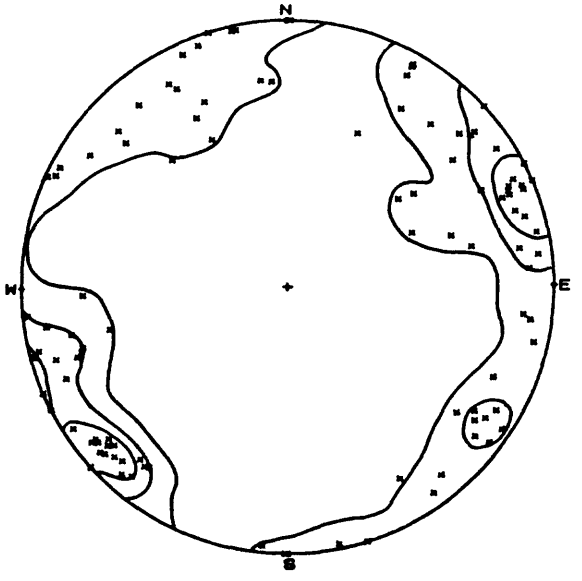
Appendix 2 (continued)

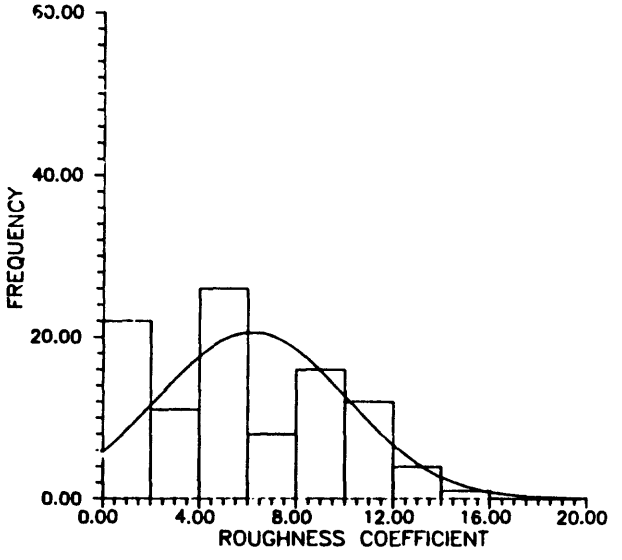
Station 41





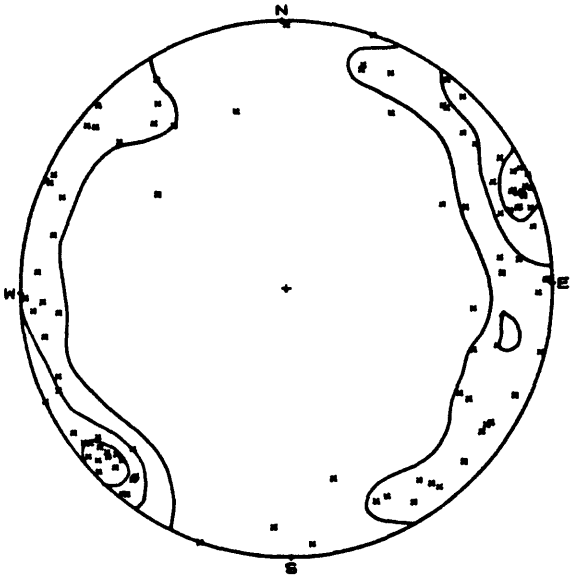
Station 42

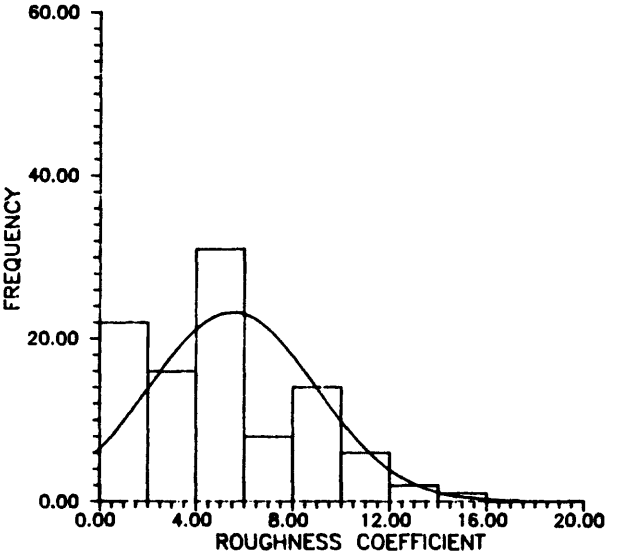




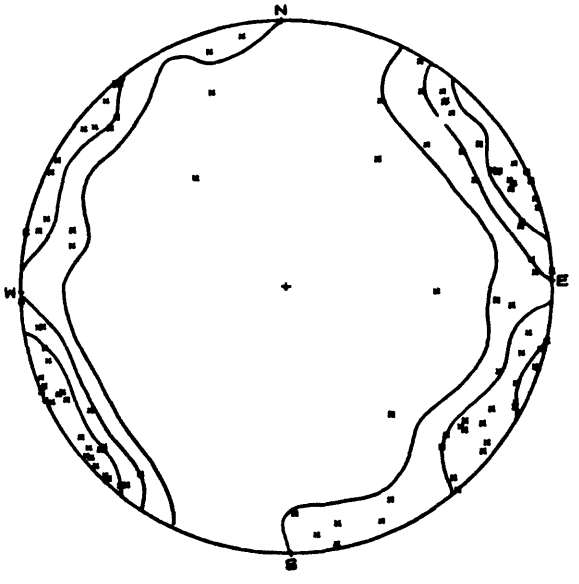
Appendix 2 (continued)

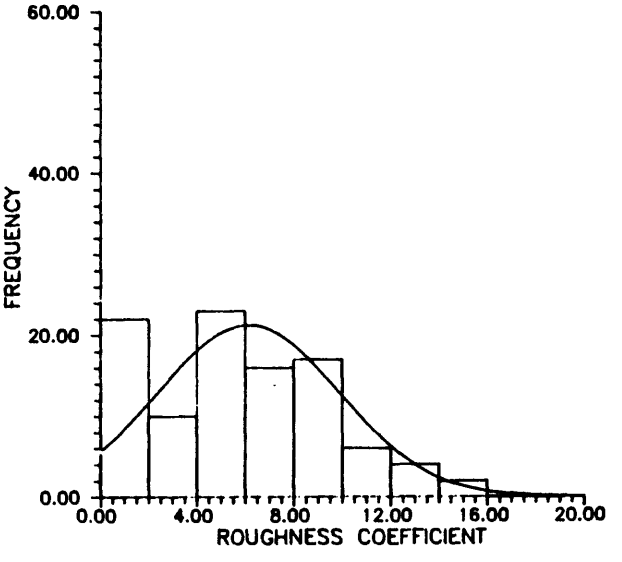
Station 43





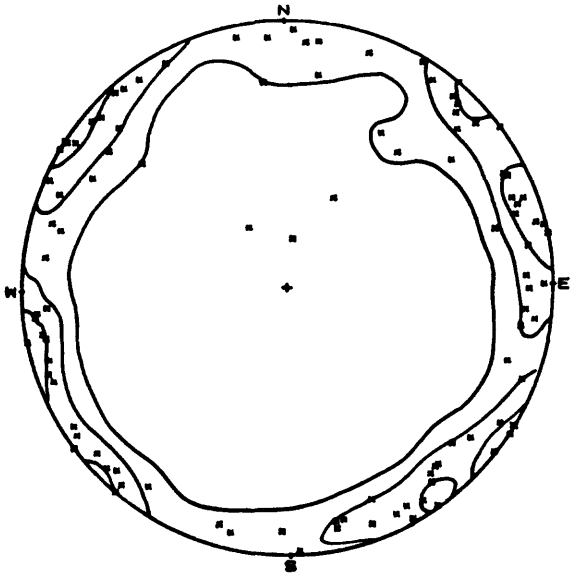
Station 44

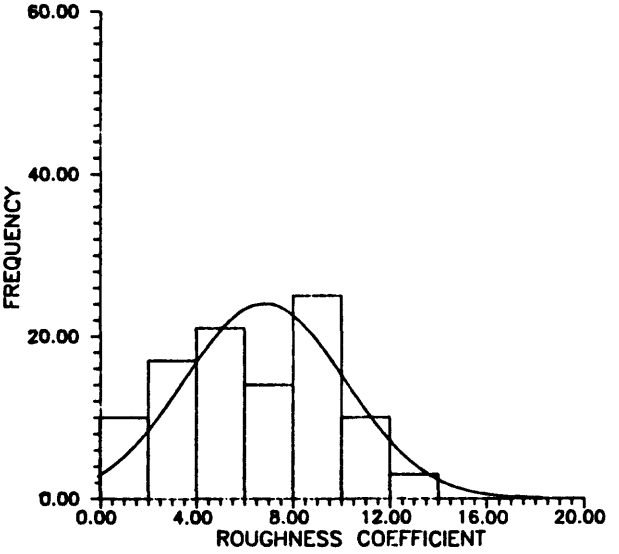




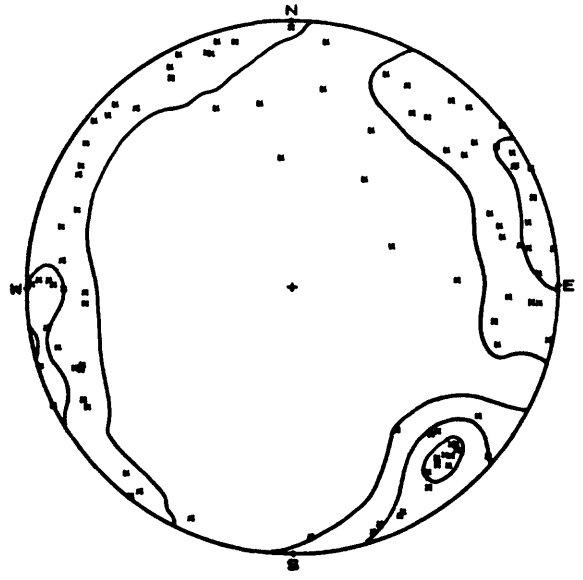
Appendix 2 (continued)

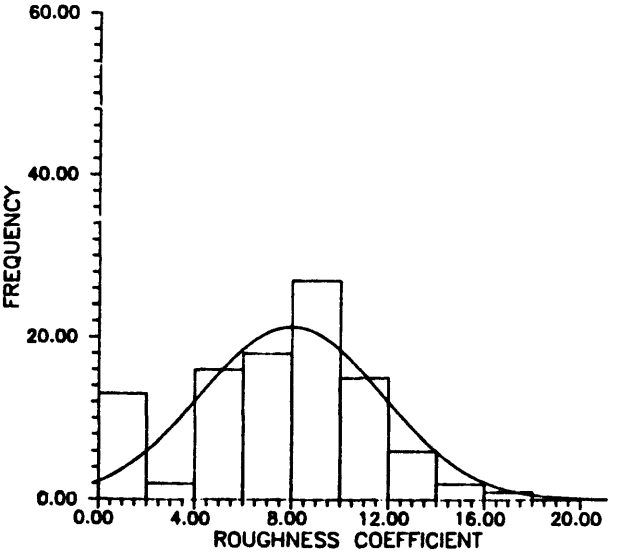
Station 45





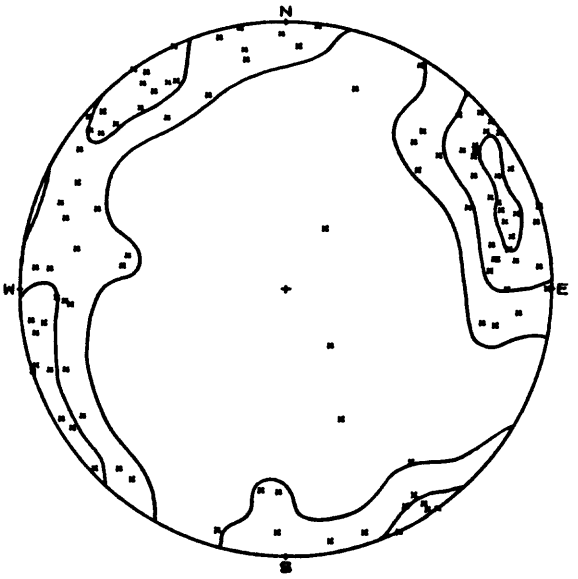
Station 46

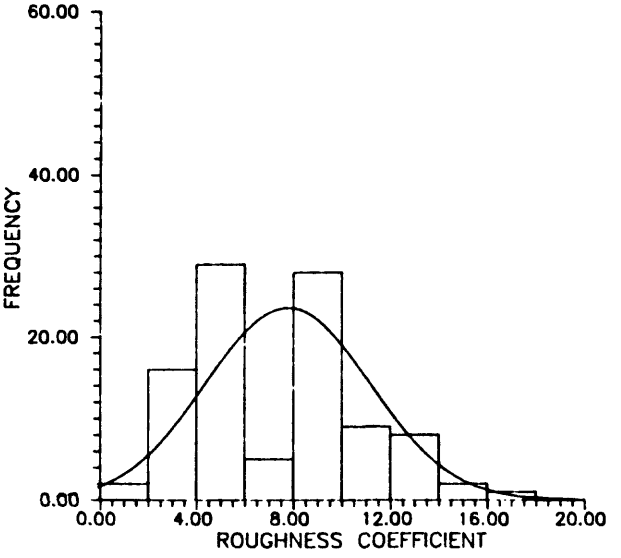




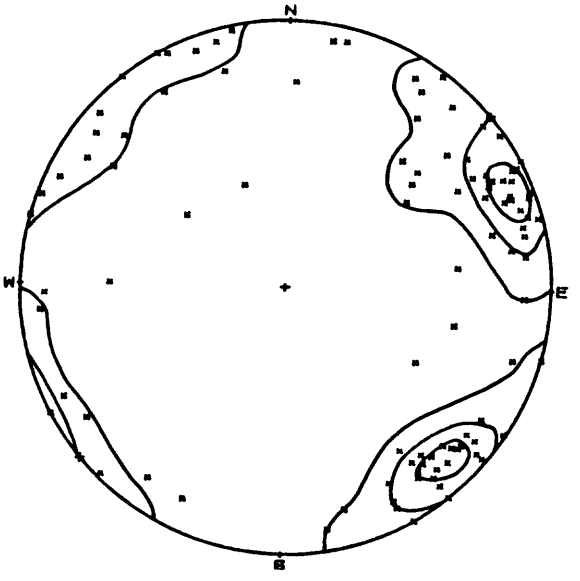
Appendix 2 (continued)

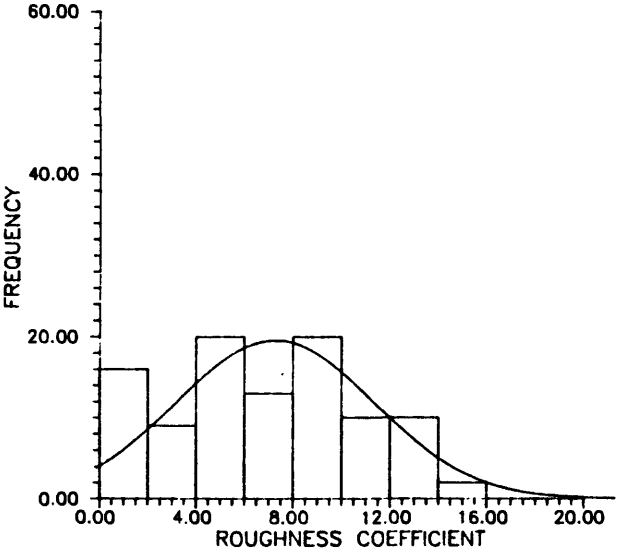
Station 47



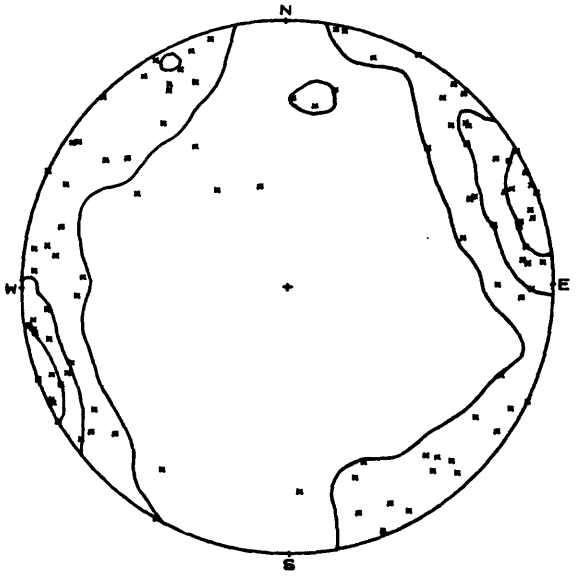


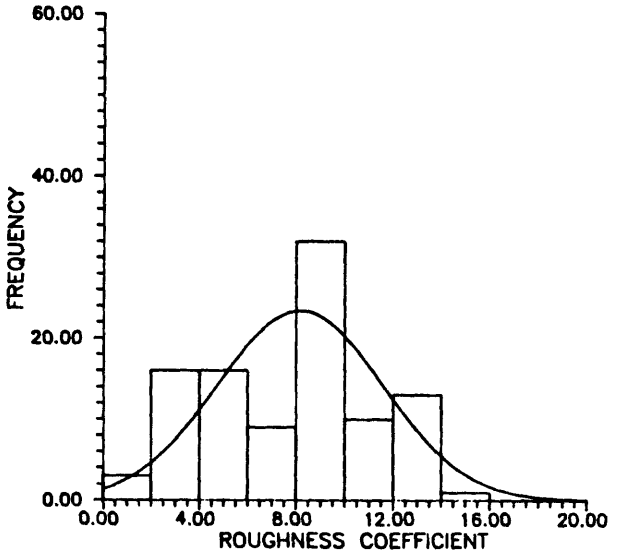
Station 48



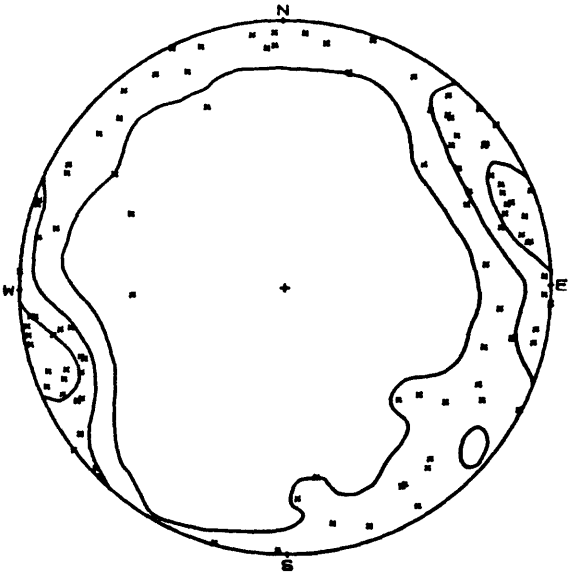


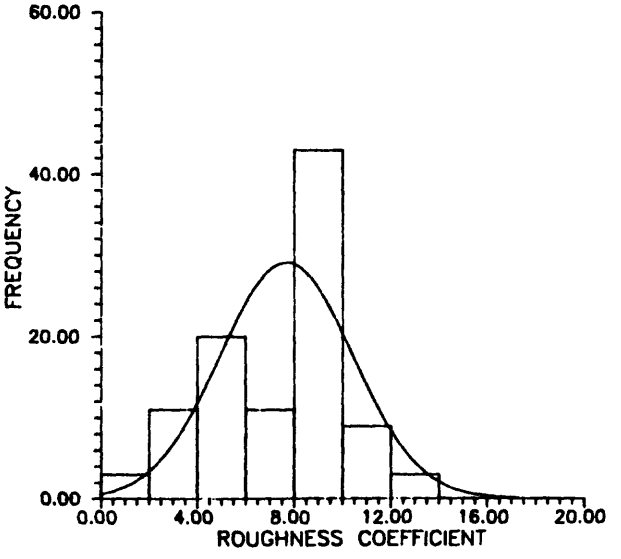
Station 49





Station 50





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