Appendix 1: Data for site location, overlying and underlying units, site elevation and depth, thickness of till unit, color, grain size distribution, magnetic susceptabilty, carbonate content, and abundace of clay minerals.

SITE #	SITE LOCATION	STRATAGRAPHIC UNIT	DATE	1/4	1/4	1/4	SEC	TWNSHP	RANGE	COUNTY
1	MIDDLETON	PLATTEVILLE/GALENA	4 APR 82	SW	NW	SW	10	7N	8E	DANE
2	DOOR QUARRY	NIAGRA	12 JUL 82	NE	NW	NW	1	27N	25E	DOOR
3	DOOR SANDPIT	GLENMORE	13 JULY 82 19 JULY 83	NE	SW	SE	17	27N	26E	DOOR
4	SANDY BAY	PRE-HAVEN	16 JULY 82 22 JULY 83	SW	NW	NE	25	22N	24E	KEWAUNEE
5	SANDY BAY	HAVEN	21 JULY 82	NW	NW	SE	25	22N	24E	KEWAUNEE
6	SANDY BAY	PRE-TWO RIVERS	22 JULY 82 19 JULY 83	NW	NW	NE	25	22N	24E	KEWAUNEE
7	SANDY BAY	TWO RIVERS	22 JULY 82	NW	NW	NE	25	22N	24E	KEWAUNEE
8	HIGHWAY BB	TWO RIVERS	27 JULY 82 22 JULY 83	SE	SE	SE	35	22N	24E	MANITOWOC
9	HIGHWAY BB	PRE-TWO RIVERS	4/17/82,7/27/82	SE	SE	SE	35	22N	24E	MANITOWOC
10	TWO CREEKS TYPE SECTION	PRE-TWO RIVERS	28 JULY 82 22 JULY 83	NW	SE	NE	2	21N	24E	MANITOWOC
11	TWO RIVERS PIT	PRE-TWO RIVERS	28/29 JULY 82 21 JULY 83 25 JULY 83	SE	SW	NW	31	20N	24E	MANITOWOC
12	TWO RIVERS PIT	TWO RIVERS	28/29 JULY 82 25 JULY 83	SE	SW	NW	31	20N	24E	MANITOWOC
13	MANITOWOC RIVER	VALDERS	3 AUG 82 20 JULY 83	SW	SW	NE	24	19N	23E	MANITOWOC
14	VALDERS QUARRY	NIAGRA	26 JULY 82	SW	SW	NE	32	18N	22E	MANITOWOC
15	VALDERS QUARRY	VALDERS	2 AUGUST 82 25 JULY 83	SW	SW	NE	32	18N	22E	MANITOWOC
16	MANITOWOC SUBURB	HORICON VALDERS	29 JULY 82	SW	SW	NW	14	19N	23E	MANITOWOC
17	MEMORIAL DRIVE	HAVEN	30 JULY 82 25 JULY 83	NW	NW	NW	15	19N	24E	MANITOWOC
18	FRICKE QUARRY	VALDERS	3 AUG 82 25 JULY 83		SW	NE	3	18N	23E	MANITOWOC

SITE #	SITE LOCATION	STRATAGRAPHIC UNIT	DATE	1/4	1/4	1/4	SEC	TWNSHP	RANGE	COUNTY
19-1-82	HAVEN	VALDERS	4 AUGUST 82	NW	NW	NE	22	16N	23E	SHEBOYGAN
		VALDERS	& 19 JULY 83							
		VALDERS	1-4 AUGUST 83							
		VALDERS								
		VALDERS								
19-2-82		VALDERS								
		VALDERS								
		VALDERS								
20-1-83		POST-VALDERS								
		VALDERS								
		VALDERS								
		VALDERS								
		VALDERS								
		VALDERS								
		POST-HAVEN								
		HAVEN								
		HAVEN								
20-3-83		VALDERS								
		VALDERS								
20-2-83		HAVEN								
21	PORT WASHINGTON	OZAUKEE	5 AUG 82 4 AUGUST 83	NW	SE	NE	28	11N	22E	OZAUKEE
22	NOTRE DAME	OZAUKEE	6 AUGUST 82 4 AUG 83	SW	SW	SE	8	9N	22E	OZAUKEE
23	ST FRANCIS	OAK CREEK (2A)	10 AUG 82 5 AUG 83	SW	SW	SW	24	6N	22E	MILWAUKEE
		POST-2A								
24	ST FRANCIS	NEW BERLIN	10 AUG 82 5 AUG 83	SW	SW	SW	24	6N	22E	MILWAUKEE
25	ST FRANCIS	OAK CREEK (2A)	10 AUG 82 5 AUG 83	SW	SW	SW	24	6N	22E	MILWAUKEE
26	ST FRANCIS	OAK CREEK (2B)	11 AUG 82 5 AUG 83	SW	SW	SW	24	6N	22E	MILWAUKEE
27	ST FRANCIS	OAK CREEK (2C)	11 AUG 1982 5 AUG 83	SW	SW	SW	24	6N	22E	MILWAUKEE
28	ST FRANCIS	POST-2B	12 AUG 1982 5 AUG 83	NW	SW	SW	24	6N	22E	MILWAUKEE
29	BENDER PARK	OAK CREEK (2B)	12 AUG 82 5 AUG 83	SE	SE	SE	25	5N	22E	MILWAUKEE
31	CAMP AMNICON	DOUGLAS	18 AUG 82	SE	SW	SW	27	49N	12W	DOUGLAS
32	CORPS PROJECT	DOUGLAS	19 AUG 82	NE	NE	NW	4	49N	9W	BAYFIELD
33	PEARSON CREEK	DOUGLAS	19 AUG 82	NW	SW	NE	22	49N	11W	DOUGLAS

SITE #	SITE LOCATION	STRATAGRAPHIC UNIT	DATE	1/4	1/4	1/4	SEC	TWNSHP	RANGE	COUNTY
34	AMNICON RIVER	HANSON CREEK	19 AUG 82	NE	NE	NE	34	49N	12W	DOUGLAS
		DOUGLAS								
35	OSP-2	HANSON CREEK	9 OCT 82	NW	SE	SW	18	49N	10W	DOUGLAS
36	OUTAGAMIE LANDFILL	LAKE OSHKOSH	28 JULY 83		SW	NE	17	21N	17E	OUTAGAMIE
		. .								
		. .								
		. .								
		. .								
		. .								
		. .								
		. .								
		MIDDLE INLET								
37	KOENEN FARM	MIDDLE INLET	29 JULY 83	NW	NW	NW	6	23N	19E	OUTAGMIE
38	ALDEN QUARRY	DES MOINES ADV	7 OCT 83							
39	ALGONA, IOWA	DES MOINES ADV	7 OCT 83							
40	DOWS QUARRY	DES MOINES ADV	7 OCT 83							
		TAZEWELL	7 OCT 83							
41	WINTHROP, MAINE	JOINTED	JUNE 83	NC 1/9 OF WINTHROP 7.5 QUAD						LINCOLN
42	FT. KENT, MAINE	UNJOINTED	JUNE 83							
43	ST. ANNE DE MADAW	HOLOCENE	JUNE 83							
		HOLOCENE								
		HOLOCENE								
		HOLOCENE								

SITE #	STRATAGRAPHIC UNIT	LITHOLOGY	ELEV (ft)	THICKNESS (m)	OVERLYING MATERIAL	THICKNESS (m)	UNDERLYING MATERIAL	THICKNESS (m)
1	PLATTEVILLE/GALENA	DOLMITE	NM	NM	TILL	NM	NM	NM
2	NIAGRA	DOLOMITE	NM	>20	TILL	NM	NM	NM
3	GLENMORE	TILL	660	3.00	SOLUM	NM	LACUSTRINE SILT & SAND	>3
4	PRE-HAVEN	LAMINATED LACUSTRINE SILTY CLAY	585	5.00	SAND W/ CLAY STRINGERS	1	FINE SAND & COURSE SILT	NM
5	HAVEN	TILL	633	NM	SAND & GRAVEL	.3	COVERED	NM
					SOLUM	NM	SAND & GRAVEL	.3
6	PRE-TWO RIVERS	LACUSTRINE SILTY CLAY	620	6.00	SOLUM	NM	PRE-HAVEN LACUSTRINE?	2
7	TWO RIVERS	TILL	640	3.30	SOLUM	1.5	LACUSTRINE SILT & SAND	3
8	TWO RIVERS	TILL	610	1.50	FINE SAND	.5	LACUSTRINE SILT & SAND	>6
9	PRE-TWO RIVERS	LACUSTRINE CLAY	610	6.00	SAND(TCFB)	2.2	COVERED	NM
10	PRE-TWO RIVERS	LAC SILTY CLAY	595	2.80	SILT & SAND (TCFB)	1.5	COVERED	NM
11	PRE-TWO RIVERS	LACUSTRINE SILT & FLUVIAL SAND	615	2.50	TWO RIVERS TILL	1.5	FINE SAND	NM
12	TWO RIVERS	TILL	615	3.50	SOLUM	.8	LACUSTRINE SILT & SAND	2.5
13	VALDERS	TILL	610	2.22	SOLUM	.75	COVERED	NM
14	NIAGRA	DOLOMITE	NM	2.50	TILL	8	NM	NM
15	VALDERS	TILL	900	2.50	SOLUM	.86	NIAGRA DOLOMITE	NM
16	HORICON VALDERS	TILL	700	1.50	STRATIFIED SILT	NM	SAND & GRAVEL	NM
17	HAVEN	TILL	596	>1.7	SOLUM OR LAMINATED SILT	.7 3	NM	NM
18	VALDERS	TILL	745	3.00	SOLUM	.5	FLUVIAL SAND	NM

SITE #	STRATAGRAPHIC UNIT	LITHOLOGY	ELEV (ft)	THICKNESS (m)	OVERLYING MATERIAL	THICKNESS (m)	UNDERLYING MATERIAL	THICKNESS (m)
19-1-82	VALDERS	TILL	630	>1.41	LAC SILT	.22	COVERED	NM
	VALDERS	TILL						
	VALDERS	TILL						
	VALDERS	TILL						
	VALDERS	TILL						
19-2-82	VALDERS	TILL		>1.20	LAC SILT	.28	COVERED	NM
	VALDERS	TILL						
	VALDERS	TILL						
20-1-83	POST-VALDERS	LACUSTRINE SILT		.2	SOLUM	.25	VALDERS	1
	VALDERS	TILL		1	LAC SILT	.2	HAVEN TILL	>2.00
	VALDERS	TILL						
	VALDERS	TILL						
	VALDERS	TILL						
	VALDERS	TILL						
	POST-HAVEN	LACUSTRINE SILT						
	HAVEN	TILL		>2.0	VALDERS TILL	1.2	COVERED	NM
	HAVEN	TILL						
20-3-83	VALDERS	TILL		1.88	SOLUM	.22	HAVEN TILL	>1.5
	VALDERS	TILL						
20-2-83	HAVEN	TILL		>1.5	VALDERS	1.89	COVERED	NM
21	OZAUKEE	TILL	660	24	SOLUM	.8	SAND	24
22	OZAUKEE	TILL	700	22	SOLUM	.5	FLUVIAL SAND	22
23	OAK CREEK (2A)	TILL	660	2	LACUSTRINE SILTY CLAY	1	NEW BERLIN TILL	3.7
	POST-2A	LACUSTRINE	660	1	FLUV SAND	2.5	SAND & 2A	2.3
24	NEW BERLIN	TILL	660	3.7	OAK CREEK (2A)	2.31	VARIES	1
25	OAK CREEK (2A)	TILL	660	2	LACUSTRINE SEDIMENT	1	OAK CREEK (2A)	3.7
26	OAK CREEK (2B)	TILL	660	9	LACUSTRINE RYTHYMITES	1.3	FLUVIAL SAND	2.5
27	OAK CREEK (2C)	TILL	660	1.15	FLUVIAL SAND & GRAVEL	1.56	LACUSTRINE	1.3
						.5	RYTHYMITES	
28	POST-2B	LACUSTRINE RYTHYMITES	650	3	SOLUM	.4	TILL 2B?	8.9
29	OAK CREEK (2B)	TILL	670	>29	SOLUM	.6	SAND	NM
31	DOUGLAS	TILL	650	5.4	SOLUM	NM	HANSON CR TILL	NM
32	DOUGLAS	TILL	620	NM	SOLUM	.2	COVERED	NM
33	DOUGLAS	TILL	650	NM	SOLUM	NM	HANSON CR TILL	NM

SITE #	STRATAGRAPHIC UNIT	LITHOLOGY	ELEV (ft)	THICKNESS (m)	OVERLYING MATERIAL	THICKNESS (m)	UNDERLYING MATERIAL	THICKNESS (m)
34	HANSON CREEK	TILL	640	NM	DOUGLAS TILL	4.6	COVERED	NM
	DOUGLAS	TILL	640	4.6	SOLUM	.4	HANSON CR	>1.4
35	HANSON CREEK	TILL	630	NM	DOUGLAS TILL	NM	COVERED	NM
36		AP	740	.2	FILL		BT	.7
	LAKE OSHKOSH	BT		.7	AP	.2	LAC UNIT 1	.8
	" "	BT						
	" "	LAC UNIT 1		.8	BT	.7	LAC UNIT 2	.71
	" "	LAC UNIT 1						
	" "	LAC UNIT 1						
	" "	LAC UNIT 1						
	" "	LAC UNIT 2		.71	LAC UNIT 1	.8	TILL	>1.4
	" "	LAC UNIT 2					TCFB	NM
	MIDDLE INLET	TILL		1.4	LAC UNIT 2	.71		
37	MIDDLE INLET	TILL	750	NM	SOLUM	NM	NM	NM
38	DES MOINES ADV	TILL	NM	NM	NOTHING		COVERED	NM
39	DES MOINES ADV	TILL	NM	12	NOTHING		LOESS	1.5
40	DES MOINES ADV	TILL	NM	1.5	NOTHING		TAZEWELL	2
	TAZEWELL	TILL	NM	2	DES MOINES	1.5	PALEOSOL	>1.6
41	JOINTED	TILL	NM	NM	SANDY TILL	1	COVERED	NM
42	UNJOINTED	TILL	NM	4.5	SOLUM	NM	LAC SEDS	8
43	HOLOCENE	CHANNEL FILL	NM	3	LEVEE SEDS	1	POINT BAR	1
	HOLOCENE	CHANNEL FILL	NM	3	LEVEE SEDS	1	POINT BAR	1
	HOLOCENE	CHANNEL FILL	NM	3	LEVEE SEDS	1	POINT BAR	1
	HOLOCENE	CHANNEL FILL	NM	3	LEVEE SEDS	1	POINT BAR	1

SITE #	STRATAGRAPHIC UNIT	LITHOLOGY	SAMPLE #	DEPTH (m)	DEPTH w/i UNIT (m)
1	PLATTEVILLE/GALENA	DOLMITE	NONE	5	NM
2	NIAGRA	DOLOMITE	NONE	16.92	16.92
3	GLENMORE	TILL	DR-1001-82	2.3	2.3
			DR-1002-82	2.6	2.6
			DR-1003-82	NM	NM
			DR-1004-82	NM	NM
			DR-1005-82	2.05	2.05
			DR-1006-82	2.25	2.25
			DR-1007-82	2.7	2.7
			DR-1008-82	2.15	2.05
			DR-1009-82	2.25	2.25
4	PRE-HAVEN	LAMINATED	KW-1001-82	10	.85
		LACUSTRINE	KW-1002-82	10	.85
		SILTY CLAY	KW-1003-82		
5	HAVEN	TILL	KW-1011-82	2.5	.2
			KW-1008-82	2.5	.5
			KW-1015-82	1.9	1.9
			KW-1016A-82	2.2	2.2
			KW-1006-82	2.3	2.3
			KW-1007-82	2.6	2.6
6	PRE-TWO RIVERS	LACUSTRINE	KW-1016B-82	6	6
		SILTY CLAY	KW-1017-82	6	6
7	TWO RIVERS	TILL	KW-1018-82	.5	.5
			KW-1020-82	1	1
			KW-1022-82	1.5	1.5
			KW-1023-82	.15	.15
			KW-1025-82	.22	.22
8	TWO RIVERS	TILL	MN-1004-82	2.8	2.3
			MN-1005-82	2.4	1.9
			MN-1008-82	2.25	1.75
			MN-1010-82	1.95	1.45
			MN-1012-82	1.65	1.15
			MN-1014-82	1.35	.85
9	PRE-TWO RIVERS	LACUSTRINE CLAY	MN-1002-82	4.5	.8
10	PRE-TWO RIVERS	LAC SILTY CLAY	MN-1015-82	3.8	2.8
			MN-1017-82	2.4	1.4
11	PRE-TWO RIVERS	LACUSTRINE SILT	MN-1019-82	3	1.5
		& FLUVIAL SAND	MN-1023-82	2.8	1.3
			MN-1030-82	1	1
12	TWO RIVERS	TILL	MN-1024-82	3.5	3.5
			MN-1025-82	2.5	2.5
			MN-1026-82	1.5	1.5
			MN-1027-82	3	3
			MN-1029-82	2	2
13	VALDERS	TILL	MN-1056-82	2.8	4
			MN-1058-82	2	2.5
			MN-1060-82	.4	.5
14	NIAGRA	DOLOMITE	NONE	NA	NA
15	VALDERS	TILL	MN-1044-82	1.4	1.4
			MN-1046-82	.7	.7
			MN-1048-82	.2	.2
	HORICON		MN-1049-82	3.8	.2
16	VALDERS	TILL	MN-1034-82	6.3	1
			MN-1036-82	7	1.75
			MN-1038-82	7.7	2.5
17	HAVEN	TILL	MN-1039-82	3.66	.2
			MN-1041-82	4.46	1
			MN-1043-82	5.26	1.8
18	VALDERS	TILL	MN-1051-82	.5	.5
			MN-1053-82	1.1	1.1
			MN-1055-82	1.92	1.92

SITE #	STRATAGRAPHIC UNIT	LITHOLOGY	SAMPLE #	DEPTH (m)	DEPTH w/i UNIT (m)
19-1-82	VALDERS	TILL	SB-1001-82	1.8	1.3
	VALDERS	TILL	SB-1002-82	1.4	.8
	VALDERS	TILL	SB-1003-82	1.2	.7
	VALDERS	TILL	SB-1004-82	.9	.4
	VALDERS	TILL	SB-1005-82	.5	0
19-2-82	VALDERS	TILL	SB-1006-82	.3	.1
	VALDERS	TILL	SB-1008-82	.8	.6
	VALDERS	TILL	SB-1010-82	1.3	.4
20-1-83	POST-VALDERS	LACUSTRINE SILT	SB-1-83	.55	.1
	VALDERS	TILL	SB-2-83	.7	.25
	VALDERS	TILL	SB-3-83	.9	.45
	VALDERS	TILL	SB-4-83	1.2	.85
	VALDERS	TILL	SB-5-83	1.6	1.15
	VALDERS	TILL	SB-6-83	2.1	1.65
	POST-HAVEN	LACUSTRINE SILT	SB-7-83	2.8	.1
	HAVEN	TILL	SB-8-83	2.6	.4
	HAVEN	TILL	SB-9-83	3.4	1.2
20-3-83	VALDERS	TILL	SB-10-83	1	1
	VALDERS	TILL	SB-11-83	1.6	1.6
20-2-83	HAVEN	TILL	SB-12-83	2.6	.5
21	OZAUKEE	TILL	OZ-1001-82	6.9	6.9
			OZ-1002-82	5.4	5.4
			OZ-1003-82	3	3
			OZ-1004-82	1.6	1.6
			OZ-1005-82	.2	.2
22	OZAUKEE	TILL	OZ-1006-82	3.3	3.3
			OZ-1010-82	.8	.8
23	OAK CREEK (2A)	TILL	MI-1002-82	20.3	1.2
			MI-1003-82	20	.9
	POST-2A	LACUSTRINE	MI-1005-82	19.2	.1
24	NEW BERLIN	TILL	MI-1006-82	22	.75
			MI-1008-82	21.5	.25
25	OAK CREEK (2A)	TILL	MI-1010-82	20.75	1.75
			MI-1011-82	20.25	1.25
26	OAK CREEK (2B)	TILL	MI-1012-82	6	2
			MI-1014-82	5.2	1.2
			MI-1016-82	4.4	.4
27	OAK CREEK (2C)	TILL	MI-1017-82	3.07	1.07
			MI-1019-82	2.6	.6
			MI-1021-82	2.15	.15
28	POST-2B	LACUSTRINE RYTHYMITES	MI-1022-82	3.25	2.53
			MI-1024-82	2.29	1.57
			MI-1025-82	1.95	1.23
			MI-1027-82	1.13	.41
29	OAK CREEK (2B)	TILL	MI-1028-82	3.75	3.15
			MI-1030-82	3.15	2.55
			MI-1032-82	2.55	1.95
31	DOUGLAS	TILL	DS-1011-82	5	5
			DS-1012-82	4	4
			DS-1013-82	3	3
			DS-1014-82	2	2
			DS-1015-82	1	1
32	DOUGLAS	TILL	DA-1002-82	1.5	1.5
			DA-1003-82	1	1
			DA-1004-82	.5	.5
33	DOUGLAS	TILL	DS-1006-82	2.5	2.5
			DS-1007-82	2	2
			DS-1008-82	1.5	1.5
			DS-1009-82	1	1
			DS-1010-82	.5	.5

SITE #	STRATAGRAPHIC UNIT	LITHOLOGY	SAMPLE #	DEPTH (m)	DEPTH w/i UNIT (m)
34	HANSON CREEK	TILL	DS-1016-82	5.95	1.35
			DS-1017-82	5.55	.95
			DS-1018-82	5.17	.57
			DS-1019-82	4.8	.2
	DOUGLAS	TILL	DS-1020-82	4.4	4.4
35	HANSON CREEK	TILL	DS-1032-82	2.5	.5
36		AP	OU-1-83	.16	.16
	LAKE OSHKOSH	BT	OU-2-83	.35	.35
	" "	BT	OU-3-83	.6	.6
	" "	LAC UNIT 1	OU-4-83	1	1
	" "	LAC UNIT 1	OU-5-83	1.3	1.3
	" "	LAC UNIT 1	OU-6-83	1.5	1.5
	" "	LAC UNIT 1	OU-7-83	1.7	1.7
	" "	LAC UNIT 2	OU-8-83	1.9	.2
	" "	LAC UNIT 2	OU-9-83	2.1	.4
	MIDDLE INLET	TILL	OU-10-83	2.6	.2
37	MIDDLE INLET	TILL	OU-11-83	2.5	1
			OU-12-83	2.5	1
			OU-13-83	2.5	1
			OU-14-83	.75	.75
38	DES MOINES ADV	TILL	AQ-1-83	1.6	1.6
39	DES MOINES ADV	TILL	AL-1-83	4	4
40	DES MOINES ADV	TILL	DD-1-83	.75	.75
	TAZEWELL	TILL	DT-1-83	2.75	1.25
41	JOINTED	TILL	MN-1-83	1.5	.5
42	UNJOINTED	TILL	SK-1-82	4.05	4.05
43	HOLOCENE	CHANNEL FILL	SK-422.1-82		ND
	HOLOCENE	CHANNEL FILL	SK-422.3-82	6.7	ND
	HOLOCENE	CHANNEL FILL	SK-422.4-82	6.5	ND
	HOLOCENE	CHANNEL FILL	SK-422.5-82	3.8	ND

SITE #	INTERPRETATION	SAMPLE #	MUNCELL COLOR	% GRAVEL >2MM	% SAND >.625MM	% SILT >.002MM	% CLAY < 2MM	MAG SUSC
1		NONE						
2		NONE						
3	CLAY LOAM	DR-1001-82	7.5YR6/3	5.74	36.38	34.8	28.82	3.1
	BASAL TILL	DR-1002-82	5YR6/4	1.42	41.19	33.9	24.9	3.6
	WITH SOME SAND	DR-1003-82	5TY6/4	15.33	35.13	31.75	33.12	3.6
	FROM UNDERLYING	DR-1004-82	7.5YR6/6	5.18	39.42	36.18	24.4	3.2
	LACUSTRINE	DR-1005-82	5YR6/4	15.48	34.45	32.37	33.17	3.2
	SEDIMENT	DR-1006-82	5YR6/4	12.06	36.24	31.42	32.34	3.3
	"	DR-1007-82	5YR6/4	6.31	37.15	35.6	27.25	3.5
	"	DR-1008-82	5YR6/4	8.11	35.54	33.2	31.24	3.2
	"	DR-1009-82	5YR6/4	5.38	40.19	35.08	24.74	3.5
4	LACUSTRINE	KW-1001-82	10YR 6/3	0	1.31	41.24	57.44	3.9
	SILTY CLAY	KW-1002-82	10YR 6/2	0	.95	39.39	59.66	3.9
		KW-1003-82						
5	SUPRAGLACIAL	KW-1011-82	10YR7/3	.62	26.32	67.37	6.31	4.7
	BASAL TILL	KW-1008-82	7.5YR 6/3	6.48	37.41	46.86	15.72	5.4
	BASAL TWO RIVER	KW-1015-82	7.5YR 6/6	3.74	35.22	47.98	16.8	3.9
	"	KW-1016A-82	7.5YR 6/4	13.69	33.39	45.94	20.67	4.3
	"	KW-1006-82	7.5YR 6/4	12.37	33.49	45.61	20.9	3.4
	"	KW-1007-82	7.5YR 6/4	6.3	31.37	46.3	22.34	4
6	LAC SILT	KW-1016B-82	7.5YR 6/3	0	10.42	73.17	16.41	4.5
	LAC CLAY/SILT	KW-1017-82	7.5YR 6/3	.03	10.04	72.28	16.68	3.5
7	BT/CLAY LOAM TO	KW-1018-82	7.5YR 6/4	.61	17.58	54.36	28.06	5.1
	SILTY-CLAY LOAM	KW-1020-82	7.5YR 6/4	.82	20.19	53.17	26.64	4.7
	BT	KW-1022-82	7.5YR 6/4	4.55	19.34	54.16	26.5	5
	A	KW-1023-82	5 YR 5/6	.71	31.3	33.21	35.49	6
	E	KW-1025-82	7.5YR 6/4	3.63	22.05	45.32	32.63	5.2
8	BASAL/SILT	MN-1004-82	7.5YR 5/4	3.08	24.38	47.09	28.53	4.2
	BASAL/LOAM	MN-1005-82	7.5YR 5/4	2	20.18	52.64	27.18	3.9
	BASAL	MN-1008-82	7.5YR 5/4	4.39	18.13	50.75	31.13	3.3
	SUPRA	MN-1010-82	7.5YR 5/4	4.46	18.69	53.03	28.28	3.4
	SUPRA/LOAM	MN-1012-82	7.5YR 5/6	11.57	32.11	47.2	20.69	5
	SUPRA/ "	MN-1014-82	5 YR 5/4	12.36	26.44	47.7	25.86	2.3
9	SILTY CLAY LOAM	MN-1002-82	7.5YR 6/3	0	.73	59.87	39.4	3.7
10		MN-1015-82	7.5YR 6/3	0	1.16	51.39	47.45	3.4
		MN-1017-82	7.5YR 5/4	.9	4.83	42.85	52.32	2.3
11	FAULT SAND/SILT	MN-1019-82	7.5YR 5/6	0	36.61	58.79	4.6	4.8
	SILT OF CORE	MN-1023-82	7.5YR 5/6	0	3.57	88.67	7.76	3.4
	TILL	MN-1030-82	7.5YR 5/6	9.48	34.54	41.88	23.58	3.8
12	FLOW TILL-SOUTH	MN-1024-82	7.5YR 5/8	3.87	37.54	43.56	18.9	3.6
	BASAL TILL-SOUT	MN-1025-82	5YR 4/8	7.89	NA	NA	NA	4.7
	BASAL TILL-SOUT	MN-1026-82		.76	25.44	29.62	44.95	5.5
	FLOW/BASAL-SW	MN-1027-82	7.5YR 5/8	12.24	40.47	42.12	17.41	3.8
	BASAL-SW WALL	MN-1029-82	7.5YR 5/6	22.99	28.5	42.31	29.2	4.7
13	BASAL HAVEN	MN-1056-82	5YR 6/3	.49	6.31	51.16	42.53	2.7
	BASAL HAVEN	MN-1058-82	5YR 6/4	2.45	15.93	46.9	37.16	3.2
	E	MN-1060-82		.66	4.53	NA	NA	5.1
14		NONE		NA	NA	NA	NA	NA
15	BASAL TILL	MN-1044-82	7.5YR 5/6	19.16	30.5	48.78	20.73	6.6
	2B	MN-1046-82	5YR 6/4	3.21	26.64	48.82	24.54	6.7
	BT-LEACHED	MN-1048-82	5YR 6/6	.58	24	36.58	39.42	9.2
	HORICON TILL	MN-1049-82	10YR 7/3	11.02	38.58	52.72	8.71	6.9
16	TILL	MN-1034-82	7.5YR 6/4	10.59	37.01	47.41	15.58	7.4
	TILL	MN-1036-82	7.5YR 5/6	5.25	35.2	50.44	14.37	7.5
	NO TILL	MN-1038-82	7.5YR 6/6	3.61	32.08	55.7	12.22	7.9
17	TILL-BOTTOM	MN-1039-82	7.5YR 5/4	4.3	16.01	43.12	40.87	5.6
		MN-1041-82	7.5YR 5/3	1.81	14.28	44.35	41.38	5.8
	TILL-TOP	MN-1043-82	5 YR 5/8	.3	7.13	44.51	48.36	5.3
18	TILL-BOTTOM	MN-1051-82	5 YR 7/3	.28	5.75	58.24	36.01	3.6
		MN-1053-82	5 YR 6/4	4.12	6.45	52.49	41.06	3.2
	TILL-TOP	MN-1055-82	5YR 6/4	.59	5.69	48.62	45.68	3.9

SITE #	INTERPRETATION	SAMPLE #	MUNCELL COLOR	% GRAVEL >2MM	% SAND >.625MM	% SILT >.002MM	% CLAY < 2MM	MAG SUSC
19-1-82	BOTTOM	SB-1001-82	7.5YR 6/4	2.67	22.78	56.73	20.49	4.9
		SB-1002-82	7.5YR 6/3	1.9	24.01	62.83	13.16	5.6
		SB-1003-82	7.5YR 6/4	3.52	32.53	53.58	13.89	5.1
		SB-1004-82	7.5YR 6/4	2.03	27.76	57.28	14.95	5.4
	TOP	SB-1005-82	7.5YR 6/4	6.02	28.94	55.71	15.35	5.5
19-2-82	TOP	SB-1006-82	7.5YR 6/4	1.44	27.1	57.99	14.91	5.6
	MIDDLE	SB-1008-82	7.5YR 6/3	2.93	19.81	54.87	25.32	3.7
	BOTTOM	SB-1010-82	7.5YR 6/4	3.11	32.66	52.85	14.48	5.3
20-1-83	LAC SILTS	SB-1-83	7.5YR 6/6	.12	.64	98.33	1.03	5.1
	TILL-TOP	SB-2-83	7.5YR 6/4	10.28	26.68	48.15	25.18	5.2
		SB-3-83	5 YR 6/4	1.64	25.46	42.18	32.36	4.6
		SB-4-83	5.0YR 5/6	2.4	27.61	53.69	18.7	5.4
		SB-5-83	7.5YR 6/4	2.51	16.24	48.92	34.84	4.7
	TILL-BOTTOM	SB-6-83	7.5YR 5/4	1.62	13.3	46.74	39.96	3.9
	LAC SEDS	SB-7-83	7.5YR 5/3	0	1.56	64.36	34.08	5.1
	TILL-TOP	SB-8-83	5.0YR 6/4	.95	10.69	51	38.31	3.8
	TILL-BOTTOM	SB-9-83	7.5YR 5/4	1.76	10.03	53.42	36.56	5
20-3-83	TILL	SB-10-83	5.0YR 6/4	2.46	21.7	53.31	25	4
		SB-11-83	7.5YR 5/6	5.37	32.95	48.19	18.86	4.9
20-2-83	TILL	SB-12-83	7.5YR 6/2	1.61	8.24	48.74	43.02	3.8
21	UNOXIDIZED	OZ-1001-82	7.5YR 6/3	3.6	32.77	45.2	22.03	5.6
	UNOXIDIZED	OZ-1002-82	7.5YR 6/3	7.39	33.89	40.33	25.77	4.9
	UNOXIDIZED	OZ-1003-82	7.5YR 6/3	.2	26.38	48.84	24.78	4.7
	OXIDIZED	OZ-1004-82	7.5YR 6/5	4.3	35.63	46.56	17.81	4.9
	OXIDIZED-B HORIZ	OZ-1005-82	7.5YR 6/6	3.69	33.41	43.79	22.8	2.7
22	TILL	OZ-1006-82	7.5YR 6/4	3.66	17.77	55.68	26.55	4.1
	BT	OZ-1010-82	7.5YR 6/3	4.2	12.8	49.8	37.39	1
23	BASAL 2A	MI-1002-82	10 YR 5/2	5.96	33.17	42.48	24.35	4.3
	BASAL 2A	MI-1003-82	10 YR 5/3	5.3	35.39	41.27	23.34	3.4
	LAC FACIES?	MI-1005-82	10 YR 6/3	6.3	5.38	52.42	42.19	4.2
24	NEW BERLIN-BASAL	MI-1006-82	5.0YR 5/2	.95	5.52	45.15	49.33	3.5
	NEW BERLIN-SUPRA	MI-1008-82	7.5YR 6/2	10.14	23.11	45.81	31.09	5.2
25	BASAL 2A	MI-1010-82	10 YR 6/2	2.42	15.22	48.4	36.37	3.7
	BASAL 2A	MI-1011-82	10 YR 6/2	3.62	10.41	43.9	45.7	3
26	TILL 2B LOWER	MI-1012-82	10 YR 7/4	.17	3.18	68.97	27.85	2.9
	TILL 2B	MI-1014-82	2.5 Y 6/2	4.19	9.82	53.5	36.68	2.4
	TILL 2B UPPER	MI-1016-82	2.5 Y 6/1	3.62	8.2	53.33	38.48	2.3
27	TILL 2C LOWER	MI-1017-82	2.5 Y 6/1	2.08	20.37	59.94	19.69	2.3
	TILL 2C	MI-1019-82	2.5 Y 6/3	5.99	14.58	56.96	28.46	3.1
	TILL 2C UPPER	MI-1021-82	10 YR 6/4	5.15	16.25	58.53	25.22	3.5
28	SILT VARVE	MI-1022-82	2.5 Y 6/1	.2	7.98	64.13	27.89	1
	CLAY VARVE	MI-1024-82	7.5YR 6/6	.64	6.78	67.51	25.71	1.2
	CLAY VARVE	MI-1025-82	7.5YR 6/5	0	7.07	58.39	34.54	.6
	SILT/SAND VARVE	MI-1027-82	2.5 Y 6/3	.07	50.39	26.71	22.9	1.1
29	TILL 2B UNOX	MI-1028-82	10 YR 6/4	.45	11.49	60.02	28.49	4.4
	TILL 2B UNOX	MI-1030-82	10 YR 6/4	2.25	10.08	59.32	30.6	4
	TILL 2B UNOX	MI-1032-82	10 YR 7/3	1.28	17.21	58.9	23.89	4.4
31	LOWER	DS-1011-82	2.5YR 6/6	.41	2.3	22.96	74.74	3.8
		DS-1012-82	2.5YR 6/6	.21	4.56	13.46	81.98	4.5
		DS-1013-82	2.5YR 6/6	.25	5.21	11.01	83.78	4.5
		DS-1014-82	2.5YR 5/6	.18	5.01	14.19	80.8	4.6
	UPPER	DS-1015-82	2.5YR 5/6	7.96	5.51	15.47	79.03	4.6
32	LOWER	BA-1002-82	2.5YR 5/8	3.47	16.57	25.76	57.67	5
		BA-1003-82	2.5YR 5/8	.33	12.84	25.25	61.9	5.8
		BA-1004-82	2.5YR 5/8	.59	13.24	24.2	62.56	3.6
33	UPPER	DS-1006-82	2.5YR 5/6	2.21	9.63	15.6	75.21	5.3
	LOWER	DS-1007-82	2.5YR 5/6	1.43	10.76	16.55	72.7	4.7
		DS-1008-82	2.5YR 5/6	.29	8.2	48.67	43.13	5.1
		DS-1009-82	2.5YR 5/6	.27	10.68	33.21	56.1	5.5
	UPPER	DS-1010-82	5.0YR 5/6	24.02	14.47	10.81	74.72	5.4

SITE #	INTERPRETATION	SAMPLE #	MUNCELL COLOR	% GRAVEL >2MM	% SAND >.625MM	% SILT >.002MM	% CLAY < 2MM	MAG SUSC
34		DS-1016-82	2.5YR 5/6	.04	5.29	20.81	73.9	5.7
		DS-1017-82	2.5YR 5/6	.46	5.43	19.06	75.51	5.4
		DS-1018-82	2.5YR 5/6	.31	5.94	23.46	70.6	5.6
		DS-1019-82	2.5YR 5/6	.4	6.54	18.27	75.19	4.9
		DS-1020-82	2.5YR 5/6	.64	5.23	19.98	74.79	5.2
35		DS-1032-82	5.0YR 5/4	.62	11.24	33.12	55.63	5.4
36	AP	OU-1-83	7.5YR 4/4	.93	20.77	45.69	33.54	2.5
	BT	OU-2-83	5.0YR 6/4	.12	3.61	25.98	70.41	1.7
	BT	OU-3-83	5.0YR 6/4	0	2.3	41.62	56.09	2.1
	LAC UNIT 1	OU-4-83	7.5YR 6/4	.14	5.1	51.61	43.29	3.8
	LAC UNIT 1	OU-5-83	7.5YR6/6	.03	3.31	66.92	29.77	3.4
	LAC UNIT 1	OU-6-83	7.5YR6/3	.47	6.43	66.12	27.45	6.1
	LAC UNIT I	OU-7-83	5.0YR 7/4	.6	22.47	54.07	23.45	4.7
	LAC UNIT II	OU-8-83	7.5YR 6/4	.01	1.3	98.09	.61	4.8
	LAC UNIT II	OU-9-83	5.0YR 6/4	3.21	25.99	51.5	22.51	5.5
	BASAL TILL	OU-10-83	2.5YR 6/3	2.84	18.54	55.33	26.13	4.6
37	BASAL TILL	OU-11-83	5.0YR 6/4	3.62	15.72	67.8	16.48	3.8
	BASAL TILL	OU-12-83	5.0YR 6/4	4.56	28.31	41.94	29.76	4.7
	BASAL TILL	OU-13-83	5.0YR 6/4	3.51	29.28	41.13	29.59	5.6
	FILL???	OU-14-83	7.5YR 6/4	42.3	40.68	36.05	23.28	2.3
38		AQ-1-83	2.5 Y 5/4	7.72	49.41	37.72	12.87	5.5
39		AL-1-83	2.5 Y 5/4	5.36	39.01	44.03	16.97	4.1
40		DD-1-83	5.0 Y 3/2	9.5	55.99	31.56	12.45	5.5
		DT-1-83	5.0 Y 4/4	1.44	29.31	44.73	25.96	1
41		MN-1-83	5.0 Y 5/2	4.67	37.14	39.05	23.81	2.8
42		SK-1-82	7.5 Y 4/2	12.54	24.41	56.76	18.83	2.7
43		SK-422.1-82						
		SK-422.3-82	2.5 Y 7/2	0	.1	78.48	21.42	.9
		SK-422.4-82	5Y 5/2	.74	3.24	67.86	28.9	1.4
		SK-422.5-82	2.5Y 7/2	0	2.08	50.62	47.69	1.1

SITE #	SAMPLE #	% CALCITE	% DOLOMITE	% CARBONATE	% EXPAND	% ILLITE	% KAOL/CHL
1	NONE						
2	NONE						
3	DR-1001-82	0	59	59			
	DR-1002-82	0	56.87	56.87			
	DR-1003-82	0	52.33	52.33			
	DR-1004-82	0	53.58	53.58			
	DR-1005-82	0	58.72	58.72	8.06	64.52	27.42
	DR-1006-82	0	58.31	58.31			
	DR-1007-82	0	55.81	55.81	28.85	57.69	13.46
	DR-1008-82				33.15	52.49	14.36
	DR-1009-82				32.41	50.92	16.67
4	KW-1001-82						
	KW-1002-82						
	KW-1003-82				16.26	69.11	14.63
5	KW-1011-82						
	KW-1008-82	.62	36.61	37.23			
	KW-1015-82				8.4	79.83	11.76
	KW-1016A-82				21.37	64.1	14.53
	KW-1006-82	0	46.43	46.43	15.75	69.55	14.7
	KW-1007-82	0	47.28	47.28	28.9	49.13	21.97
6	KW-1016B-82				28.69	59.84	11.46
	KW-1017-82						
7	KW-1018-82	0	47.74	47.74			
	KW-1020-82	0	48.33	48.33	58	35	7
	KW-1022-82	0	47.65	47.65			
	KW-1023-82	0	12.84	12.84			
	KW-1025-82	0	43.96	43.96			
8	MW-1004-82	0	46.74	46.74			
	MW-1005-92						
	MW-1008-82	0	47.48	47.48			
	MW-1010-82	0	49.38	49.38			
	MW-1012-82	0	47.27	47.27			
	MW-1014-82	0	49.51	49.51			
9	MW-1002-82						
10	MW-1015-82						
	MW-1017-82				34.97	53.85	11.19
11	MW-1019-82						
	MW-1023-82						
	MW-1030-82						
12	MW-1024-82	0	37.55	37.55			
	MW-1025-82	0	27.81	27.81			
	MW-1026-82	2.04	0	2.04			
	MW-1027-82	0	36.76	36.76	45.59	47.07	7.34
	MW-1029-82	0	48.93	48.93	52.85	43.35	3.8
13	MW-1056-82	.59	38.74	39.33			
	MW-1058-82	0	38.83	38.83	61	32	7
	MW-1060-82	0	.67	.67			
14	NONE	NA	NA	NA	NA	NA	NA
15	MW-1044-82						
	MW-1046-82	0	49.83	49.83	80	15	5
	MW-1048-82	0	1.02	1.02			
	MW-1049-82				53.13	43.6	3.27
16	MW-1034-82	0	73.95	73.95	54.11	36.3	9.59
	MW-1036-82	0	52.55	52.55			
	MW-1038-82	0	45.85	45.85			
17	MW-1039-82	0	32.9	32.9			
	MW-1041-82				33.53	52.48	13.99
	MW-1043-82	0	41.1	41.1			
18	MW-1051-82	0	40.83	40.83			
	MW-1053-82	0	44.7	44.7	55.44	38.46	6.1
	MW-1055-82	0	41.09	41.09			

SITE #	SAMPLE #	% CALCITE	% DOLOMITE	% CARBONATE	% EXPAND	% ILLITE	% KAOL/CHL
19-1-82	SB-1001-82	0	43.68	43.68			
	SB-1002-82	0	41.35	41.35	51.62	38.69	10.05
	SB-1003-82	0	46.99	46.99	52.14	38.8	9.05
	SB-1004-82	0	40.71	40.71			
	SB-1005-82	0	45.83	45.83			
19-2-82	SB-1006-82	0	44.75	44.75			
	SB-1008-82	0	42.6	42.6	53.87	38.36	7.77
	SB-1010-82	0	44.75	44.75			
20-1-83	SB-1-83	0	40.57	40.57			
	SB-2-83	0	35.9	35.9			
	SB-3-83	0	40.05	40.05			
	SB-4-83	0	45.31	45.31	77	18	5
	SB-5-83	0	47.57	47.57	59.37	34.32	6.31
	SB-6-83	0	38.34	38.34	60	33	7
	SB-7-83	0	41.63	41.63			
	SB-8-83	0	37.45	37.45	35	53	12
	SB-9-83	0	40.83	40.83			
20-3-83	SB-10-83	0	43.97	43.97	20	63	17
	SB-11-83	.97	43.68	44.65	65	30	5
20-2-83	SB-12-83	0	37.56	37.56	27.66	58.09	14.25
21	OZ-1001-82	0	46.92	46.92			
	OZ-1002-82	0	49.65	49.65			
	OZ-1003-82	0	46.92	46.92	48.91	39.58	11.61
	OZ-1004-82	0	46.46	46.46			
	OZ-1005-82	0	43.56	43.56			
22	OZ-1006-82	.48	49.05	49.53			
	OZ-1010-82	1.71	46.85	48.56	70	23	7
23	MI-1002-82	2.12	48.02	50.14			
	MI-1003-82	4	50.23	54.23	8.21	70.08	21.69
	MI-1005-82	0	34.67	34.67			
24	MI-1006-82	0	46.54	46.54			
	MI-1008-82	0	37.09	37.09	4.11	76.13	19.75
25	MI-1010-82	0	47.51	47.51			
	MI-1011-82	0	48.63	48.63	26.32	52.63	21.05
26	MI-1012-82						
	MI-1014-82	1.56	47.2	48.76	13.61	71.43	14.97
	MI-1016-82						
27	MI-1017-82						
	MI-1019-82	2.97	45.59	48.56	11.83	73.96	14.2
	MI-1021-82						
28	MI-1022-82	2.99	60.26	63.25			
	MI-1024-82						
	MI-1025-82						
	MI-1027-82	.48	.79	1.27			
29	MI-1028-82						
	MI-1030-82	0	62.89	62.89	17.73	70.92	11.35
	MI-1032-82						
31	DS-1011-82	0	11.29	11.29			
	DS-1012-82						
	DS-1013-82				72	20	8
	DS-1014-82						
	DS-1015-82	.75	3.79	4.54			
32	BA-1002-82						
	BA-1003-82				78	14	8
	BA-1004-82						
33	DS-1006-82						
	DS-1007-82						
	DS-1008-82						
	DS-1009-82						
	DS-1010-82				25.21	54.62	20.17

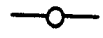
SITE #	SAMPLE #	% CALCITE	% DOLOMITE	% CARBONATE	% EXPAND	% ILLITE	% KAOL/CHL
34	DS-1016-82	.25	3.89	4.14			
	DS-1017-82	.53	3.45	3.98	37.5	27.08	35.42
	DS-1018-82	1.17	2.92	4.09			
	DS-1019-82	1.29	2.65	3.94	54.08	30.9	15.01
	DS-1020-82	.5	2.75	3.25			
35	DS-1032-82	.48	1.17	1.65	65.04	23.03	11.92
36	OU-1-83		0	0			
	OU-2-83	8.67	15.22	23.89			
	OU-3-83	10.68	19.78	30.46			
	OU-4-83	4.83	23.42	28.25			
	OU-5-83	5.13	21.27	26.4	82	13	5
	OU-6-83	2.42	20.85	23.27			
	OU-7-83	0	24.76	24.76	65	26	9
	OU-8-83	0	22.7	22.7			
	OU-9-83	.09	26.14	26.23	38.63	49.36	12.02
	OU-10-83	0	25.83	25.83	53.42	35.62	10.96
37	OU-11-83			0			
	OU-12-83	0	26.59	26.59	32	52	16
	OU-13-83	1.15	26.79	27.94	28.7	49.57	21.74
	OU-14-83	1.56	27.15	28.71	40.98	46.45	12.57
38	AQ-1-83	1.3	16.64	17.94	93	5	2
39	AL-1-83	1.44	18.43	19.87	92	5	3
40	DD-1-83	.33	21.44	21.77	88	7	5
	DT-1-83	0	9.36	9.36	94	3	7
41	MN-1-83	0	23.37	23.37	15	73	12
42	SK-1-82	0	.01	.01	4	66	30
43	SK-422.1-82				3	68	29
	SK-422.3-82				3	64	33
	SK-422.4-82				12	66	23
	SK-422.5-82				7	58	35

Appendix 2: Measured sections for sampling locations

Key:

Oriented sample

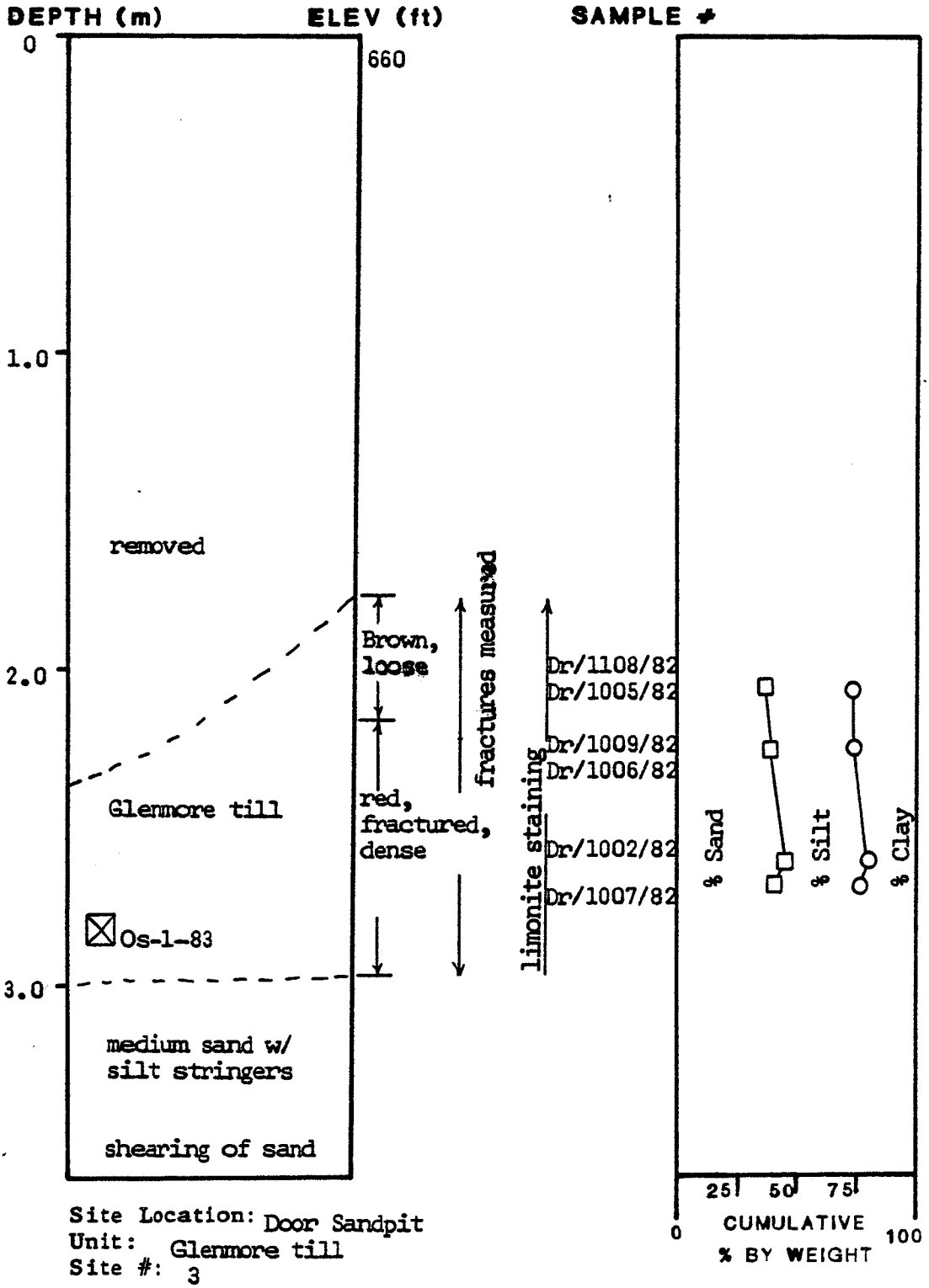
cumulative sand content



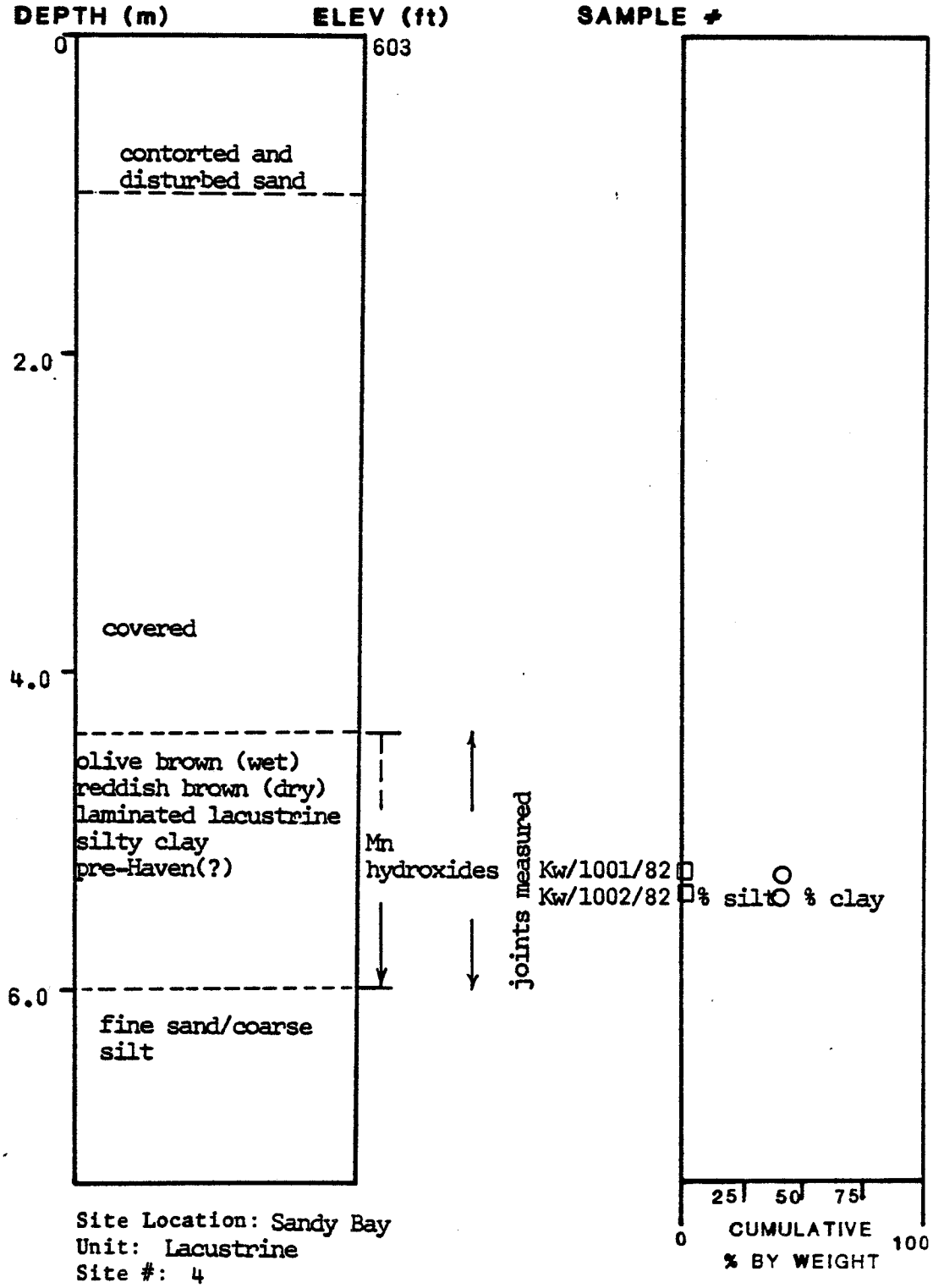
cumulative silt content

cumulative clay content

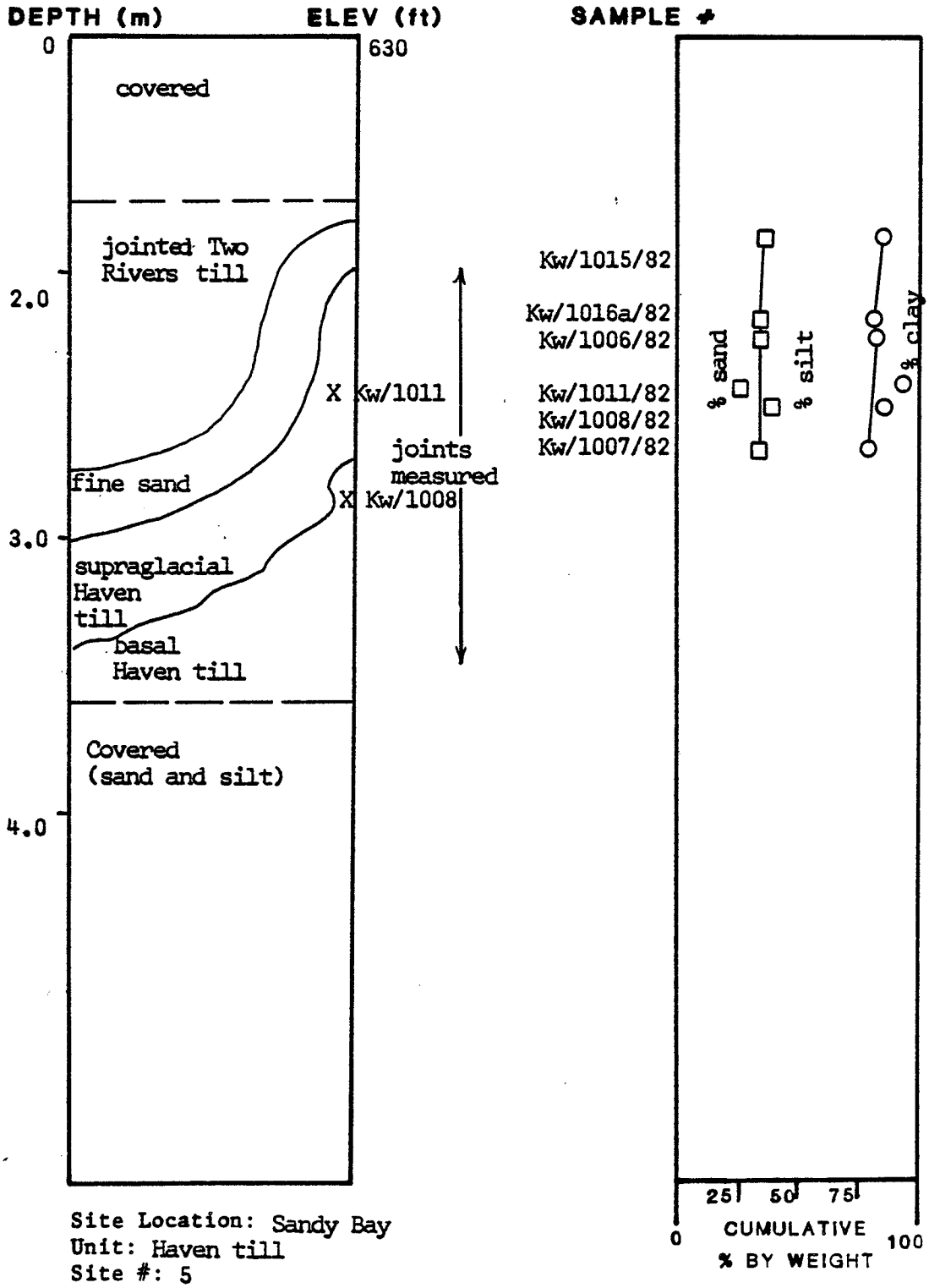
carbonate content of coarse silt fraction



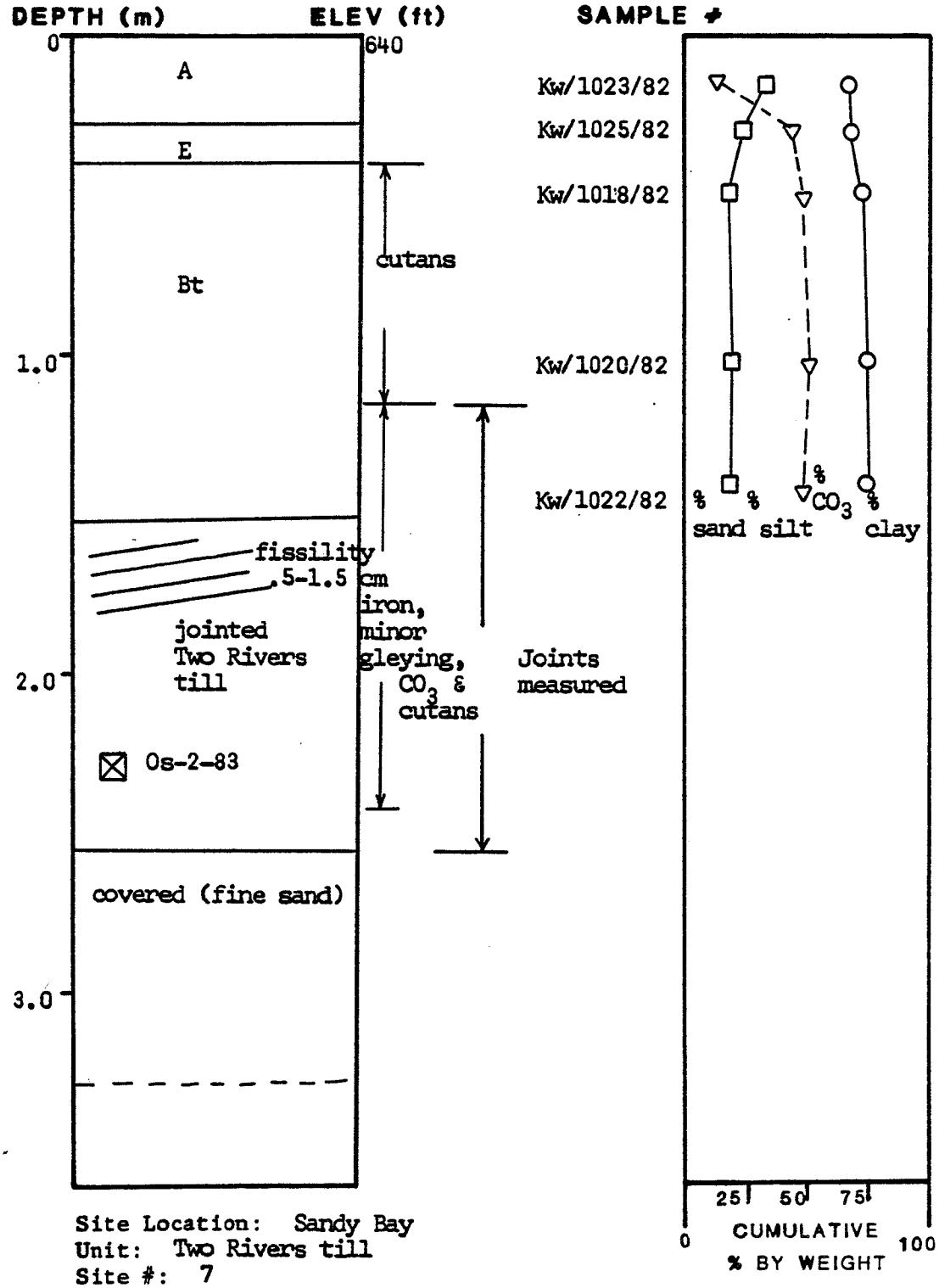
Site Location: Door Sandpit
Unit: Glenmore till
Site #: 3



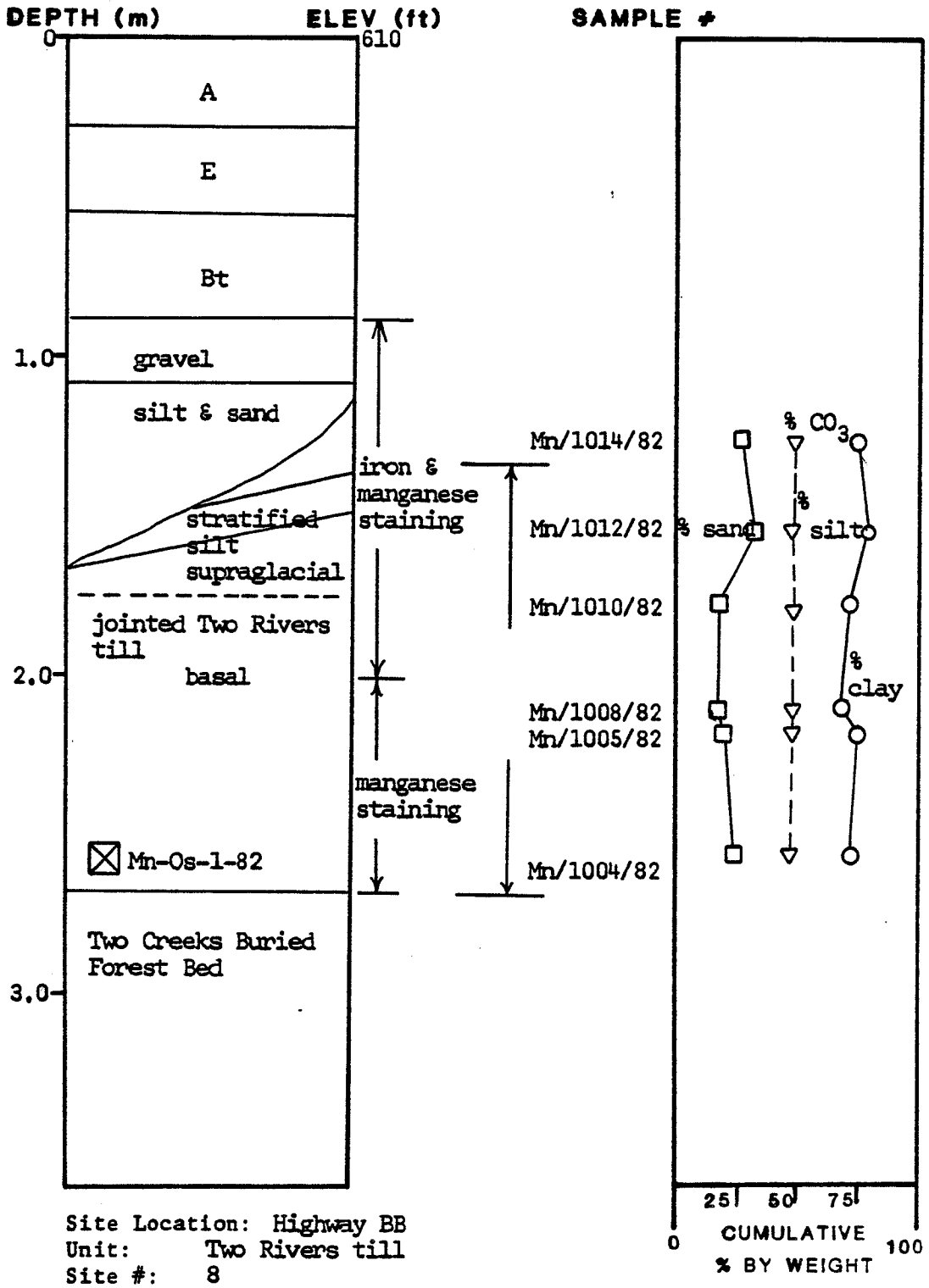
Site Location: Sandy Bay
Unit: Lacustrine
Site #: 4



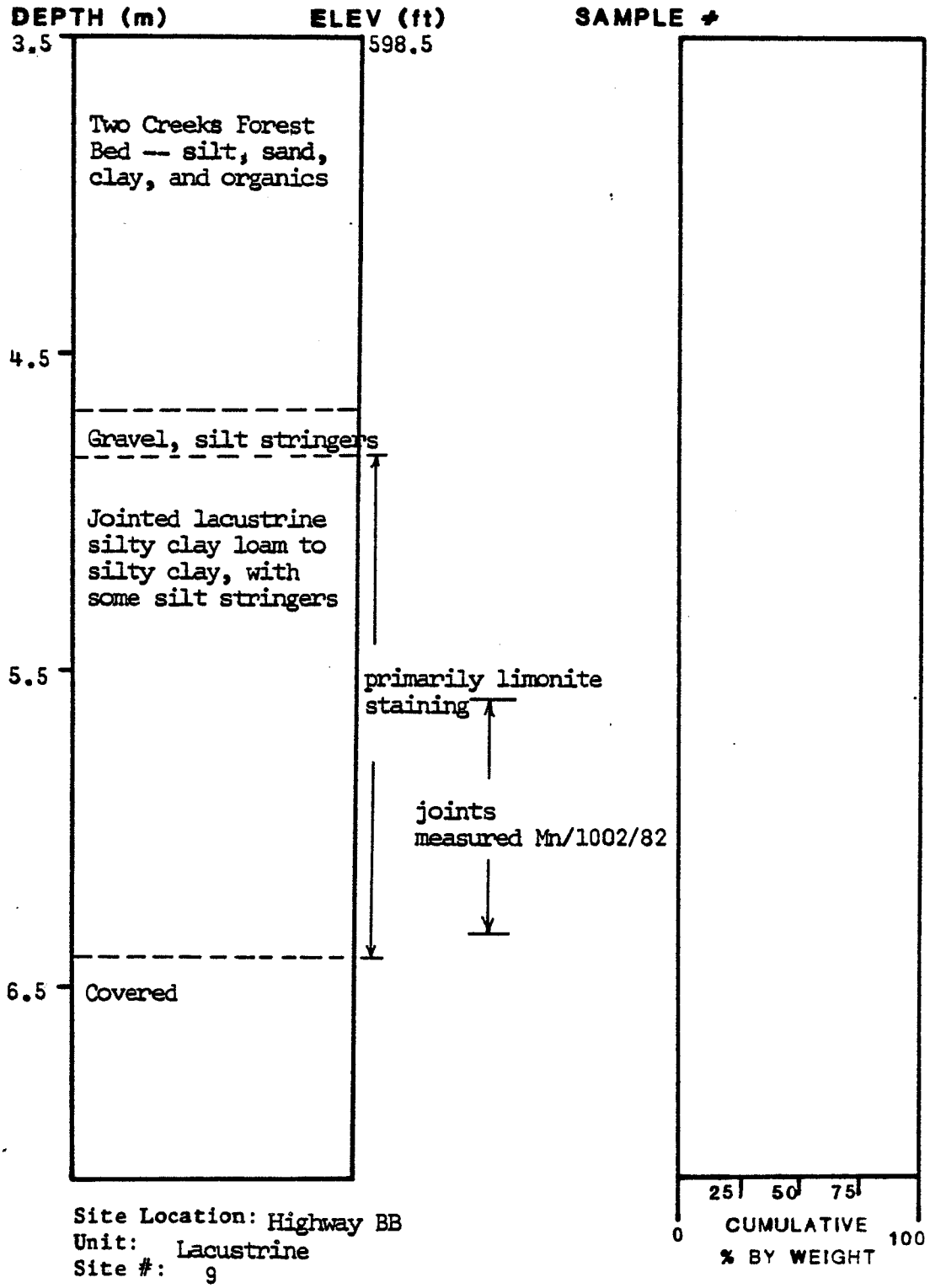
Site Location: Sandy Bay
Unit: Haven till
Site #: 5



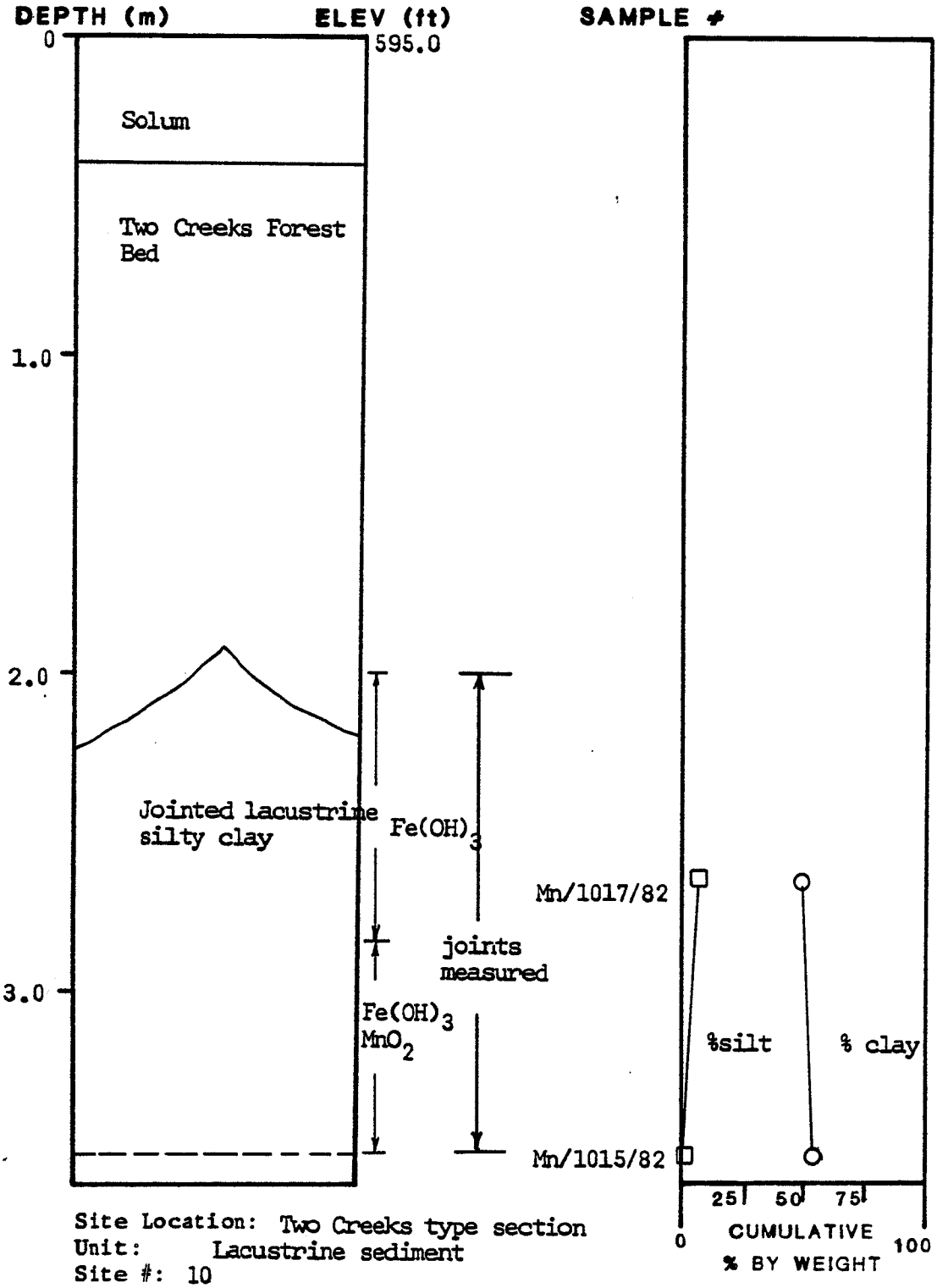
Site Location: Sandy Bay
Unit: Two Rivers till
Site #: 7



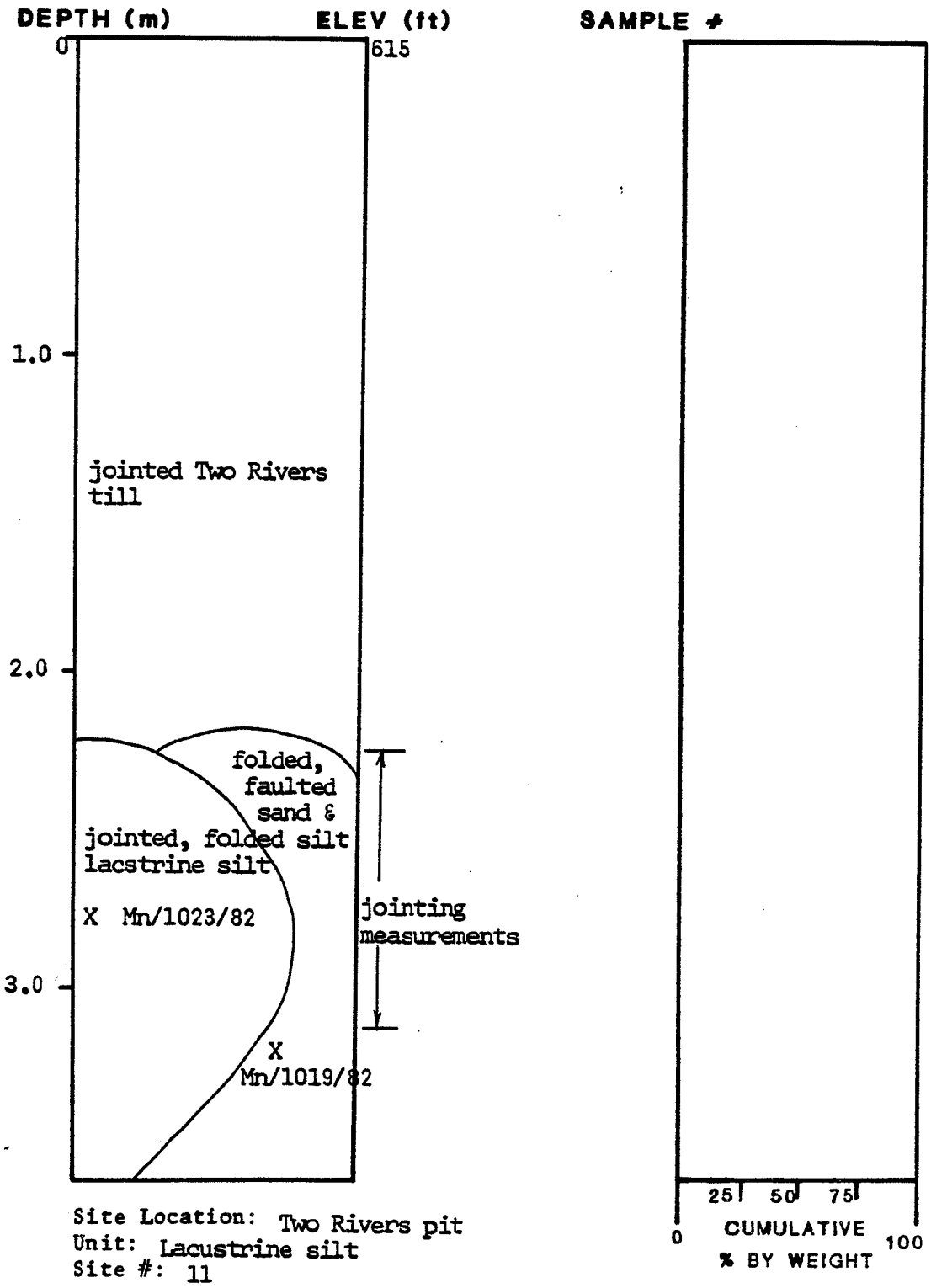
Site Location: Highway BB
Unit: Two Rivers till
Site #: 8



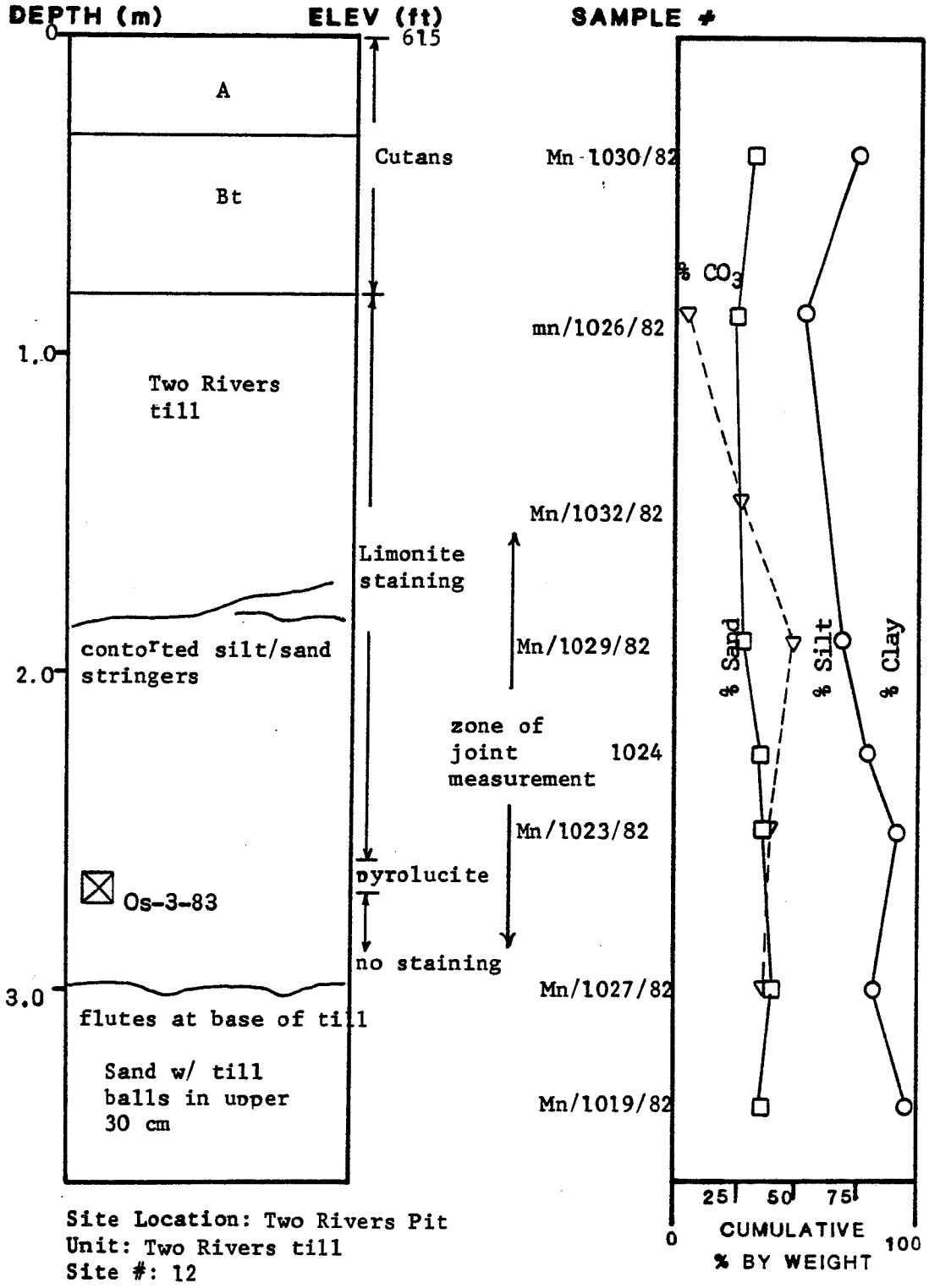
Site Location: Highway BB
Unit: Lacustrine
Site #: 9



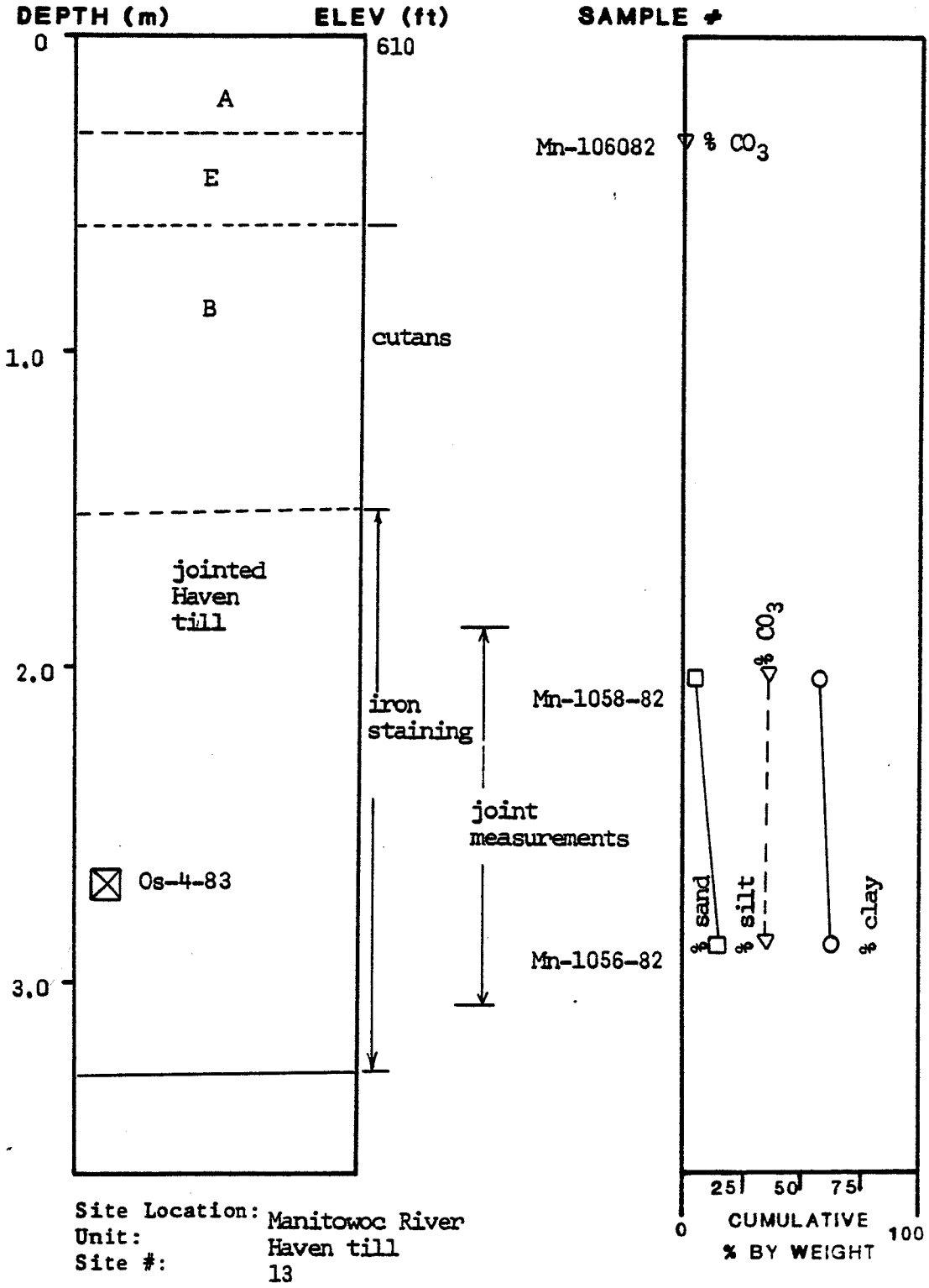
Site Location: Two Creeks type section
Unit: Lacustrine sediment
Site #: 10

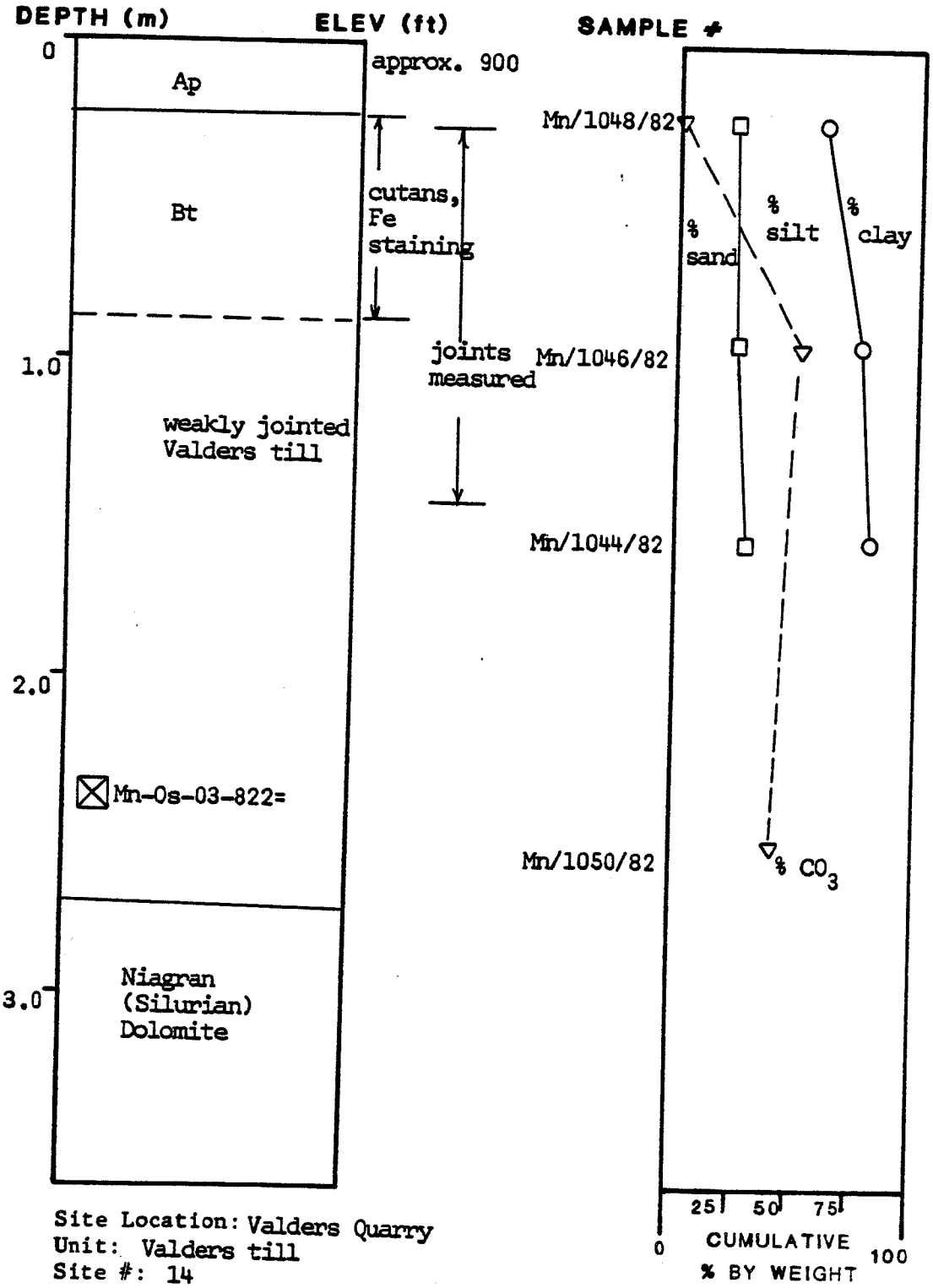


Site Location: Two Rivers pit
Unit: Lacustrine silt
Site #: 11

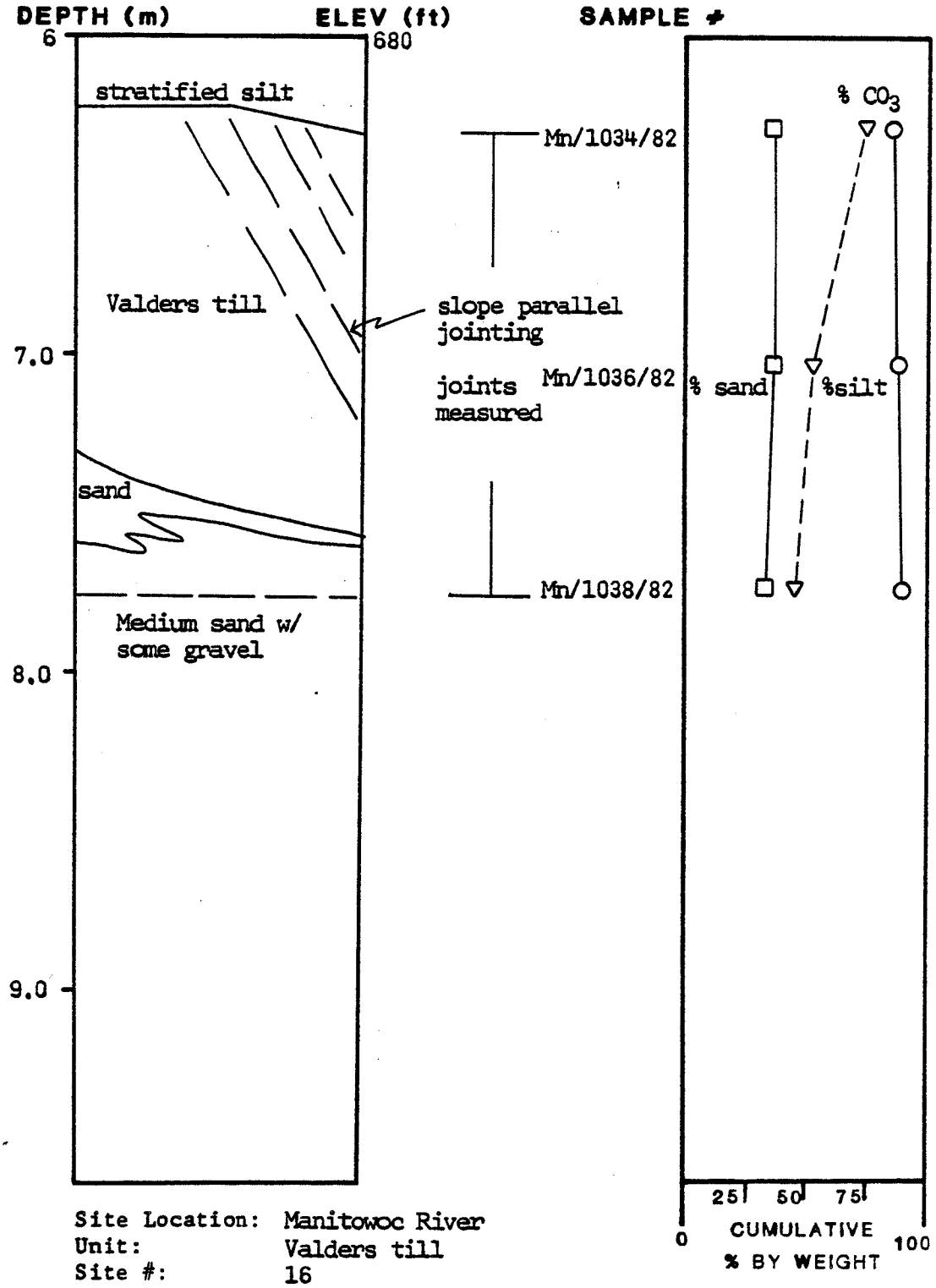


Site Location: Two Rivers Pit
Unit: Two Rivers till
Site #: 12

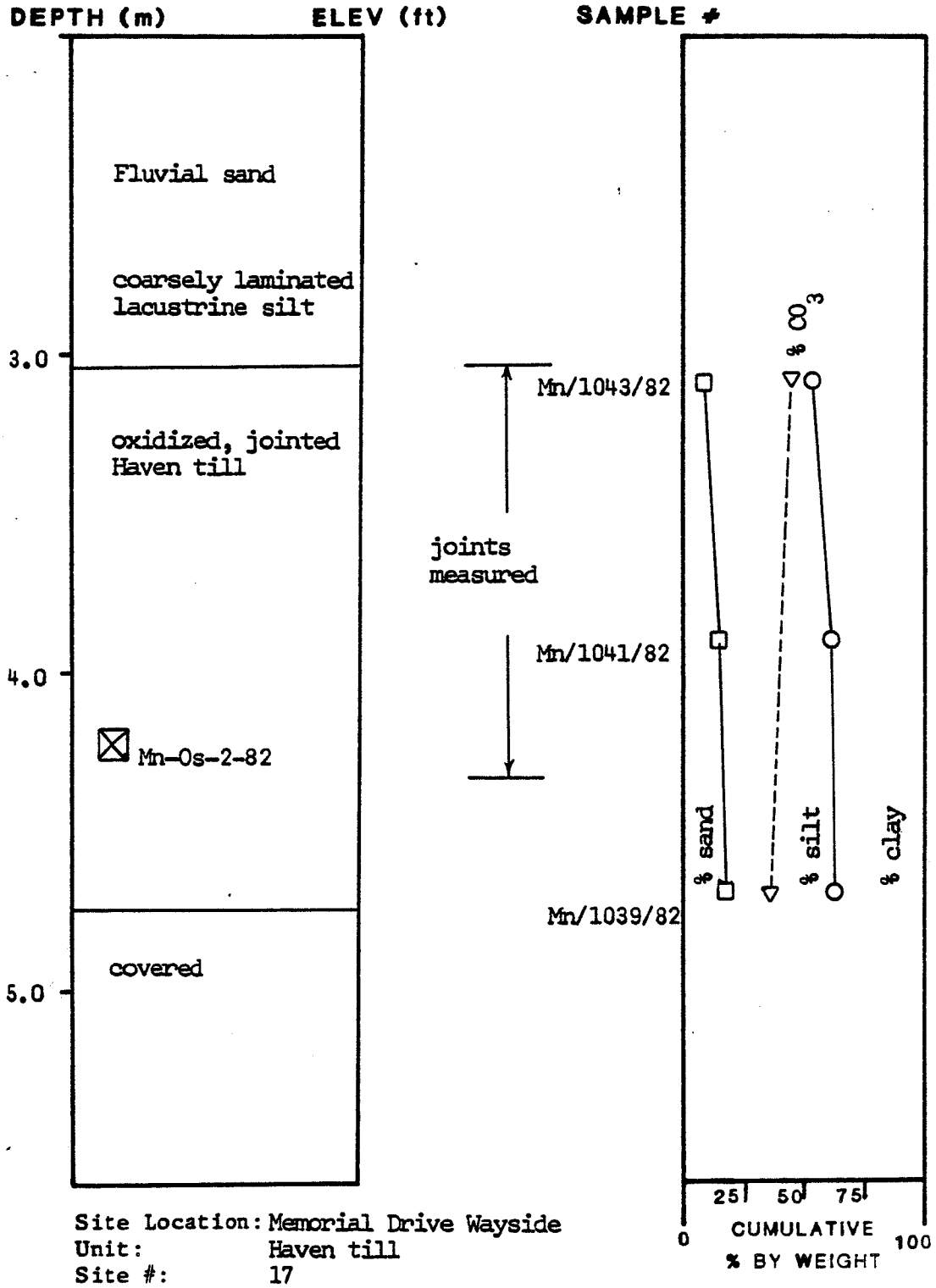

DEPTH (m)
ELEV (ft)
SAMPLE #
0
610
A
E
B
cutans
1.0
jointed
Haven
till
2.0
iron
staining
joint
measurements
Os-4-83
3.0
Mn-106082
% CO_3
Mn-1058-82
Mn-1056-82
% CO_3
% sand
% silt
% clay
25
50
75
0
CUMULATIVE
100
% BY WEIGHT
Site Location: Manitowoc River
Unit: Haven till
Site #: 13



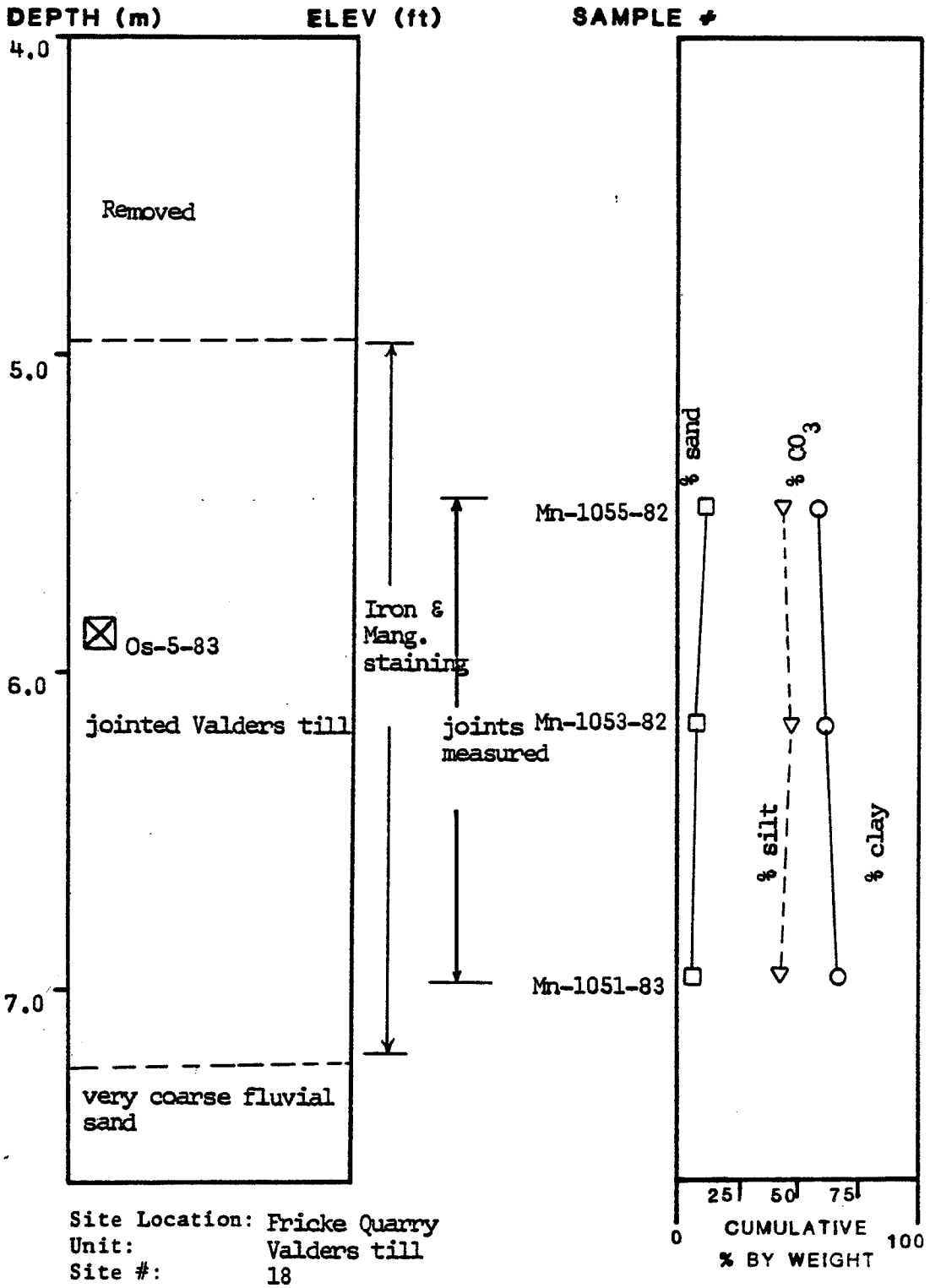
Site Location: Valders Quarry
Unit: Valders till
Site #: 14



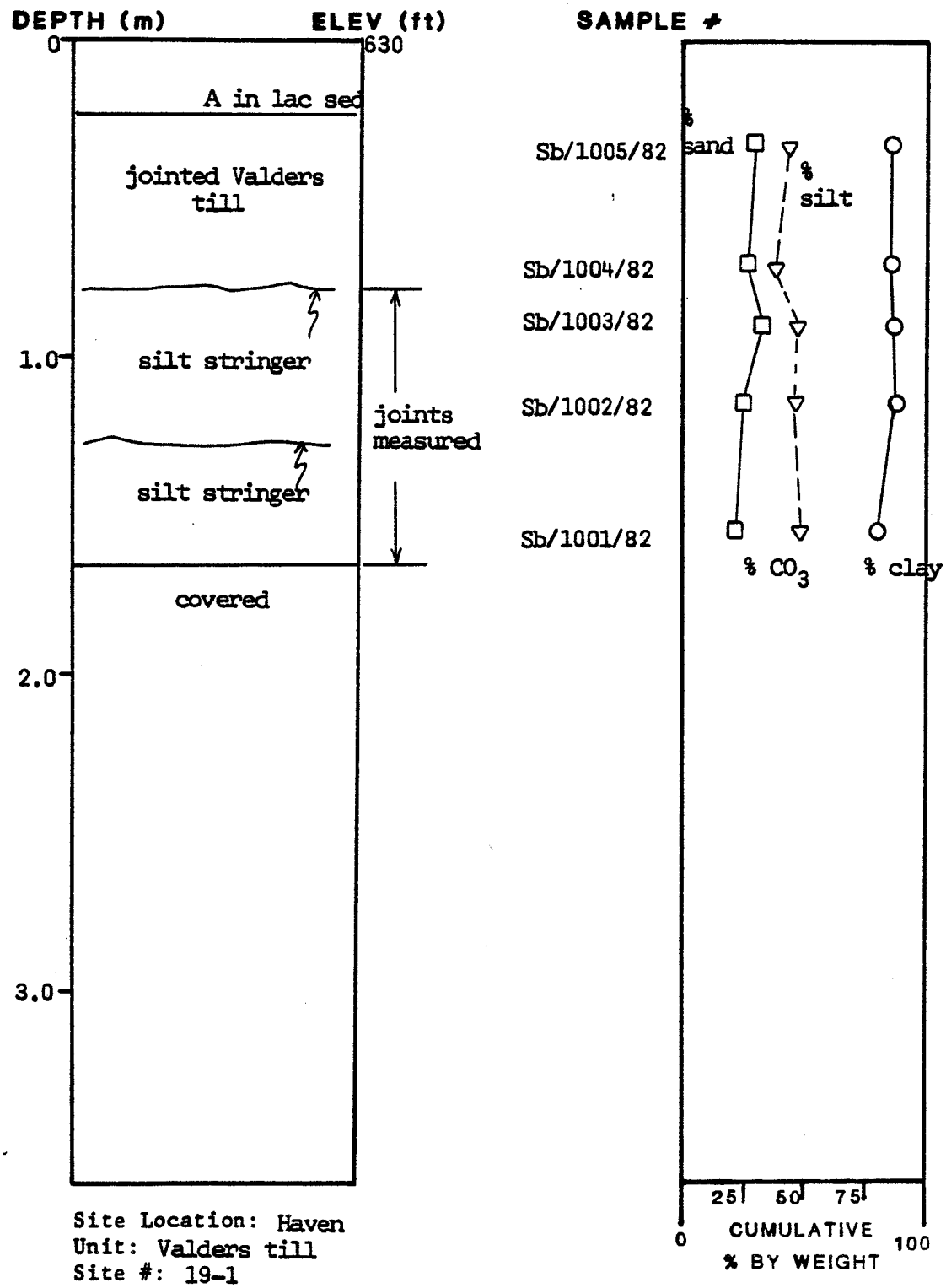
Site Location: Manitowoc River
Unit: Valders till
Site #: 16



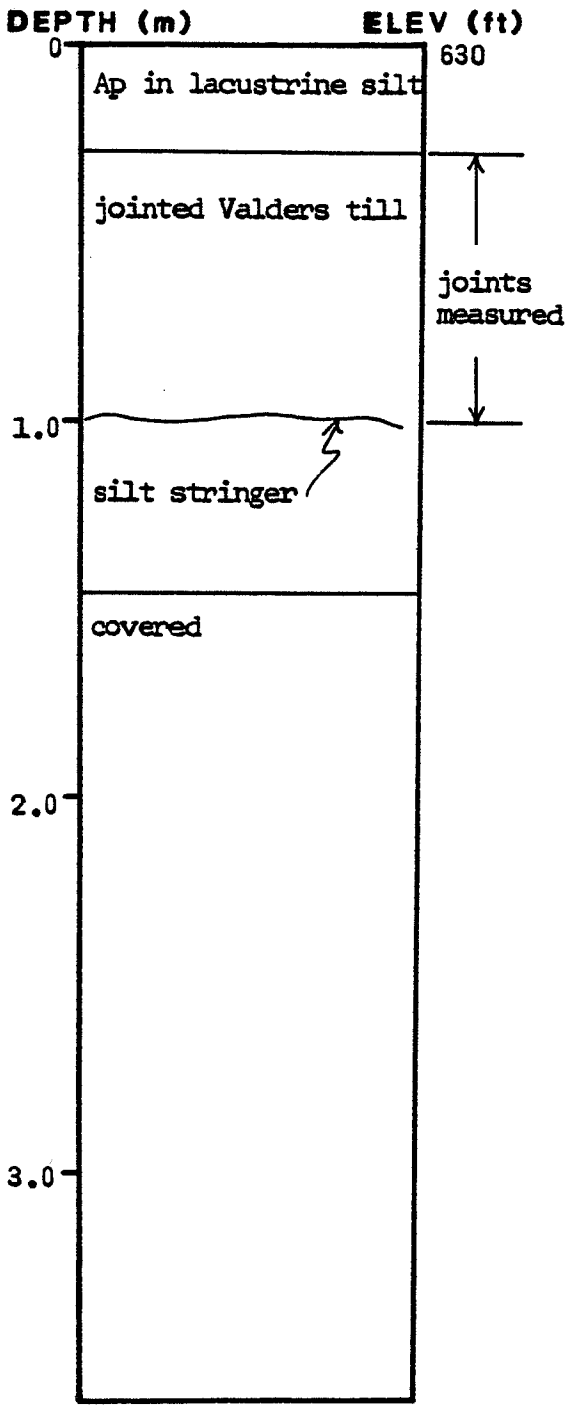
Site Location: Memorial Drive Wayside
Unit: Haven till
Site #: 17



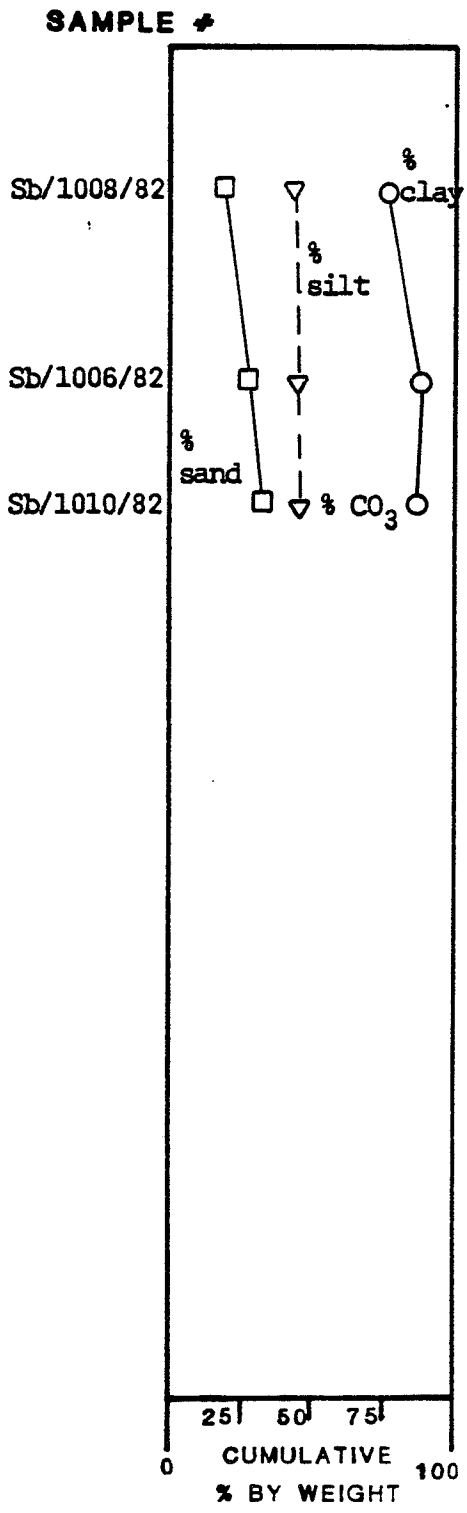
Site Location: Fricke Quarry
Unit: Valders till
Site #: 18

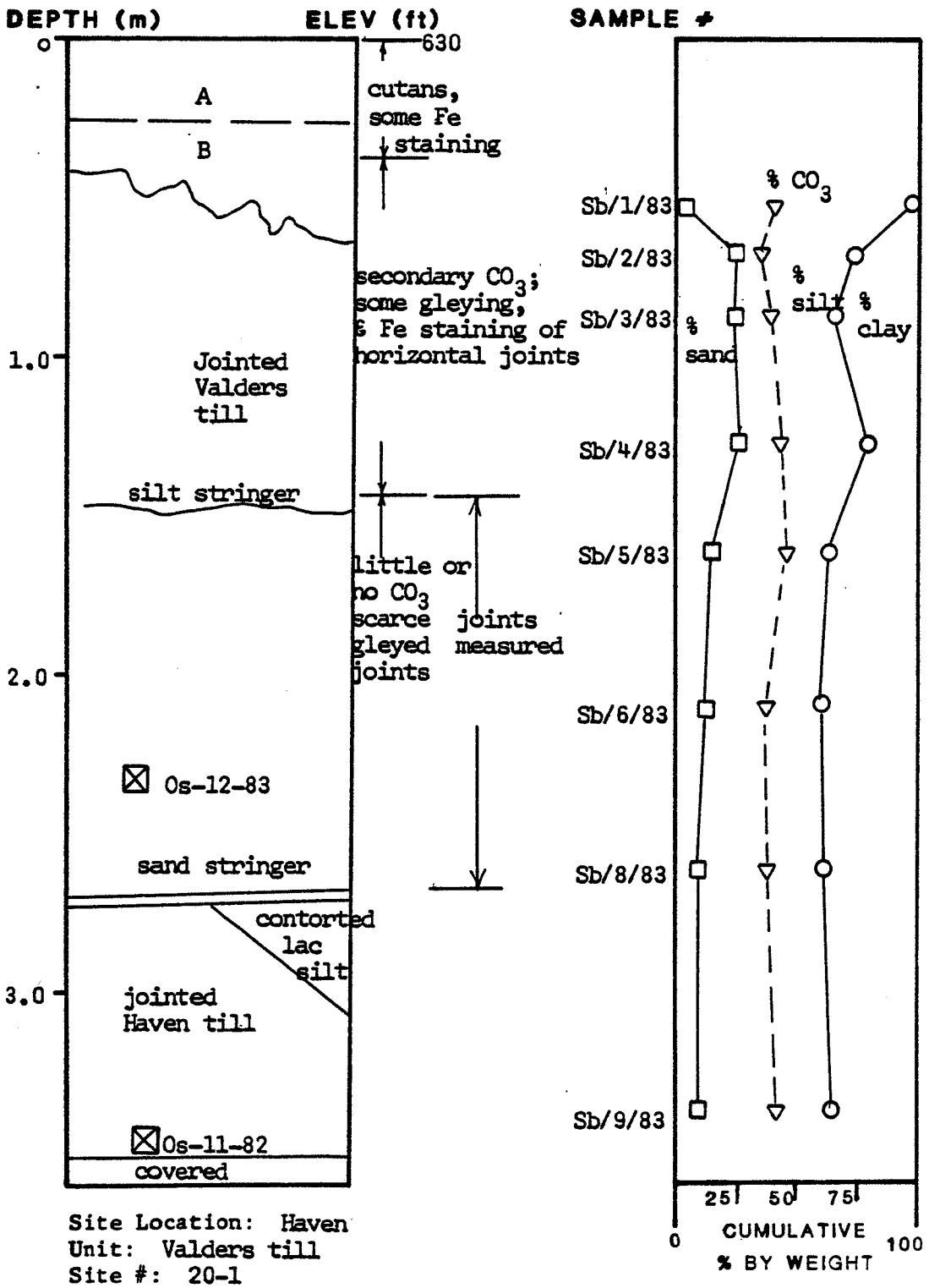


Site Location: Haven
Unit: Valders till
Site #: 19-1

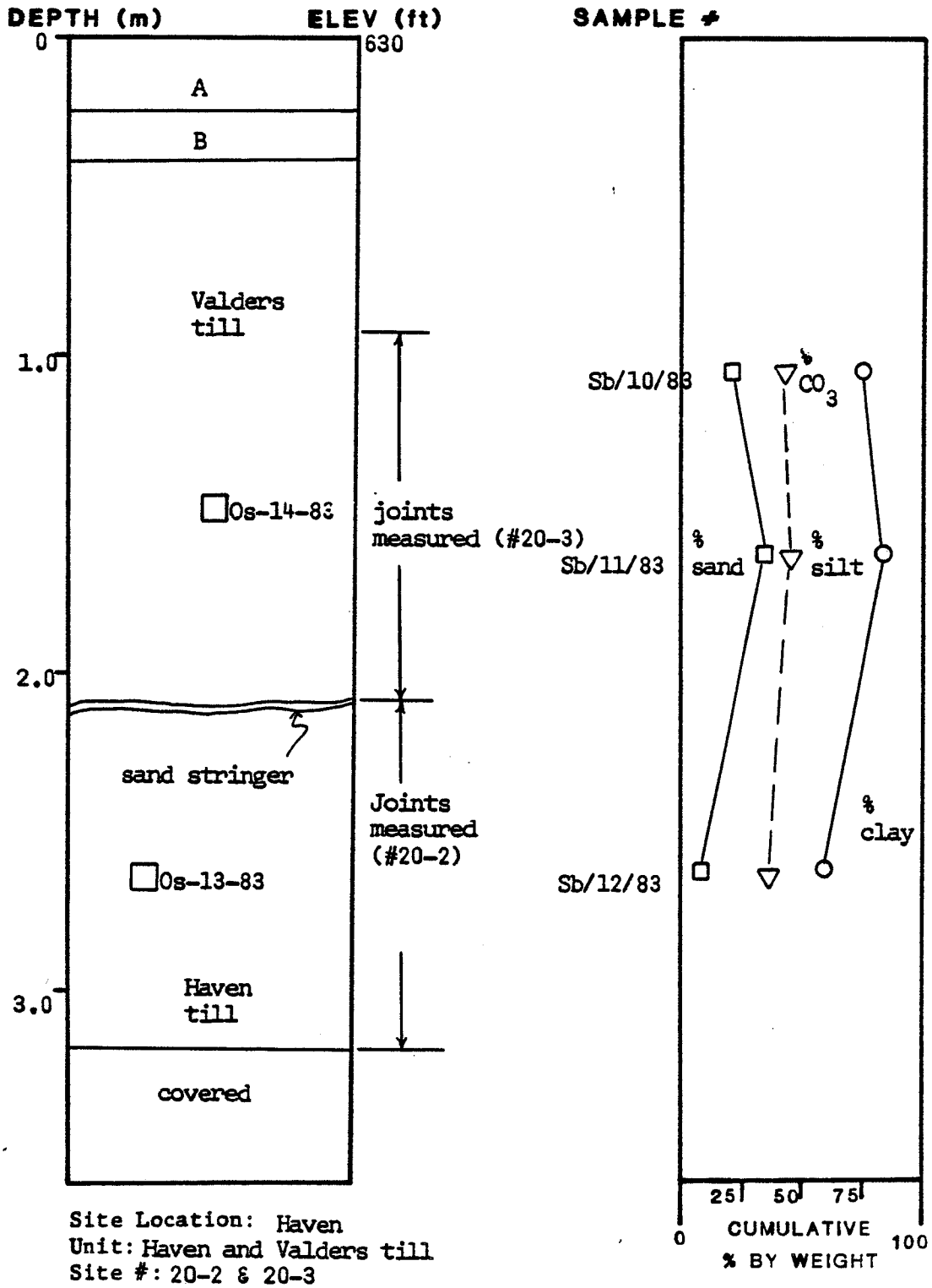


Site Location: Haven
Unit: Valders till
Site #: 19-2

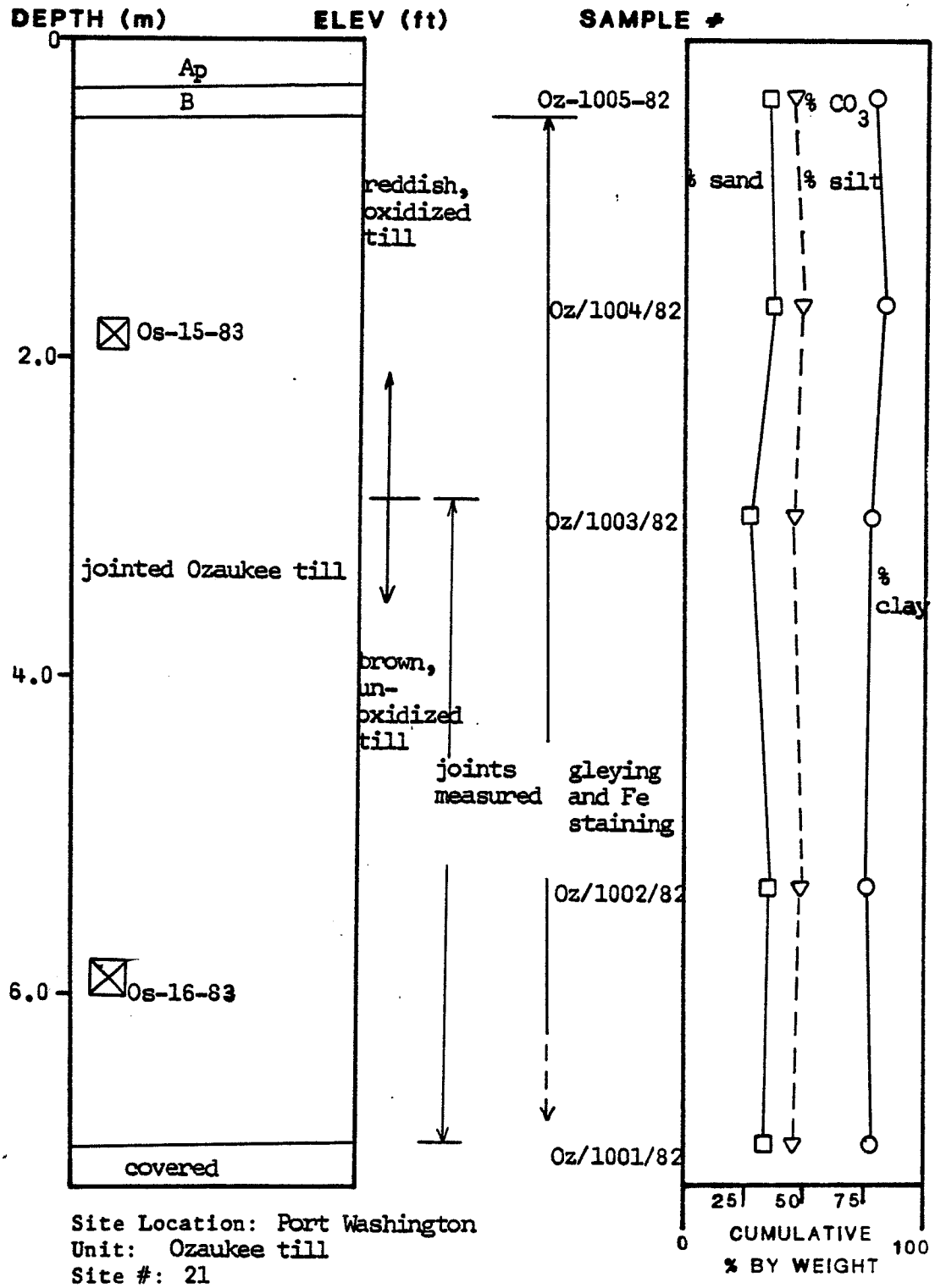




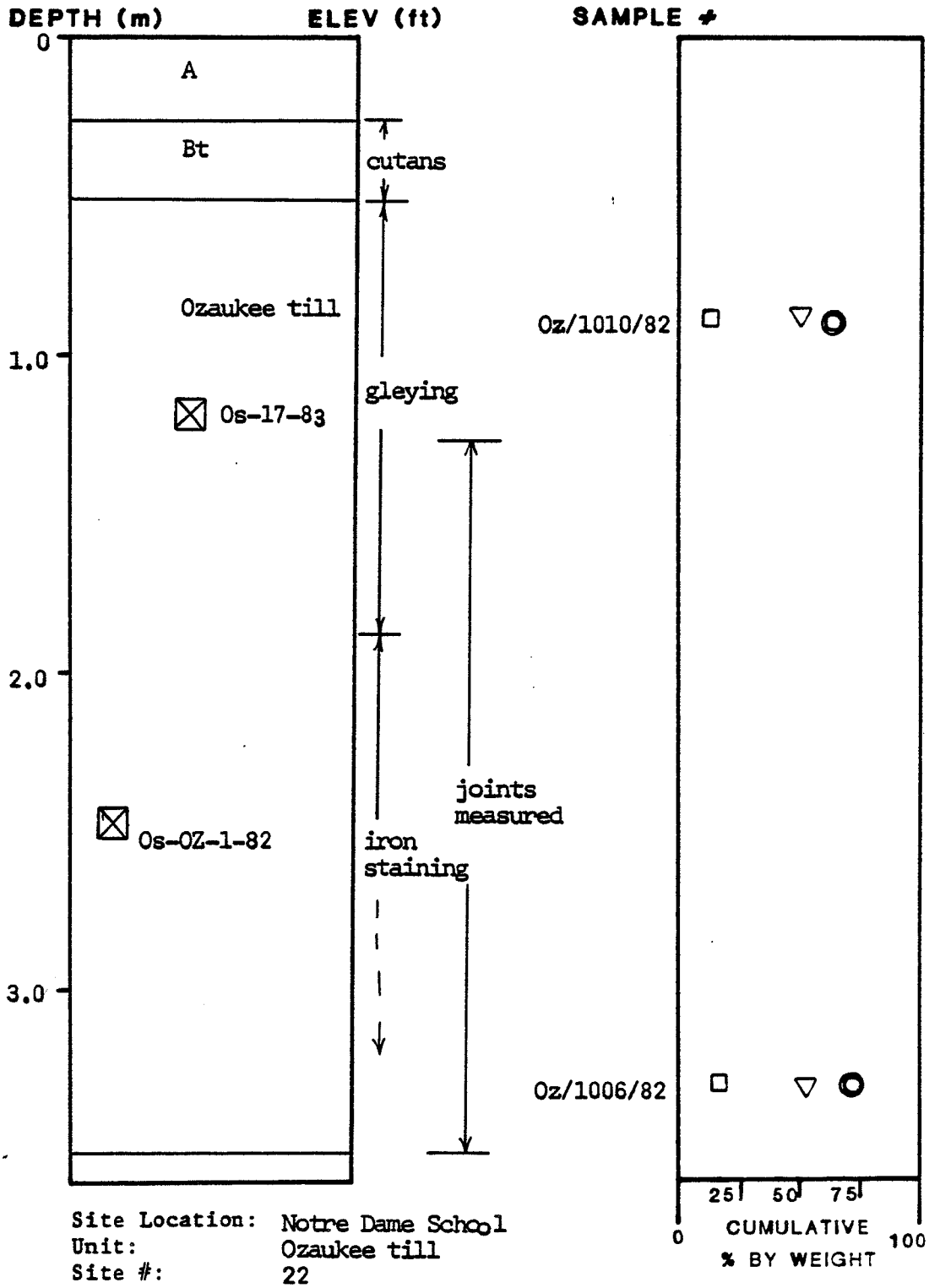
Site Location: Haven
Unit: Valders till
Site #: 20-1

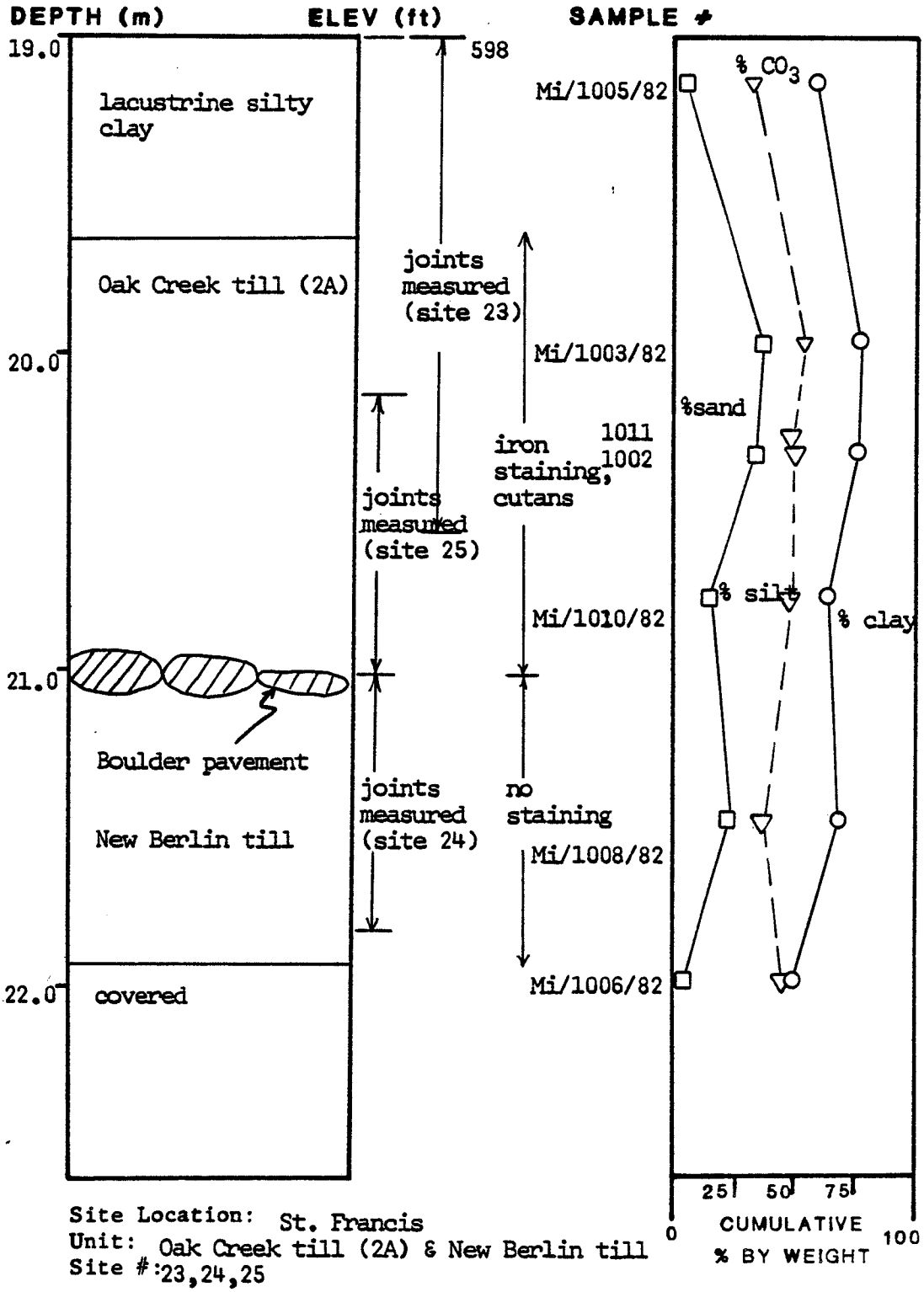


Site Location: Haven
Unit: Haven and Valders till
Site #: 20-2 & 20-3

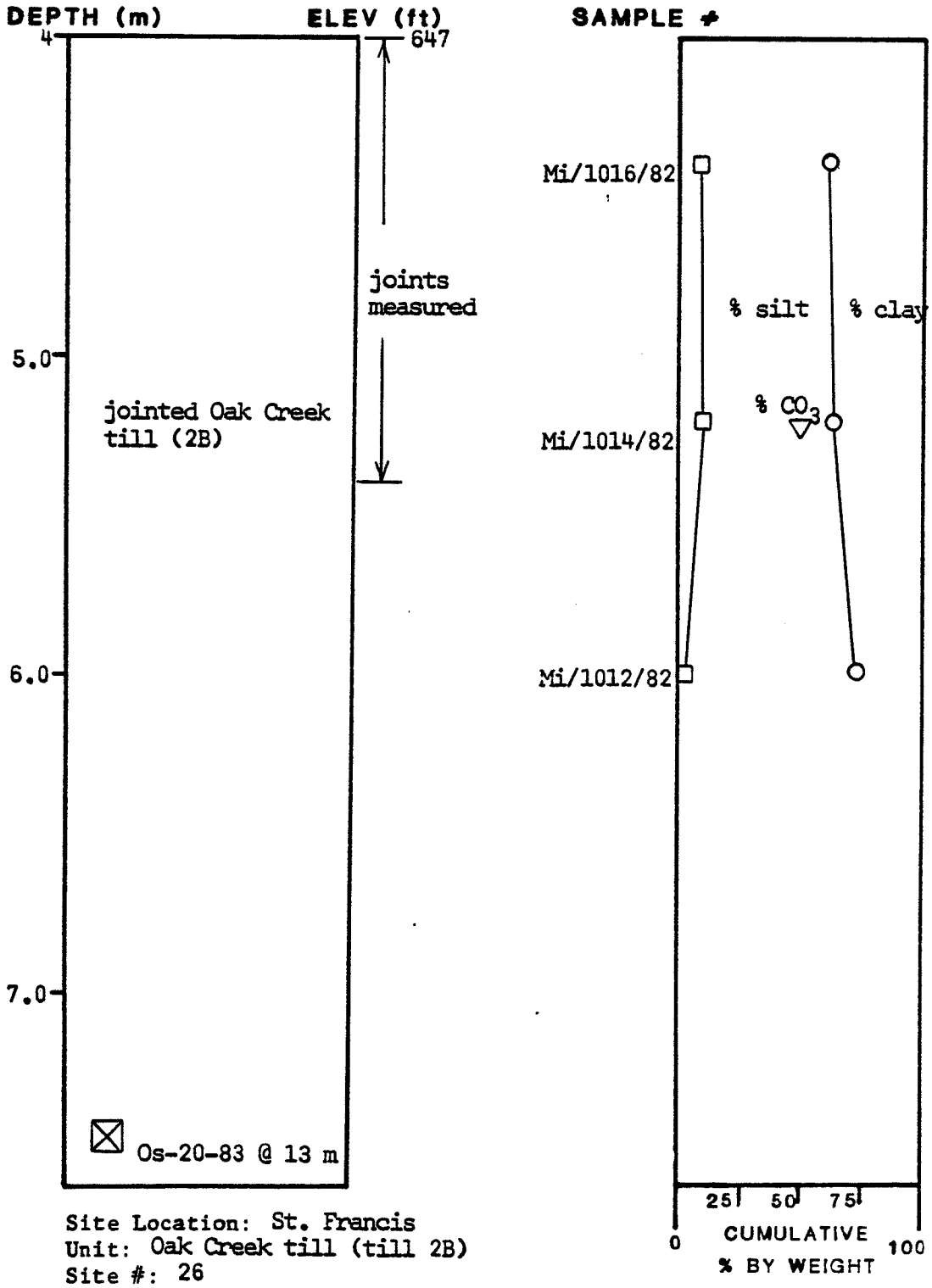


Site Location: Port Washington
Unit: Ozaukee till
Site #: 21

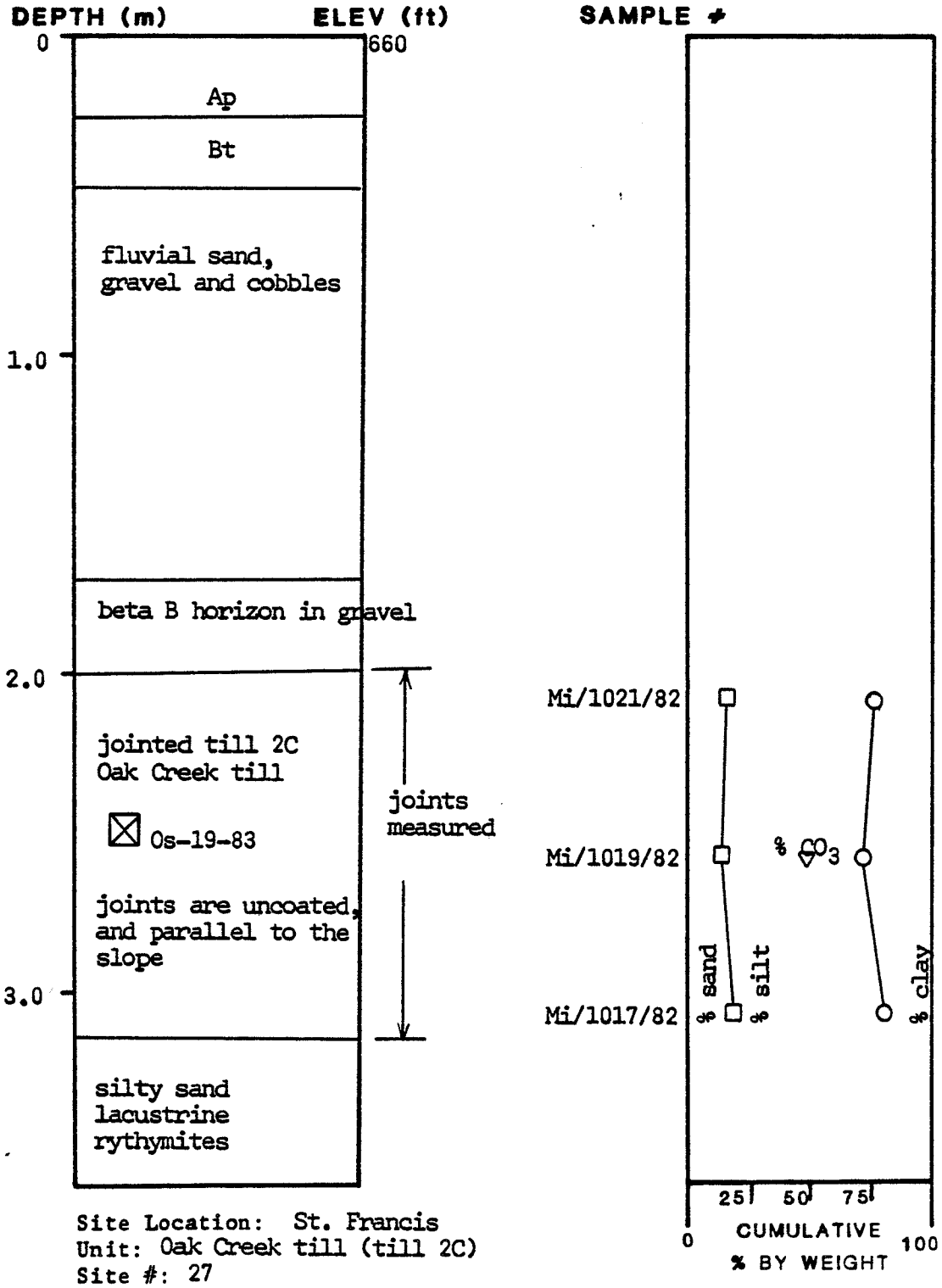

DEPTH (m)
ELEV (ft)
SAMPLE #
0
A
Bt
cutans
Ozaukee till
Oz/1010/82
1.0
gleying
Os-17-83
2.0
joints measured
Os-OZ-1-82
iron staining
3.0
Oz/1006/82
25
50
75
0
CUMULATIVE
100
% BY WEIGHT
Site Location: Notre Dame School
Unit: Ozaukee till
Site #: 22



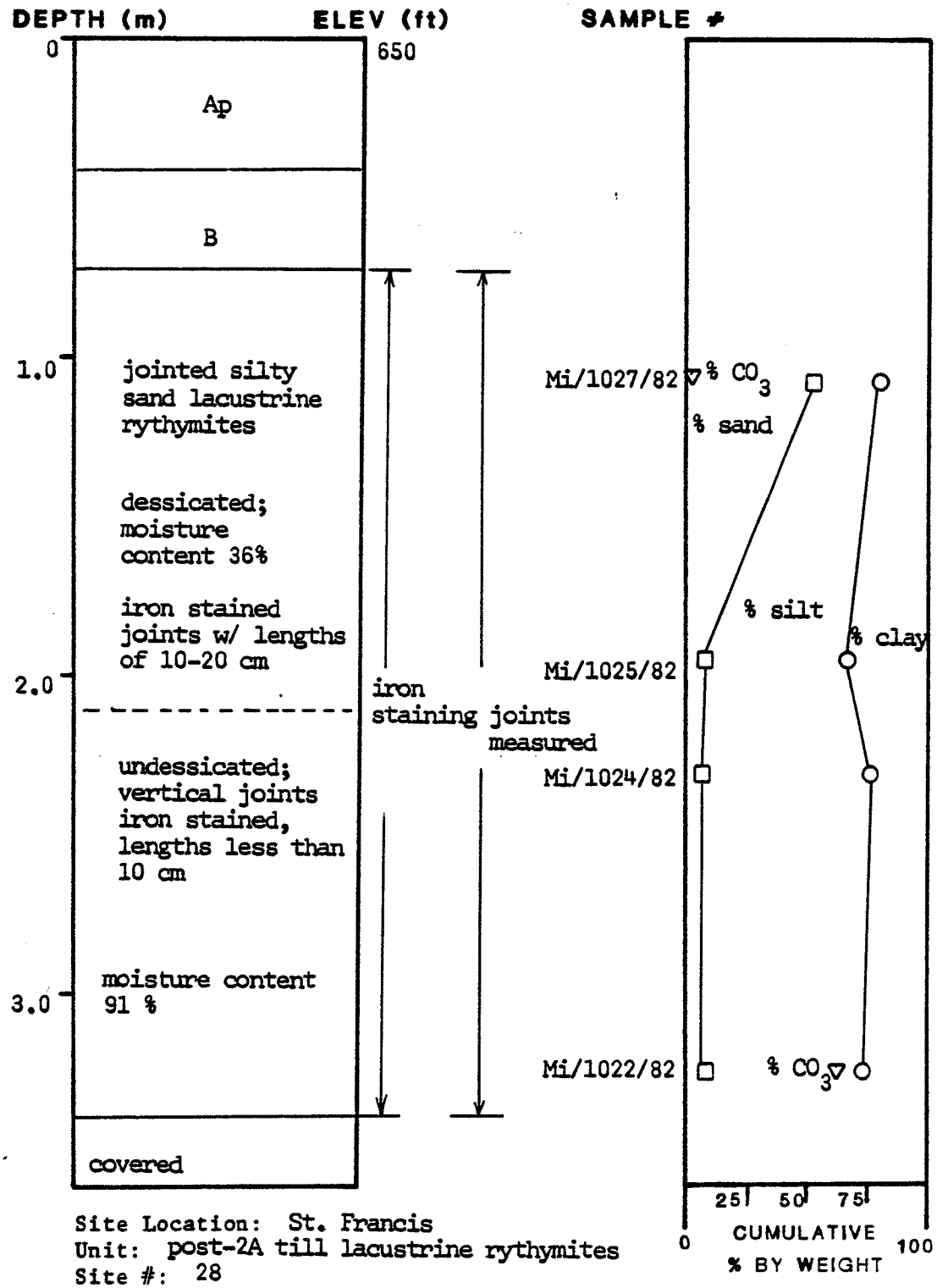
Site Location: St. Francis
Unit: Oak Creek till (2A) & New Berlin till
Site #: 23, 24, 25



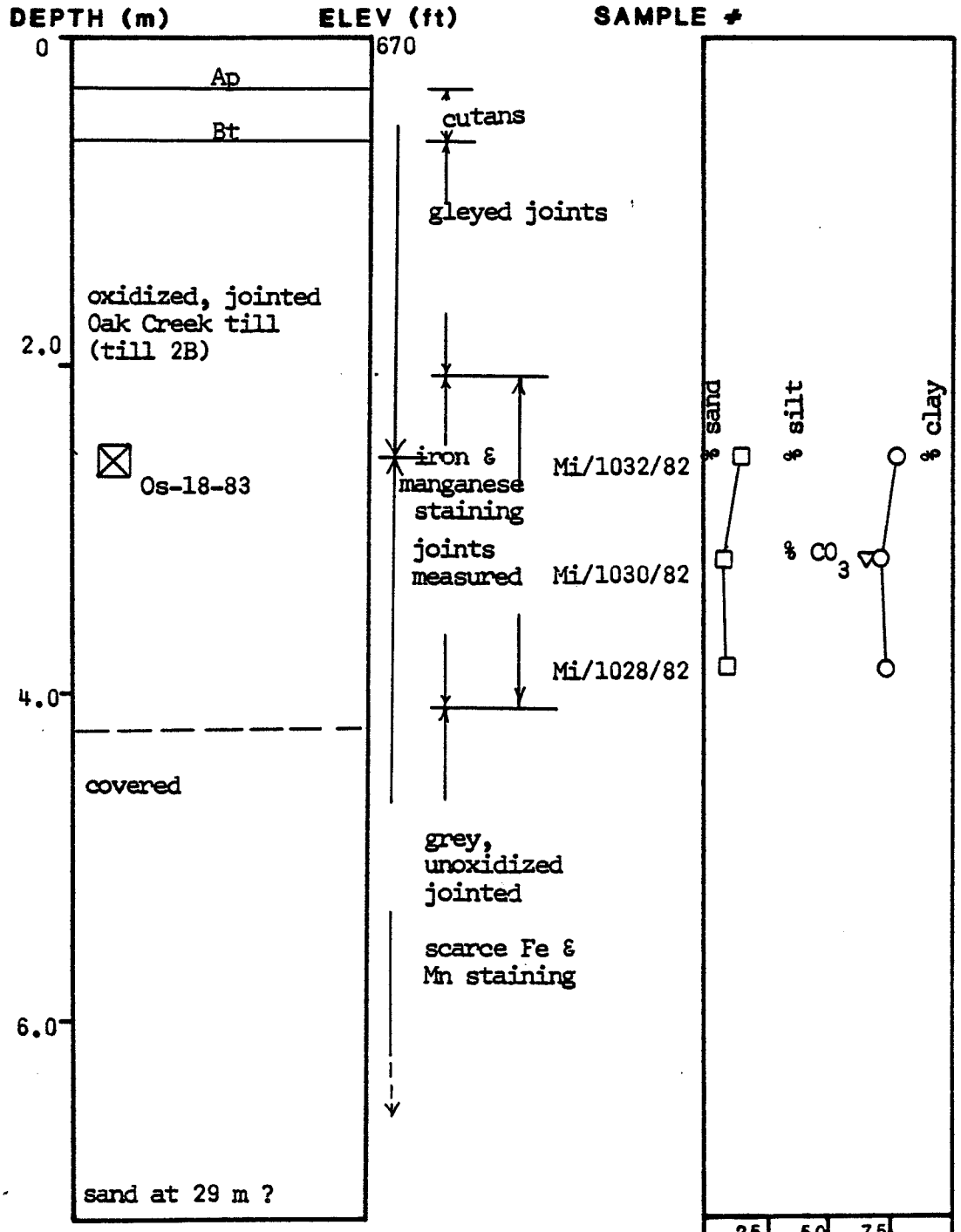
Site Location: St. Francis
Unit: Oak Creek till (till 2B)
Site #: 26



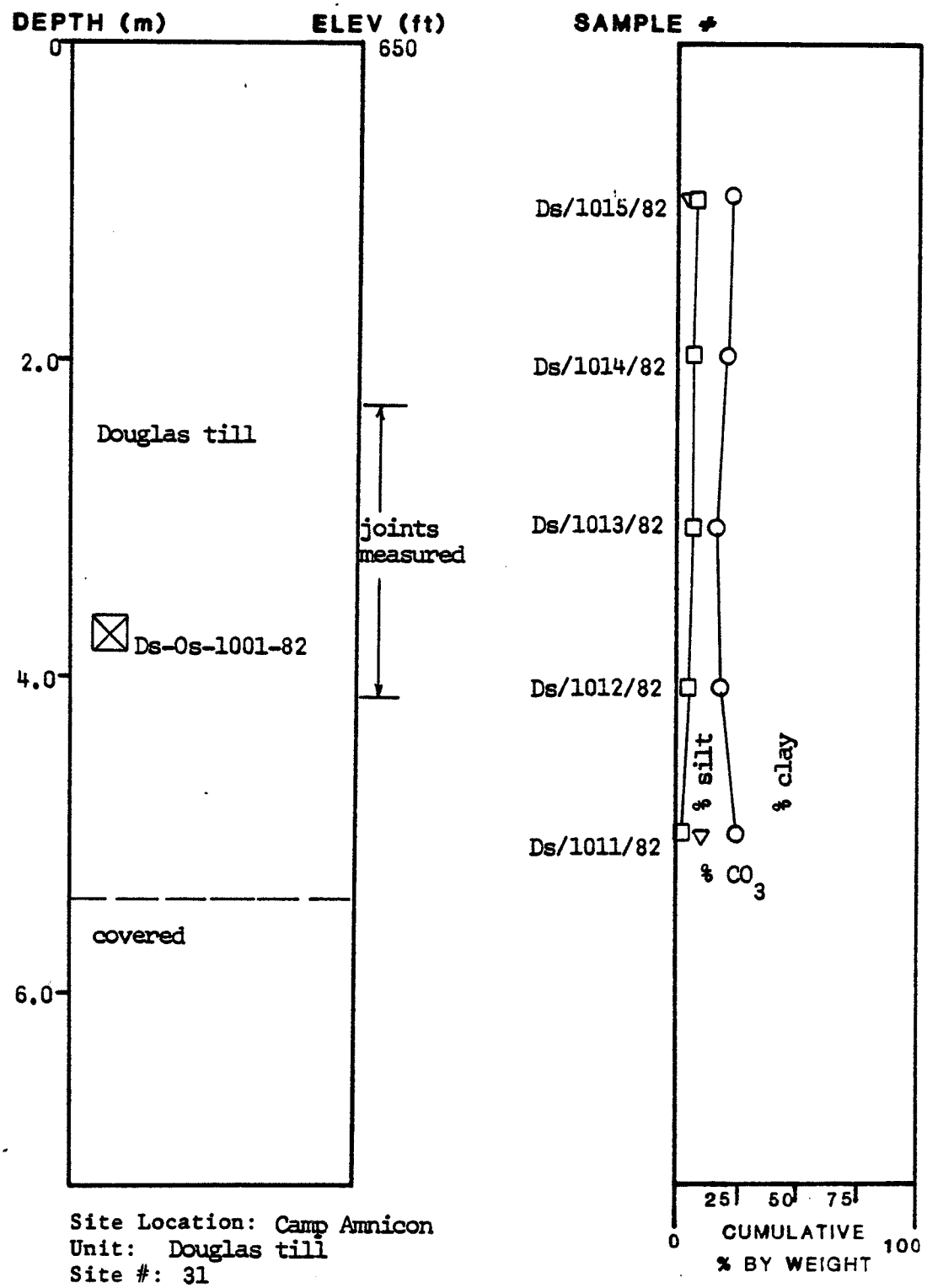
Site Location: St. Francis
Unit: Oak Creek till (till 2C)
Site #: 27



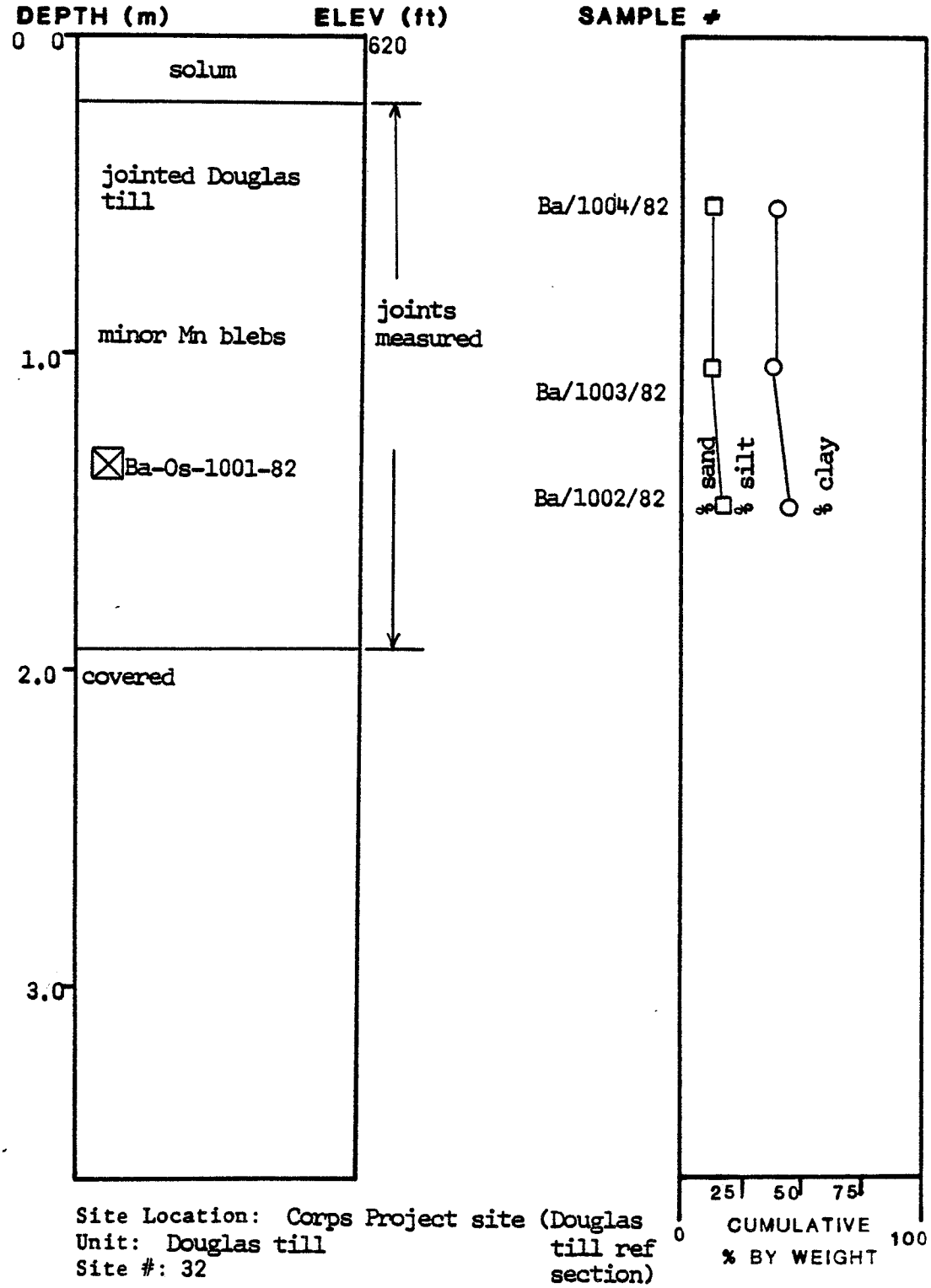
Site Location: St. Francis
Unit: post-2A till lacustrine rythymites
Site #: 28



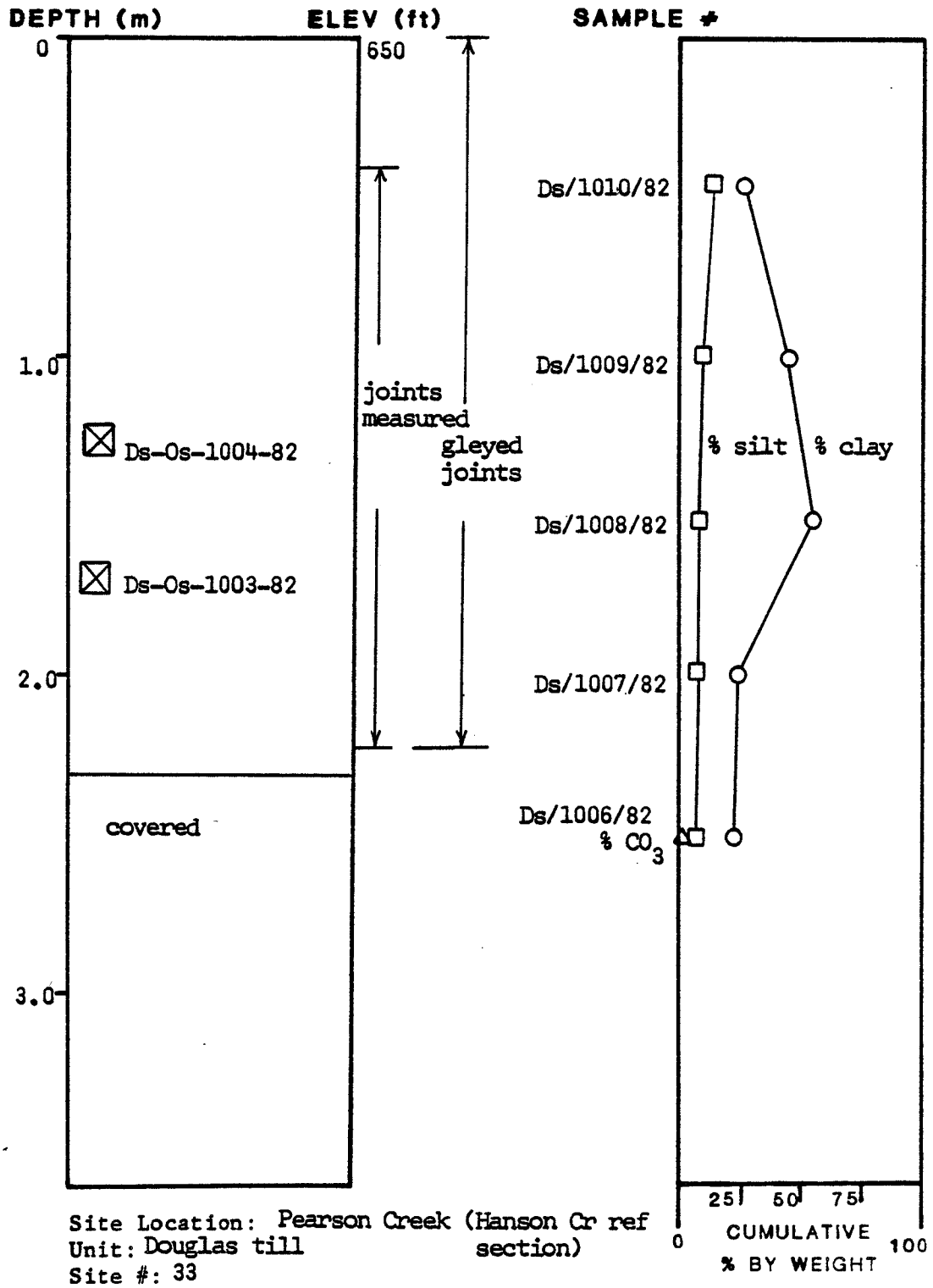
Site Location: Bender Park
Unit: Oak Creek till (till 2B)
Site #: 29



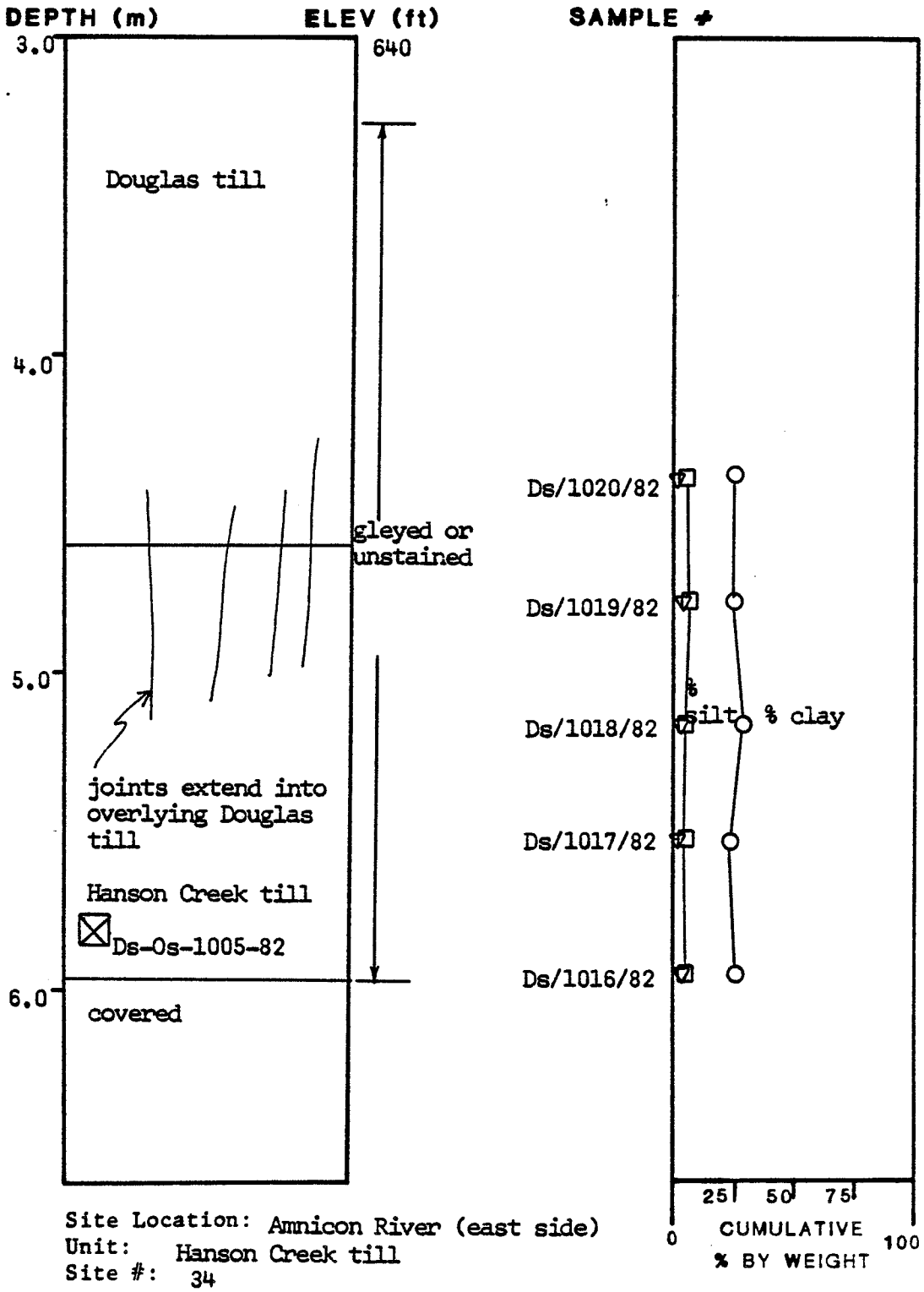
Site Location: Camp Amnicon
Unit: Douglas till
Site #: 31



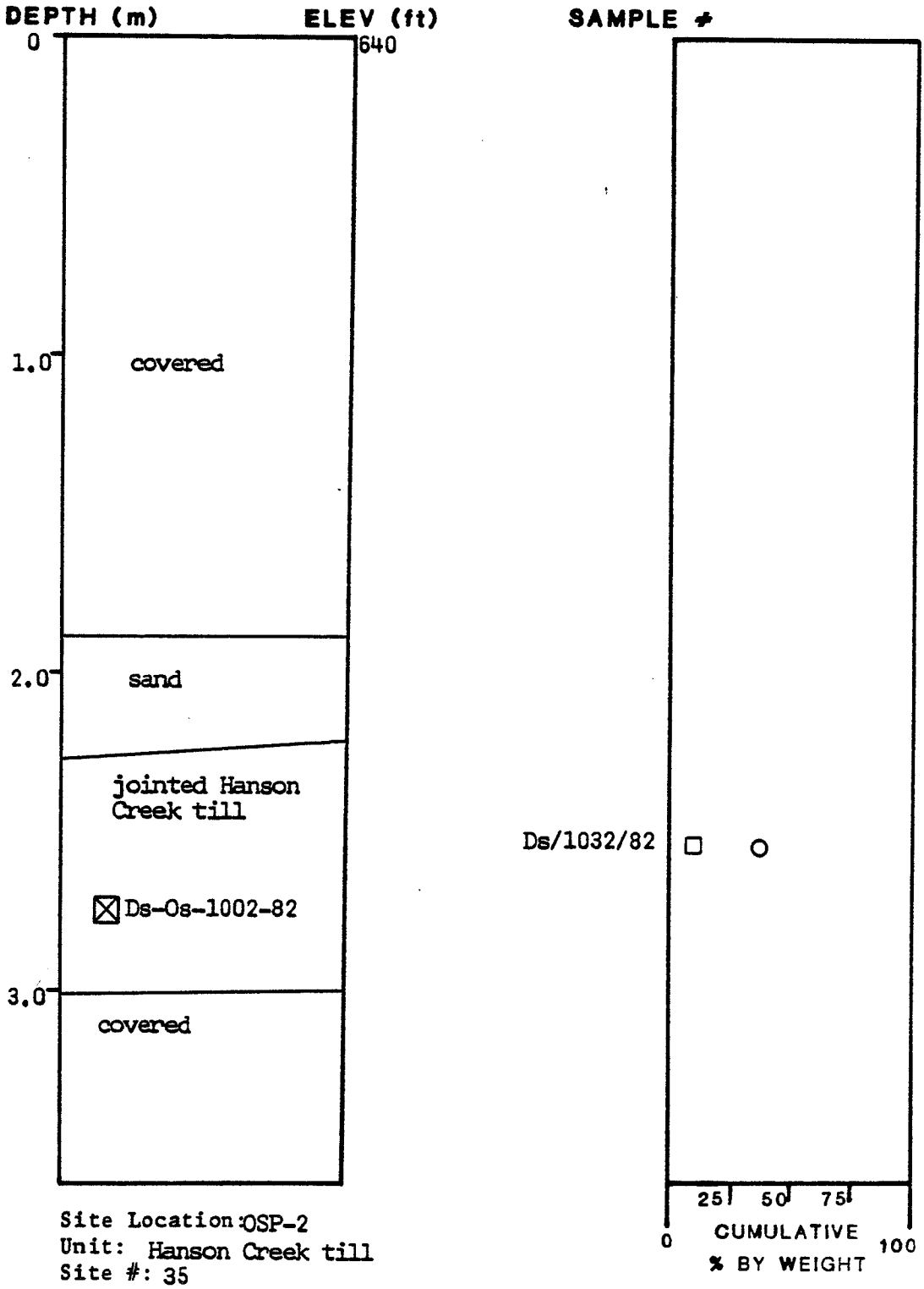
Site Location: Corps Project site (Douglas till ref section)
Unit: Douglas till
Site #: 32



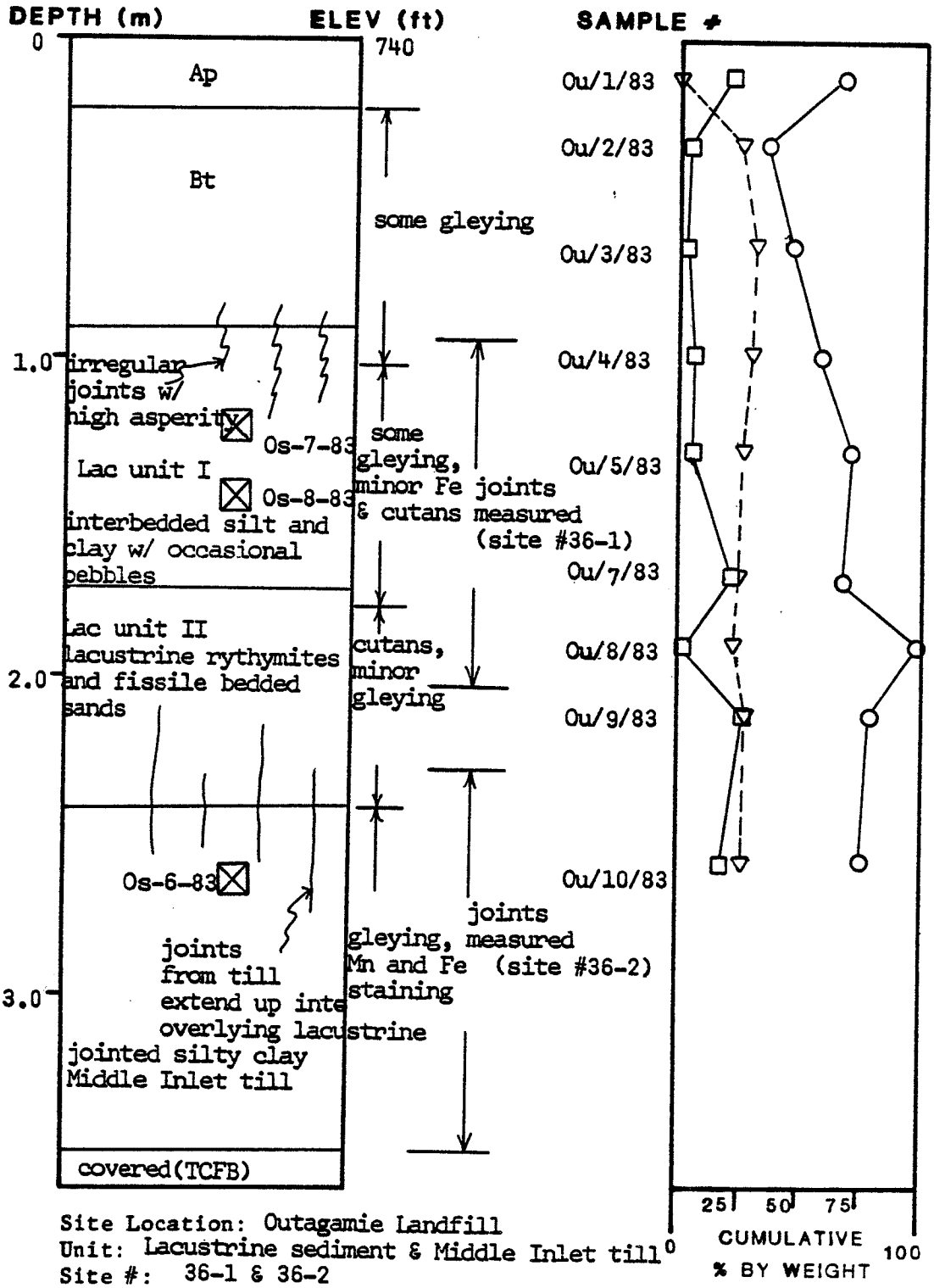
Site Location: Pearson Creek (Hanson Cr ref section)
Unit: Douglas till
Site #: 33



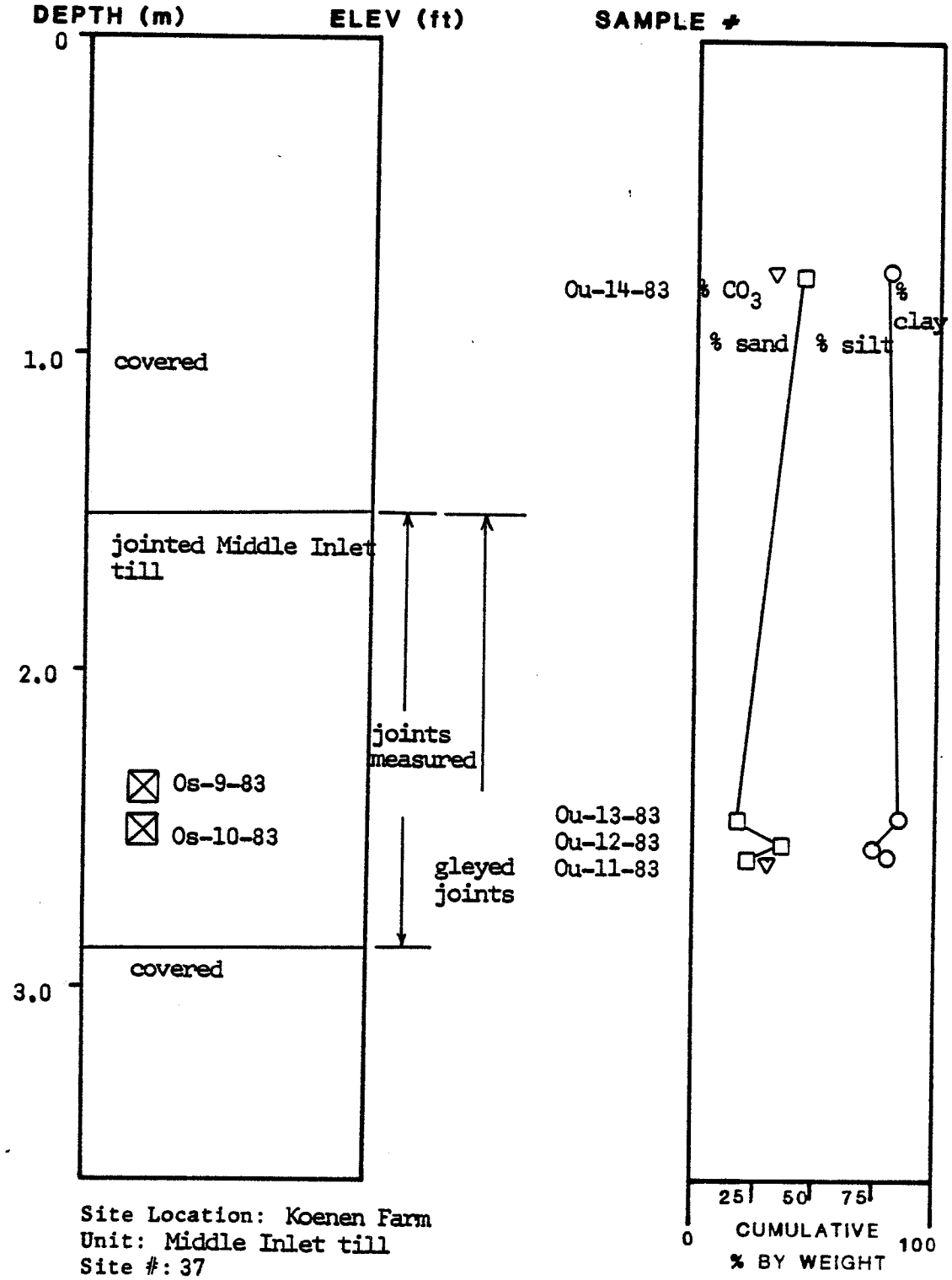
Site Location: Amnicon River (east side)
Unit: Hanson Creek till
Site #: 34



Site Location: OSP-2
Unit: Hanson Creek till
Site #: 35



Site Location: Outagamie Landfill
Unit: Lacustrine sediment & Middle Inlet till
Site #: 36-1 & 36-2



Site Location: Koenen Farm
Unit: Middle Inlet till
Site #: 37

Appendix 3a: Raw Joint Data

Three digit number is joint strike
Two digit number is joint dip
One digit number is direction of dip

1: dips to east
2: dips to west
3: dips to north
4: dips to south

DANE COUNTY DOLOMITE **Site #1**

129	86	1	038	54	2	079	69	2	079	79	2	140	79	1
105	10	1	010	83	1	145	82	1	083	85	2	082	78	2
177	86	1	166	72	1	068	64	2	000	85	2	083	78	2
132	64	2	150	86	1	074	76	2	173	70	1	170	80	2
005	61	2	158	85	1	154	83	1	060	80	2	008	56	2
148	86	1	101	72	1	174	80	2	005	67	2	149	84	1
042	71	2	084	70	1	080	84	2	041	66	2	166	90	1
080	87	2	066	86	2	148	86	2	035	77	2	142	86	1
041	86	2												

DOOR COUNTY DOLOMITE **Site #2**

043	86	1	054	83	1	160	83	1	141	86	2	011	79	1
151	87	2	149	85	2	154	79	2	073	90	1	152	84	2
146	78	2	154	46	1	124	82	1	140	89	1	148	85	2
055	68	2	026	59	2	128	84	2	149	88	2	058	88	1
165	83	1	046	88	1	154	85	1	122	90	1	082	83	2
065	87	2	144	85	1	175	90	1	042	63	1	151	88	1
006	57	2	110	87	2	146	82	2	002	79	1	070	64	2
130	83	2	089	83	1	010	86	2	170	76	1	048	85	2
059	89	1	054	87	2	166	89	1	058	81	1	138	89	1
080	83	1	154	82	1	175	90	1	171	89	1	142	89	1
066	90	1	145	89	1	031	89	2	045	74	1	074	84	2
032	52	2	041	61	2	027	55	2	134	90	1	036	77	1
01[illegible]	89	2	068	90	1	060	85	1	034	79	2	116	87	2
084	86	1	073	83	1	065	84	1	107	84	1	107	79	1
124	83	2	071	82	1	081	83	1	071	88	2	067	89	2
051	87	1	073	88	1	053	86	2	151	84	2	062	88	2
127	88	1	055	89	2	022	83	2	121	84	1	015	87	2
040	82	2	054	89	2	100	86	1	096	55	2	054	86	2
070	87	1	052	90	1	028	90	1	008	83	1	054	81	1
079	85	1	052	89	1	116	88	2	091	83	2	081	87	1
042	90	1	176	63	1	040	79	1	064	90	1	062	85	2
027	87	1	045	87	1	167	90	1	138	84	2	160	52	1
146	89	2	061	89	2	054	89	2	040	86	2	060	85	2
170	72	2	144	87	2	054	88	2	117	83	1	028	89	2
069	86	2	127	89	2	044	87	2	162	80	1	161	88	1
040	88	1	11[illegible]	85	2	005	86	1	075	80	1	005	42	2

Door County Sand Pit Glenmore till Site #3

DOORTILL

040	56	2	055	70	2	046	55	2	035	81	2	140	88	1
100	31	1	074	77	1	108	52	1	177	86	1	175	87	2
078	88	1	023	80	2	085	87	1	161	88	1	040	79	1
078	80	1	114	87	1	099	84	2	079	76	1	151	84	1
078	90	1	148	90	1	135	84	1	031	82	1	094	75	2
126	98	2	106	64	2	092	56	2	114	59	2	115	39	2
150	75	2	106	71	2	106	86	2	062	85	1	031	86	1
141	40	2	135	83	1	072	08	1	026	84	2	133	76	1
118	81	2	046	14	2	008	86	2	105	51	2	121	64	2
122	59	2	096	56	2	092	62	2	166	81	2	077	69	1
136	50	2	070	50	1	108	63	2	119	61	2	072	90	1
095	16	1	019	79	2	028	67	2	111	13	1	169	16	1
165	78	2	105	38	2	020	06	2	100	39	2	038	87	1
109	68	2	098	35	2	079	86	2	011	11	1	106	74	2
114	26	2	115	34	2	085	87	1	080	13	1	068	27	2
131	88	2	075	29	1	128	88	2	016	89	2	090	40	4
110	81	1	033	90	1	151	58	2	130	80	1	040	53	1
100	51	2	082	78	2	105	85	2	080	89	2	090	63	4
108	25	2	066	86	1	166	83	2	153	88	1	059	70	2
156	75	1	006	88	2	060	89	2	123	88	2	008	88	2
026	86	1	000	57	2	000	89	1	101	91	1	018	39	2
176	34	2	178	66	2	169	47	2	016	70	2	091	85	1
117	67	2	167	86	1	078	84	2	140	88	1	175	86	1
005	80	1	021	86	1	115	75	1	170	84	2	000	78	1
147	77	1	126	53	1	025	85	2	152	81	2	140	90	2

SANDY BAY LACUSTRINE SILTS Site #4

039	74	1	035	75	1	167	90	1	000	80	1	081	86	1
109	79	2	080	88	1	018	80	1	022	86	2	012	86	1
006	83	2	087	87	1	020	76	1	010	85	1	052	82	1
012	84	1	086	79	1	141	76	1	134	83	1	146	79	1
141	85	1	110	85	1	113	81	2	103	84	1	102	82	1
120	79	2	120	79	2	112	84	1	121	88	1	149	85	1
087	89	1	098	89	1	065	73	1	070	90	1	020	82	2
022	78	2	005	86	2	139	15	2	065	80	1	006	86	1
114	33	2	104	32	2	020	87	1	084	74	1	151	85	2
006	89	1	155	85	1	116	86	1	050	25	1	087	84	1
074	03	1	090	06	3	159	83	2	035	10	1	113	72	1
042	54	2	102	70	2	010	80	2	132	17	1	102	89	1
006	71	2	076	73	2	044	85	2	036	75	1	146	88	2
092	77	2	114	79	1	175	89	2	094	81	1	007	28	1
110	70	2	007	70	2	039	64	2	066	90	1	000	87	2
055	87	2	115	88	2	147	89	2	042	87	1	060	38	1
095	75	2	007	88	2	007	87	2	005	85	2	111	86	2
107	81	2	103	77	2	101	81	1	147	12	2	050	15	2
092	29	2	081	84	2	176	61	2	025	07	2	025	05	1
001	85	1	043	53	1	050	79	1	123	85	2	093	74	2
116	73	2	025	35	1	153	07	2	079	79	1	178	87	2
092	72	2	095	80	2	017	89	2	090	62	4	108	11	2
136	86	1	027	24	1	145	81	1	060	05	1	100	08	2
101	09	2	104	79	2	106	62	2	010	05	1	102	84	2
160	81	1	102	78	2	118	56	2	103	20	2	124	08	2
044	87	2	032	83	2	136	57	2						

SANDY BAY HAVEN TILL Site #5

162	76	1	180	75	1	134	72	1	135	70	1	090	39	4
075	80	2	115	06	2	131	06	2	135	14	2	100	75	2
076	25	1	105	56	2	078	88	1	109	18	2	078	11	1
135	61	1	063	65	1	114	44	2	120	83	2	050	17	1
002	19	1	056	87	2	082	56	1	030	85	2	094	72	2
143	23	1	108	42	2	093	75	2	126	77	2	083	85	1
128	09	2	091	85	2	125	79	1	044	23	1	071	89	2
081	07	2	141	79	1	164	77	1	053	86	1	063	85	1
065	87	1	160	64	1	137	06	2	086	64	2	094	85	1
176	45	2	073	32	2	140	40	2	158	83	1	115	32	2
102	60	1	090	72	4	001	59	1	170	66	1	049	02	1
126	82	1	163	85	1	008	87	2	008	84	1	058	86	1
054	85	1	163	90	1	093	10	2	092	12	2	115	26	2
076	78	2	176	81	1	093	90	1	003	64	1	103	89	1
140	80	1	010	90	1	011	18	1	062	17	1	008	11	2
136	13	2	130	08	2	135	14	2	146	22	2	165	89	1
093	85	1	075	73	2	050	49	1	148	88	1	169	79	1
152	89	1	144	77	1	161	75	1	004	87	1	060	84	2
048	85	1	056	88	1	142	88	2	167	86	1	055	88	2
046	88	1	136	84	2	091	43	1	091	70	2	167	76	1
148	05	2	149	10	2	107	13	2	134	14	2	113	70	2
142	29	2	005	47	1	006	77	1						

SANDY BAY LACUSTRINE SEDS Site #6

141	85	1	110	85	1	113	81	2	103	84	1	102	82	1
120	79	2	120	79	2	112	84	1	121	88	1	149	85	1
087	89	1	098	89	1	065	73	1	070	90	1	020	82	2
022	78	2	005	86	2	139	15	2	065	80	1	006	86	1
114	33	2	104	32	2	020	87	1	084	74	1	151	85	2
006	89	1	155	85	1	116	86	1	050	25	1	087	84	1
074	03	1	090	06	3	159	83	2	035	10	1	113	72	1
042	54	2	102	70	2	010	80	2	132	17	1	102	89	1
006	71	2	076	73	2	044	85	2	036	75	1	146	88	2
092	77	2	114	79	1	175	89	2	094	81	1	007	28	1
110	70	2	007	70	2	039	64	2	066	90	1	000	87	2
055	87	2	115	88	2	147	89	2	042	87	1	060	38	1
095	75	2	007	88	2	007	87	2	005	85	2	111	86	2
107	81	2	103	77	2	101	81	1	147	12	2	050	15	2
092	29	2	081	84	2	176	61	2	025	07	2	025	05	1
001	85	1	043	53	1	050	79	1	123	85	2	093	74	2
116	73	2	025	35	1	153	07	2	079	79	1	178	87	2
092	72	2	095	80	2	017	89	2	090	62	4	108	11	2
136	86	1	027	24	1	145	81	1	060	05	1	100	08	2
101	09	2	104	79	2	106	62	2	010	05	1	102	84	2
160	81	1	102	78	2	118	56	2	103	20	2	124	08	2
044	87	2	032	83	2	136	57	2						

HWY BB -- TWO RIVERS TILL Site #8

054	82	2	046	88	2	050	89	2	046	89	2	069	82	1
027	90	1	153	81	1	071	87	2	029	82	2	030	74	2
104	87	1	044	86	2	002	57	1	151	72	1	055	68	2
149	76	1	004	88	1	005	84	1	107	79	1	175	02	1
175	08	2	056	86	1	065	81	2	165	90	1	119	76	1
040	82	1	054	66	2	141	80	1	144	89	1	042	70	2
016	73	2	040	72	2	138	64	1	107	05	1	049	82	1
115	83	1	159	44	1	106	69	1	005	06	1	066	75	2
015	78	1	117	83	1	040	63	2	073	57	2	036	82	2
177	79	1	110	31	2	044	82	2	085	73	1	072	79	1
104	77	1	000	87	2	028	08	1	123	79	1	102	83	1
025	55	1	162	79	1	080	82	1	098	62	1	015	89	1
099	75	2	138	14	2	043	72	1	104	69	1	066	82	2
022	72	2	091	84	1	019	76	2	020	12	1	090	84	3
174	80	1	165	63	1	044	74	2	049	79	2	079	84	2
164	85	2	015	82	2	116	81	2	020	74	2	041	80	2
140	70	1	070	71	2	026	70	2	018	85	1	086	52	1
125	65	2	055	10	2	015	80	2	064	85	1	174	32	1
170	85	2	175	84	1	148	05	1	116	82	2	161	88	1
018	86	2	023	73	2	028	26	1	127	82	1	011	62	1
025	84	2	179	82	2	009	68	1	099	88	2	009	22	1
020	83	2	134	09	1	155	89	2	042	73	2	127	87	1
010	88	2	010	88	2	002	90	1	039	77	2	089	88	1
084	89	2	135	11	1	062	75	1	164	88	1	075	73	1
122	86	1	100	70	1									

HWY BB SITE -- PRE-TWO RIVERS LACUSTRINE SEDS **Site #9**

053	72	2	064	80	2	065	82	2	051	79	2
051	78	2	018	11	1	154	62	1	150	81	2
167	84	1	150	80	1	057	86	1	129	59	2
031	40	1	056	84	1	069	79	1	024	67	2
096	78	1	098	81	1	010	75	2	125	84	1
037	70	2	039	65	2	039	74	2	150	70	2
150	61	2	151	68	2	171	32	1	041	69	1
089	76	1	158	69	1	157	78	1	080	83	2
003	65	2	000	11	1	006	21	1	155	80	1
164	54	1	164	53	1	071	80	2	026	85	2
101	77	1	098	66	2	175	66	2	006	47	2
009	54	2	006	81	2	066	81	2	151	78	1
155	65	1	161	61	1	160	84	2	100	87	2
001	82	1	105	88	2	167	44	1	076	74	1
171	75	2	171	39	1	023	31	1	075	42	1
101	78	2	170	53	1	127	81	1	081	78	1
115	41	1	000	35	1	136	50	1	081	61	1
067	80	1	005	60	1	163	63	1	084	84	2
141	72	1	030	61	2	141	72	2	173	73	1
155	45	2	104	78	2	165	34	1	143	67	2
173	72	1	058	86	1	134	68	2	008	52	1
163	49	1	094	89	2	023	42	1	165	61	1

053	84	2	154	89	1	057	33	1	006	25	1
119	88	1	158	68	2	086	71	1	080	86	2
095	81	2	156	58	1	101	38	2	005	16	1
056	88	1	161	62	1	145	62	1	176	63	1
135	78	1	169	32	1	004	73	1	133	65	2
174	43	1	053	83	2						

two creeks -- pre- two rivers lacustrine **Site #10**

134	72	2	031	84	1	125	74	2	106	76	1
110	84	2	170	80	2	114	81	2	022	87	1
141	82	2	077	86	2	142	41	2	147	84	2
010	40	1	169	14	1	010	88	2	116	28	1
005	17	2	154	86	2	085	80	1	145	75	2
093	89	1	171	84	2	060	85	2	17	79	2
151	91	1	092	80	1	077	74	1	019	89	1
152	79	2	007	11	1	000	15	1	012	90	1
130	78	2	124	42	1	134	87	1	044	24	1
050	74	1	033	85	2	024	19	1	134	90	1
054	25	1	075	81	2	068	80	2	135	87	1
155	86	1	065	81	2	000	15	2	155	53	1
119	80	1	135	23	2	125	86	1	135	86	1
118	19	1	069	75	2	118	88	1	002	90	1
020	80	1	085	88	1	089	84	1	004	85	1
125	84	1	068	81	1	049	83	1	085	90	1
134	84	1	114	83	1	003	84	1	150	87	1
105	68	2	004	86	1	079	70	1	088	73	1
042	88	2	100	78	2	091	86	2	091	59	2
152	45	1	099	89	1	114	87	1	115	74	2
004	35	1	020	80	1	175	81	2	149	40	1
155	26	2	110	83	1	125	82	1	100	34	1
087	84	1	085	84	1						

173	84	2	044	76	1	136	83	2	127	71	2
017	25	2	032	08	1	151	85	1	010	08	1
170	84	1	085	87	2	144	47	1	084	80	2
143	78	1	107	83	2	104	87	1	129	85	1
110	79	2	122	76	2	152	26	1	089	71	2
001	84	1	135	14	2						

Sandy Bay Two Rivers till Site #7

056	83	1	060	90	1	037	83	1	151	80	1	140	89	1
071	88	1	048	73	1	148	84	1	140	79	2	092	77	2
034	18	2	024	13	2	076	17	2	013	31	2	024	31	2
073	07	1	167	11	1	010	15	2	013	11	2	160	22	2
003	28	2	056	16	2	137	43	2	024	37	2	035	20	2
010	27	2	010	25	2	010	20	2	005	86	2	119	89	1
112	60	2	085	85	2	063	81	2	081	85	1	092	90	1
095	83	2	091	89	2	102	87	2	071	90	1	098	85	2
112	90	1	090	66	1	100	89	2	100	90	1	093	88	1
170	84	2	158	85	1	176	87	1	000	84	1	179	79	1
084	73	1	130	81	2	164	75	1	088	78	1	104	89	1
137	82	1	070	78	1	127	88	1	123	82	2	156	90	1
153	89	2	177	69	1	180	79	1	080	82	1	100	85	1
079	77	1	166	04	1	113	82	1	141	84	1	071	77	2
134	86	1	092	81	2	090	82	4	105	82	1	057	86	2
041	82	2	169	89	1	161	78	1	056	71	1	146	83	1
121	90	1	068	89	1	145	67	1	111	87	1	156	16	2
029	87	2	126	86	2	161	84	1	124	78	1	104	83	1
115	84	1	108	80	2	034	53	1	110	72	1	027	65	1
136	78	2	131	76	2	091	86	1	012	82	1	083	10	2
123	82	1	137	85	1	138	88	1	012	01	2	003	01	2
042	13	2	106	86	2	138	85	1	106	84	2	122	75	2
113	81	2	055	60	1	058	62	1	062	83	1	057	76	1
145	83	2	014	74	2	006	87	1	004	86	1			

Site #12

TWO RIVERS PIT -- TWO RIVERS TILL

141	12	1	170	08	1	110	20	1	168	15	1	112	23	1
125	14	2	067	88	1	060	89	1	112	67	2	122	63	2
015	88	1	077	72	1	129	56	1	102	78	1	156	80	1
125	50	2	121	88	2	022	81	1	172	90	1	080	83	1
038	85	2	077	82	1	095	87	2	145	72	2	163	89	2
085	83	1	082	81	1	060	84	1	021	84	2	102	83	2
083	89	1	129	89	2	124	64	2	107	70	2	133	78	1
088	75	1	153	31	1	108	70	2	138	47	1	173	86	2
164	77	1	047	87	1	013	85	2	029	32	1	141	76	2
063	86	1	059	90	1	158	16	1	023	90	1	147	22	1
035	87	2	031	87	2	023	83	2	140	13	1	141	12	1
140	11	1	172	17	1	154	20	1	015	08	1	088	65	1
045	79	1	073	75	1	072	73	1	071	80	2	038	90	1
145	80	2	085	68	2	050	80	1	040	79	1	021	81	1
153	88	1	030	16	2	036	73	1	156	75	1	159	88	1
160	85	1	111	80	1	135	75	1	089	83	2	126	84	1
032	78	1	161	79	1	020	85	2	011	79	1	161	87	1
036	84	2	032	10	2	053	05	2	001	12	2	115	84	1
089	83	2	031	88	1	115	73	1	040	84	1	125	85	1
054	84	1	105	57	1	154	88	1	023	81	1	122	84	1
012	73	2	032	87	2	104	73	2	174	87	1	127	87	2
025	81	1	134	71	1	037	76	1	029	64	1	113	83	2
072	55	1	033	81	1	008	80	1	057	88	2	169	64	1
001	84	1	013	85	1	022	83	1	026	88	1	046	77	1
120	84	2	132	75	2	034	87	2	041	84	2	162	87	2
062	89	2	161	90	1	159	85	2	054	89	1	091	58	1
154	89	2	156	87	1	020	80	1	037	85	2	082	88	2
070	82	1	170	32	2	177	84	2	057	90	1	115	86	2
039	86	1	042	85	2	154	76	1	028	86	2	134	62	2
079	26	1	057	77	1	150	87	2	054	87	1	049	37	1
054	90	1	032	90	1	013	74	1	026	85	1	019	84	2
035	83	2	151	75	2	033	77	2	040	89	2	034	80	2
033	85	2	127	78	1	015	72	2	130	84	2	050	56	2
166	84	1	150	66	2	143	79	2	148	88	2	002	57	1
032	83	2												

MANITOWOC RIVER LOWLAND -- HAVEN TILL **Site #13**

048	86	2	039	86	2	036	85	1	049	75	2	043	75	1
042	87	2	047	88	2	037	87	2	153	72	2	018	92	1
103	79	2	028	68	1	129	73	1	140	80	1	161	84	1
043	55	2	095	72	1	057	59	1	050	73	1	137	80	2
042	65	2	053	68	2	068	56	1	142	80	1	160	25	2
042	65	2	026	80	2	005	12	1	030	80	2	050	64	2
160	85	2	174	24	2	064	80	1	146	59	1	052	68	1
151	70	1	126	78	2	036	72	2	150	66	1	084	49	2
134	41	1	150	72	2	156	70	2	050	70	1	022	72	1
032	83	2	116	50	1	126	69	1	146	80	1	168	76	2
162	72	2	125	78	1	120	55	1	129	67	1	134	88	2
140	69	1	055	65	2	050	79	1	127	78	1	141	45	1
148	38	1	138	83	2	019	67	1	041	60	2	042	85	1
054	21	2	160	82	1	141	83	1	128	89	2	150	67	1
118	79	1	045	35	2	152	37	2	150	87	1	043	85	2
178	84	2	001	19	2	111	64	1	141	70	1	075	84	2
158	65	1	172	76	1	029	74	2	103	77	2	015	41	2
139	76	1	121	74	1	092	71	2	164	84	1	068	81	2
108	21	2	091	16	2	029	25	2	074	65	2	104	71	2
085	86	2												

valders quarry -- niagra dolomite **Site #14**

175	87	2	107	84	2	175	85	2	167	82	2	071	88	1
167	88	2	098	86	1	170	85	2	167	78	2	164	86	2
170	88	2	174	82	2	032	82	2	129	69	2	153	76	2
062	84	2	078	88	1	154	86	1	145	89	1	127	88	2
082	81	1	159	85	1	068	82	2	106	89	1	071	50	1
148	87	2	147	87	2	165	88	2	048	88	2	000	86	2
082	83	2	061	74	2	158	85	2	078	86	2	070	74	1
151	85	2	114	87	2	152	85	1	138	89	1	076	00	1
147	71	1	085	08	2	104	82	1	057	18	2	152	82	2
144	83	2	080	82	1	052	79	2	149	88	1	119	87	2
004	87	1	160	81	1	004	75	1	007	81	1	066	82	2
070	87	2	111	14	1	044	72	2	064	86	1	068	80	2
061	88	2	082	65	2	073	73	2	076	67	2	078	84	1
061	68	1	066	64	1	100	89	1	097	59	1	084	83	1
059	56	1	078	72	1	172	81	2	165	90	1	173	85	2
009	82	1	009	80	2	171	87	2	145	85	2	165	89	2
147	83	2	171	75	2	052	03	1	044	72	1	174	84	2
171	89	2	047	79	2	175	89	2	063	05	2	055	09	2
051	08	2	053	01	2	055	09	2						

VALDERS QUARRY -- VALDERS TILL **Site #15**

093	84	2	080	76	1	086	70	1	177	80	1	007	85	1
145	90	1	030	84	1	032	82	1	171	89	2	004	90	2
091	05	2	090	07	4	001	83	2	109	80	1	087	08	2
147	78	2	156	50	1	076	77	1	027	84	2	155	87	1
076	90	1	132	80	1	162	88	1	064	79	1	161	78	1
186	88	1	153	80	2	031	85	2	076	05	2	145	90	1
025	83	1	054	78	1	008	86	2	005	71	1	146	81	1
087	22	1	101	03	2	039	80	1	136	88	1	031	81	1
020	84	1	146	84	2	065	88	2	015	78	1	076	19	1
087	09	1	170	13	2	127	86	1	135	80	1	120	83	2
165	75	1	064	75	2	146	84	2	154	88	2	156	90	2
161	71	1	026	78	1	011	88	1	144	83	1	119	81	1
038	79	2	048	69	2	158	82	1	012	87	1	004	80	1
047	74	1	136	85	1	053	86	1	134	79	1	125	86	2
153	79	2	027	85	1	021	88	1	015	89	1	096	84	2
010	86	1	013	87	2	082	87	1	170	85	1	034	89	2
178	84	2	168	86	2	087	75	2	105	82	2	003	84	1
090	81	4	019	80	1	182	90	1	147	71	1	132	74	1
028	71	1	058	87	2	010	82	1	012	88	1	065	19	1
146	89	2	144	83	2	149	88	2	159	71	2	069	21	1
152	76	1	136	73	1	175	84	2	035	73	2	037	90	1
000	89	1	009	72	1	134	84	1	017	89	2	012	86	2
071	84	1	025	76	2	011	86	2	001	85	2	170	86	2
165	82	2												

SUBURBAN MANITOWOC HAVEN TILL **Site #16**

000	57	1	022	55	1	056	72	2	009	57	1	002	54	1
030	67	2	070	63	2	177	77	2	175	41	1	178	52	1
152	40	1	158	34	1	053	59	2	174	34	1	019	85	1
110	84	2	022	41	1	016	72	2	178	76	2	176	67	2
000	41	1	072	70	2	164	45	1	134	66	1	091	75	2
021	60	1	160	75	2	038	76	2	168	36	1	170	28	1
170	42	1	143	34	1	165	56	1	136	29	1	175	31	1
080	11	2	105	85	2	000	32	1	155	49	1	150	12	1
161	27	1	176	52	1	012	59	1	008	60	1	000	55	1
150	55	2	035	32	1	052	89	1	130	85	2	048	59	2
042	30	1	175	53	1	007	48	1	161	42	1	009	21	1
051	89	1	142	33	1	046	79	2	013	78	2	079	31	2
008	83	2	120	31	1	004	69	2	036	60	2	036	67	2
035	79	2	163	60	1	001	46	1	012	44	1	179	78	2
071	71	2	014	57	2	002	61	2	163	61	1	158	52	1
030	74	2	024	72	2	039	66	2	148	57	1	155	71	1
049	90	1	033	90	1	031	87	2	167	86	2	120	60	1
120	85	1	002	51	1	142	62	1	123	52	1	125	41	1
132	34	1	032	75	1	115	40	1	044	66	2	043	90	1
121	59	2	102	48	2	148	65	1	066	66	2	060	81	1
095	64	2	038	66	2	115	44	1	124	36	1	149	44	1
120	31	1	059	55	2	170	71	1	052	47	2	015	70	1
012	35	1	165	82	1	080	10	2						

MEMORIAL DRIVE WAYSIDE **Haven till** **Site #17**

038	20	1	064	89	1	016	78	2	054	65	2	149	87	1
084	86	2	044	15	1	045	90	1	105	68	2	010	85	2
074	84	1	046	83	2	139	83	2	131	82	1	024	87	1
030	82	1	019	89	2	002	86	1	140	25	1	072	51	1
024	74	1	019	86	2	011	87	1	094	12	2	021	78	1
006	85	1	038	72	1	026	82	2	021	74	1	110	85	2
139	76	2	141	82	2	062	71	1	050	90	1	047	90	1
009	50	1	003	80	2	000	83	2	051	64	1	006	89	2
067	90	1	046	48	1	048	73	2	125	87	1	112	72	1
106	70	1	129	88	1	048	81	2	139	85	1	118	89	1
034	79	2	067	80	1	160	75	2	114	87	2	015	62	2
117	85	2	015	11	2	135	14	1	051	83	2	065	84	2
059	81	1	114	62	1	170	58	2	122	09	1	122	75	1
124	76	1	112	78	1	141	27	1	050	78	1	032	76	2
102	84	1	054	85	2	046	79	2	051	85	1	051	78	1
000	02	1	034	84	2	081	10	1	132	13	1	014	86	2
027	85	2	114	79	1	112	81	1	115	76	1	093	78	2
024	76	2	039	81	2	090	77	3	006	84	2	003	84	2
031	85	2	012	82	2	056	47	1	003	78	2	177	81	2
170	80	2	107	57	2	059	80	1	164	89	1	133	21	1
058	63	2	095	83	2	102	88	1	056	68	2	152	76	1
148	87	1	013	85	1	010	87	1	101	15	1	159	84	1
001	83	2	016	76	1									

FRICKE QUARRY -- VALDERS TILL **Site #18**

121	69	1	094	84	2	164	57	1	019	72	1	002	85	2
164	80	1	108	55	1	021	90	1	018	87	2	108	66	1
145	86	1	024	58	2	148	74	1	151	60	2	031	77	2
118	76	1	147	64	1	034	80	1	063	71	2	031	85	2
154	78	1	131	78	2	027	70	2	016	40	1	164	83	1
100	80	1	110	88	2	083	79	2	130	79	2	066	81	1
070	83	1	014	70	1	098	55	1	055	60	2	168	39	1
174	74	2	130	72	1	126	29	1	150	81	2	034	85	2
020	87	1	155	86	2	154	90	1	166	66	1	058	84	2
056	83	2	044	59	2	042	86	2	095	84	1	175	66	2
165	65	2	180	89	1	135	67	2	141	83	1	139	86	1
021	90	1	044	82	1	055	83	1	114	73	2	058	89	2
080	87	2	105	81	2	075	80	1	118	67	2	045	53	1
060	84	2	059	85	1	130	56	2	114	87	2	104	77	2
036	87	2	177	13	1	131	84	1	065	84	1	018	51	1
141	82	2	124	69	1	055	88	2	138	85	2	092	80	2
035	73	2	123	70	1	122	79	2	112	63	1	108	89	1
081	81	2	060	87	1	040	89	1	151	71	2	009	41	2
050	86	2	031	90	1	059	85	2	145	34	1	111	81	2
089	82	2	071	89	2	045	93	1	004	82	2	059	85	1
164	27	2	011	84	2	006	11	2	009	62	2	011	85	1
031	86	1	024	85	1	096	54	2	090	63	4	074	30	1
054	78	1												

PORT WASHINGTON -- OZAUKEE TILL **Site #21**

135	63	1	002	79	2	005	62	2	003	87	1	026	83	1
125	81	1	000	85	2	120	73	1	156	53	2	113	38	2
107	82	1	137	70	2	125	77	1	139	73	2	128	61	2
115	61	2	040	70	1	034	82	1	036	84	1	126	83	2
143	66	2	111	82	1	034	90	1	136	80	2	135	89	2
169	44	2	125	83	1	002	67	2	124	76	2	100	64	1
109	65	2	110	81	1	141	72	1	125	80	1	042	57	1
121	61	2	136	79	2	128	74	1	096	71	2	131	90	1
105	04	2	119	74	2	127	70	2	114	87	2	129	66	2
124	56	2	129	63	2	135	65	2	134	61	2	139	84	1
144	13	2	016	85	1	028	78	1	121	03	2	132	59	2
161	75	2	169	90	1	131	84	1	136	72	2	122	78	2
069	79	1	109	78	2	115	82	2	044	88	2	124	75	2
106	89	1	111	83	2	031	80	1	163	87	2	025	77	1
134	80	2	143	90	1	022	81	2	141	84	2	012	84	2
032	89	2	145	86	2	136	84	2	037	79	1	033	84	1
131	77	1	105	85	2	082	88	1	067	70	1	048	58	2
136	71	2	127	80	1	125	84	1	072	09	1	121	74	1
135	75	1	124	70	2	122	72	2	131	71	2	119	84	1
043	19	2	114	78	1	136	80	1	033	79	1	031	91	1
046	69	1	060	75	1	034	15	2	068	63	1	051	62	1
033	28	2	052	69	1	089	74	2	071	73	2	131	21	2
065	31	2	056	66	1									

NOTRE DAME -- OZAUKEE TILL Site #22

030 84 2	101 85 1	080 84 1	174 80 2	064 72 1
041 85 2	042 84 2	034 83 2	083 84 1	149 89 2
149 80 2	085 90 1	042 62 2	145 89 2	030 82 2
039 84 2	084 89 1	074 88 1	082 89 1	114 85 2
012 07 1	106 89 1	072 08 1	172 82 2	113 85 2
179 17 1	172 11 1	173 09 1	068 83 2	071 87 1
020 79 1	044 88 1	039 88 1	011 04 1	050 89 1
172 15 1	096 86 1	155 88 1	011 89 1	149 82 2
033 06 1	000 12 1	006 27 1	165 06 1	102 84 2
029 07 1	064 11 1	113 86 1	142 81 2	158 83 2
130 85 2	131 85 2	122 87 2	021 78 1	064 87 1
078 82 2	051 87 2	125 06 2	172 86 1	123 81 2
045 11 1	121 84 2	141 84 1	179 82 1	055 81 2
135 71 2	035 24 1	074 89 2	110 80 1	026 06 1
133 11 2	051 84 2	130 06 2	132 90 1	011 26 1
011 84 2	017 73 2	144 90 1	061 85 2	113 88 1
114 87 1	167 10 2	114 79 2	010 75 1	061 82 2
061 86 1	131 90 1	079 79 2	019 13 1	019 90 1
006 76 1	047 61 2	059 90 1	059 69 1	134 81 2
123 19 2	175 19 1	099 84 1	090 07 4	141 80 2
003 12 1	082 11 1	025 76 1	023 82 2	166 11 1
009 70 2	122 01 2	058 81 2	129 10 2	031 66 2
044 89 2				

Site 19-1

HAVEN TYPE SECTION -- VALDERS TILL -- NORTH EXPOSURE

076 05 1	027 82 1	029 86 1	151 87 2	164 89 1
133 86 2	055 18 2	070 85 1	066 79 1	170 85 1
131 84 1	154 78 2	161 83 1	159 90 1	070 84 1
062 50 1	159 80 1	151 80 1	166 83 1	154 78 1
157 77 2	099 19 2	158 71 2	059 34 2	002 80 2
143 87 2	150 72 2	166 62 2	152 73 2	136 84 2
149 85 2	141 85 2	154 72 1	059 32 1	026 79 1
071 56 1	142 82 1	142 85 1	075 05 1	044 89 1
002 87 1	020 88 1	130 80 1	154 89 2	153 88 2
149 84 1	046 48 1	066 88 1	158 84 2	147 21 1
076 77 2	030 86 2	050 83 2	045 83 2	061 90 1
102 88 1	058 81 1	155 84 1	049 75 1	167 80 1
161 89 1	170 88 1	071 90 1	078 73 2	164 74 2
004 10 2	162 79 1	013 16 2	159 62 2	153 84 2
158 80 1	060 07 2	166 80 1	156 83 1	050 68 1
172 85 1	092 08 2	050 87 1	023 12 2	135 82 2
138 88 2	156 61 2	040 90 2	042 87 2	165 02 1
011 90 1	171 84 1	157 86 2	177 83 2	148 77 1
140 69 1	147 62 1	125 79 1	021 82 2	172 60 2
156 75 2	054 78 2	161 88 1	010 77 2	034 78 2
073 59 1	117 84 2	165 79 2	155 78 1	140 14 1
140 85 2	142 78 1	059 22 2	142 74 1	061 69 2
146 70 2	161 76 2			

Site #19--2

HAVEN TYPE SECTION -- VALDERS TILL -- BLUFF EXPOSURE

114	86	2	012	84	2	050	75	2	126	76	1	102	86	1
130	88	1	132	88	1	137	88	2	012	63	1	092	86	1
172	83	2	063	79	1	147	83	2	127	82	2	025	02	1
108	86	1	027	90	1	004	89	1	119	75	2	080	85	1
108	87	1	091	86	1	055	72	2	020	80	1	153	90	1
041	75	2	058	09	1	034	76	1	109	86	2	105	88	2
111	87	2	110	88	2	109	90	1	119	84	1	117	87	1
131	80	1	034	83	1	036	84	2	085	89	1	134	16	2
160	81	1	163	82	1	064	14	1	109	87	2	099	81	2
087	22	2	072	83	1	153	89	1	169	12	2	152	90	1
149	89	1	154	84	1	159	84	1	041	83	1	047	90	1
079	82	1	031	86	2	004	86	1	177	70	1	168	63	1
015	89	1	033	79	2	168	09	1	175	90	1	027	34	1
086	10	1	017	87	2	100	17	2	020	76	1	035	88	1
066	84	2	169	13	1	022	90	1	102	90	1	094	89	2
106	88	1	126	84	2	003	71	1	001	86	1	180	86	2
106	87	1	115	84	1	077	85	2	014	83	2	147	84	2
076	78	2	081	82	2	095	81	2	083	88	1	004	81	2
080	12	1	080	90	1	141	74	1	132	90	1	061	12	2
123	89	1	131	84	2	078	11	2	116	90	1	124	90	1
169	79	1	161	84	1	137	85	2	135	85	1	146	90	1
066	11	2	032	04	2	142	79	1	134	72	2	134	90	1
090	78	2	154	85	1									

Site 20-1

HAVEN TYPE SECTION -- VALDERS TILL -- C -- NORTH EXPOSURE

083	90	1	080	83	1	083	82	2	091	82	1	082	82	2
096	86	2	176	82	2	020	77	2	082	76	2	075	83	2
173	89	1	051	87	2	077	86	1	086	90	1	090	86	4
176	88	2	065	96	2	078	86	2	009	88	1	070	86	2
091	81	2	148	85	2	095	84	1	104	85	2	056	82	2
028	87	2	160	80	2	063	52	2	076	80	2	138	86	1
081	77	1	128	78	2	012	80	2	115	82	1	152	81	2
086	90	1	020	86	1	100	84	1	073	78	2	164	90	1
076	81	2	157	87	1	073	81	2	081	85	2	041	84	2
080	88	2	119	74	1	060	89	2	058	60	2	165	83	2
060	69	2	118	90	1	158	86	1	071	52	2	070	52	2
175	85	1	149	87	2	042	86	1	013	90	1	034	80	2
175	81	2	001	74	2	168	77	2	139	86	1	041	68	2
155	86	2	063	86	2	168	87	2	132	84	2	104	80	2
020	88	1	008	88	1	092	86	1	155	83	1	078	87	2
152	86	2	004	87	2	169	89	1	010	88	1	155	80	2
068	72	2	170	75	2	069	74	2	131	87	1	157	88	1
174	84	2	107	77	2	125	88	1	064	72	2	076	73	2
168	78	1	158	80	1	140	88	1	007	81	2	056	69	2
005	84	1	090	63	3	084	65	2	076	85	2	004	76	2
080	63	2	077	61	2	156	88	2						

Site #20-2

HAVEN TYPE SECTION -- VALDERS TILL -- WEST WALL

001	82	1	061	83	2	096	86	2	098	83	2	030	77	1
119	88	2	099	87	2	086	86	2	170	80	1	033	89	1
111	85	1	124	82	2	084	88	2	086	85	2	031	86	2
178	86	2	171	89	2	056	86	2	033	86	1	055	84	2
006	82	1	118	84	2	130	83	1	108	88	1	008	90	1
053	83	2	156	89	1	116	86	2	045	81	1	097	86	1
058	85	2	045	83	1	174	88	1	140	79	1	082	88	2
028	85	1	028	90	1	015	83	1	054	78	1	027	84	1
092	86	1	137	87	2	075	89	2	034	82	1	153	72	1
147	86	2	103	84	1	122	88	1	029	87	1	014	84	1
013	88	2	021	85	2	051	80	1	179	80	1	000	90	1
106	83	2	087	84	2	157	56	2	089	85	1	008	78	1
096	87	2	008	82	1	129	80	2	127	85	2	003	85	2
089	86	1	002	89	1	022	83	2	066	87	1	012	83	1
179	79	2	096	86	2	128	89	2	073	89	1	099	88	2
087	80	2	106	86	2	089	88	1	029	89	2	036	80	2
055	87	2	107	79	2	036	78	1	059	85	1	013	89	1
009	80	2	016	87	1	083	82	1	166	86	2	021	88	2
097	81	2	016	84	2	156	87	1	076	87	2	050	86	1
064	84	2	023	85	1	149	90	1	123	78	2	006	88	2
092	83	2	116	83	1	098	74	1	061	84	1			

Site #20-3

HAVEN TYPE SECTION -- HAVEN TILL -- WEST WALL -- UNIT C

056	86	1	147	83	1	152	84	2	117	88	1	021	78	2
170	60	2	142	82	1	131	87	1	031	90	1	059	87	2
105	90	1	083	79	1	012	83	1	101	85	1	067	82	2
069	80	1	082	80	2	061	86	1	050	82	1	029	76	1
063	81	1	173	78	1	148	87	2	014	87	1	151	81	1
036	86	1	025	36	2	170	96	1	110	80	2	013	81	1
102	89	2	100	18	1	102	84	2	161	85	1	049	86	1
023	84	1	126	88	2	021	86	2	081	87	1	086	81	2
080	83	1	130	89	2	158	82	1	176	22	2	163	86	2
086	79	1	099	90	1	020	82	1	099	88	2	177	89	1
151	81	2	083	82	1	113	77	2	048	87	1	010	23	2
161	90	1	148	88	2	106	81	2	089	89	2	114	87	2
054	84	2	176	87	1	057	88	2	028	80	1	144	81	1
138	85	1	066	75	2	134	90	1	110	88	1	007	88	1
138	85	1	158	88	1	090	69	4	103	81	2	010	83	1
015	85	1	045	72	1	019	85	1	154	85	1	114	90	1
128	83	2	020	87	1	056	88	2	102	89	1	007	80	1
090	88	4	122	84	2	126	86	1	085	90	1	172	78	1
110	76	2	118	80	2	045	85	2	020	89	1	044	61	2
017	55	2	140	80	1	029	90	1	024	80	1	035	83	1
100	86	2	029	84	1	068	90	1	001	84	2	039	83	1
133	85	1	179	86	1	018	75	1	025	86	1	040	84	2
003	88	1	080	89	1	036	82	1	076	88	2	096	82	2
155	75	2	028	84	2	015	86	1	141	90	1			

ST FRANCIS **New Berlin till Site #24**

151	82	2	126	82	2	128	89	2	131	51	2	010	82	1
148	56	2	152	80	1	150	40	2	137	40	2	148	46	2
150	46	2	144	85	2	145	76	1	141	84	2	039	79	1
031	86	2	148	36	1	052	86	1	151	87	1	055	88	2
051	90	1	150	50	2	058	84	1	135	50	2	152	63	1
025	76	2	129	47	2	051	85	1	146	26	2	069	86	2
146	84	2	150	85	1	131	86	1	111	61	1	174	84	1
154	90	1	053	81	2	152	83	2	125	78	2	100	90	1
161	84	2	009	85	2	129	76	1	144	78	2	143	65	2
139	68	1	052	89	1	066	79	1	057	90	1	051	74	2
161	53	1	042	83	2	121	22	2	161	90	1	094	74	1
132	51	1	154	71	1	153	80	1	152	73	1	168	82	2
153	85	1	145	68	1	157	73	1	124	70	1	162	50	2
080	78	1	147	74	1	064	72	2	151	87	2	114	89	2
146	82	1	044	88	1	070	89	2	037	90	1	111	77	2
022	80	1	144	75	1	024	83	1	062	70	1	126	60	2
009	62	1	052	88	1	124	45	2	147	73	1	143	81	1
135	69	2	146	84	1	162	67	2	011	30	2	064	84	1
046	86	1	041	81	2	156	82	1	084	72	2	036	87	2
112	90	1	132	79	1	149	41	1	108	86	1	004	42	2
086	78	1	072	86	1	071	87	1	155	78	1	151	63	1
141	83	1	050	84	1	158	80	1	068	77	2	091	79	1
140	70	1	146	89	1									

ST. FRANCIS **Oak Creek till (till 2A) Sites #23 & 25**

155	87	1	012	82	2	113	82	2	000	89	2	146	79	1
078	86	2	051	79	2	064	84	1	017	87	2	140	85	2
056	81	1	062	73	1	109	20	1	092	78	2	047	71	2
093	82	2	065	80	1	046	72	2	020	65	2	018	86	2
030	48	2	155	69	1	072	80	1	103	75	1	003	52	2
160	89	1	161	88	2	155	89	2	051	85	2	080	90	1
056	90	1	131	72	2	110	86	2	090	71	1	095	23	1
155	81	1	044	61	1	175	41	2	160	83	1	074	73	1
036	90	1	144	67	1	092	83	1	160	77	1	042	65	2
071	87	1	165	74	1	140	67	1	148	74	1	047	61	2
135	70	2	175	54	2	058	76	2	087	70	2	147	72	1
132	86	2	162	69	1	045	77	2	154	65	1	086	72	1
051	88	1	158	74	1	153	89	2	085	88	1	148	88	2
162	80	1	113	82	2	028	80	2	018	68	2	162	89	2
136	19	1	152	78	1	081	86	1	165	86	2	010	87	2
092	34	2	089	89	2	028	83	1	154	84	1	052	86	1
121	86	2	160	73	1	052	73	2	060	90	1	054	90	1
076	68	1	043	88	1	154	26	2	050	86	2	168	32	2
151	74	1	051	89	2	059	85	2	062	84	1	077	71	1
071	76	2	158	88	1	152	87	1	129	80	1	091	80	1
051	85	1	143	77	1	059	80	1	058	80	1	135	58	1
146	55	1	036	46	2	070	80	1	147	78	1	065	81	2
021	85	2	044	75	2	160	84	2	153	12	1	119	57	2
109	57	2	023	90	1	029	89	2	076	46	2	019	87	1
080	74	2	055	70	2	026	82	2	086	60	2	177	30	1
089	64	2	106	58	2	053	81	2	083	55	1	071	77	1
079	68	2	077	90	1	167	50	1	058	81	1	077	88	1
063	71	1	071	88	1	065	67	2	130	64	1	052	70	2
050	81	1	145	46	2	071	60	2	072	65	2	068	63	1
076	76	2	036	12	2	091	60	2	064	73	1	070	90	1
080	84	2	070	81	1	068	69	1	109	84	1	061	65	2
077	85	1	041	76	1	070	86	2	104	73	2	061	74	1
066	61	2	081	79	2	052	75	2	118	79	2	076	80	1
089	61	1	080	68	1	146	53	1	074	71	1	095	64	2
060	82	2	060	79	2	110	72	2	097	73	2	143	72	1
060	55	2	069	79	1	158	58	1	143	86	1	076	64	1
085	59	1	091	75	2	052	66	2	074	75	1	165	76	1
070	79	2	085	89	1	058	85	2	084	82	1	044	53	2
062	81	2	055	93	2	053	83	2	170	50	1	084	55	1
042	77	1	072	78	1	064	67	1	074	83	1	065	84	1
070	84	2	076	83	2	065	82	1	072	82	1	056	61	2
042	65	2	077	83	1	065	75	1	073	82	2	038	83	1
082	77	1	071	75	1	110	84	1	041	51	1	055	62	2
069	81	1	062	66	1	012	70	1	039	79	1	081	81	1
019	84	2	045	74	2	145	48	2	144	60	1			

ST. FRANCIS -- **Oak Creek till (till #2b) Site #26**

086	84	2	008	86	2	012	03	1	070	81	1
012	78	1	125	57	1	168	78	2	065	85	2
020	71	2	026	77	1	029	63	1	031	87	2
142	30	2	047	77	1	100	54	1	002	82	1
136	73	1	018	85	1	155	59	1	176	86	2
011	47	1	036	82	1	139	86	1	044	82	2
031	36	2	036	82	2	151	76	1	132	15	2
143	77	1	086	84	1	121	88	2	035	63	2
045	63	1	018	90	1	029	82	2	046	81	2
024	15	2	041	83	1	032	77	2	053	69	1
040	62	2	046	65	2	044	76	2	028	75	1
030	71	2	130	08	1	136	14	2	124	24	2
143	82	1	091	30	2	164	80	1	079	79	1
158	77	1	157	78	1	130	40	2	100	53	2
114	52	2	082	74	2	112	81	1	092	86	2
066	62	1	077	78	1	000	79	1	127	52	2
061	75	2	058	44	2	172	39	2	098	78	2
130	49	2	085	61	2	094	64	1	078	67	2
034	24	2	095	87	1	011	87	1	092	81	1
111	66	2	140	67	2	119	73	2	080	85	1
093	85	2	120	84	2	015	44	1	105	36	1
095	81	2	113	86	2	015	84	1	019	79	1
030	16	2	084	79	2	100	82	2	014	79	1

097	87	2									
060	79	1									
020	10	2									
022	85	1									
023	55	2									
050	42	2									
033	89	1									
080	89	1									
041	82	2									
176	78	1									
006	81	1									
056	86	1									
015	60	2									
057	70	2									
100	90	2									
079	85	2									
002	89	2									
175	86	1									
101	90	1									
103	80	2									
022	53	2									
111	83	1									

Site #28

St. Francis -- post-**till 2A** Lacustrine Seds

153	89	1	016	88	2	108	88	1	118	79	2
156	68	2	101	89	1	133	76	1	112	86	1
140	86	1	173	74	2	024	82	1	026	83	1
165	75	2	160	75	2	128	90	1	145	88	1
039	87	2	156	72	2	134	82	2	108	81	2
134	84	2	174	88	2	084	85	2	152	81	1
144	80	1	133	84	1	153	82	1	082	73	2
014	85	1	031	86	1	084	77	2	149	83	2
011	87	1	125	72	1	131	85	1	133	86	2
106	85	2	142	66	1	128	87	2	141	24	2
141	61	1	011	25	2	106	56	1	164	75	1
153	88	1	081	77	2	144	81	2	118	80	1
147	88	1	088	86	1	032	86	2	100	87	2
080	80	2	154	88	1	060	82	2	134	87	2
086	86	2	047	85	2	134	73	2	082	88	2
033	84	2	175	74	1	108	86	2	127	68	1
109	59	1	142	86	1	010	67	2	124	86	2
145	84	2	172	77	2	113	72	1	012	52	2
143	76	2	014	70	2	151	60	1	099	83	1
095	77	1	124	86	1	125	75	1	107	84	1
076	84	2	115	67	1	128	82	1	104	73	1
131	87	1	146	75	2	117	89	1	090	87	4
169	74	2									

032	77	2			
170	86	1			
170	80	2			
081	74	2			
163	86	1			
030	72	1			
004	83	1			
138	90	1			
114	88	2			
055	25	2			
128	83	1			
085	82	2			
151	80	2			
103	88	2			
152	86	2			
097	77	2			
156	89	1			
152	85	1			
004	78	1			
098	84	1			
147	79	2			
123	87	2			

Site #29
Bender Park -- Upper Till Oak Creek till (till 2b)

145	89	1	116	80	2	129	78	1	127	87	1	076	67	2
088	67	2	120	30	2	108	74	1	006	61	1	044	04	1
166	81	1	104	81	2	009	72	1	170	89	1	170	84	2
135	51	2	170	84	1	123	58	2	006	74	1	136	81	2
174	82	1	000	81	1	110	60	1	129	76	1	001	72	1
125	12	2	080	86	2	142	73	1	126	85	1	046	73	1
142	81	1	141	85	2	140	79	1	151	85	1	050	76	2
135	80	1	014	69	1	127	64	2	116	90	1	140	86	1
132	80	1	175	05	1	173	71	2	142	87	1	136	85	1
005	79	2	068	78	2	129	80	1	159	88	1	173	72	2
167	22	1	140	86	1	117	88	1	127	04	2	130	88	2
145	90	1	135	81	1	070	77	2	073	80	2	153	62	2
102	85	2	137	86	1	087	90	1	021	86	1	100	83	2
110	84	2	123	84	2	028	72	1	076	85	2	132	80	1
031	81	1	074	80	2	160	89	1	066	79	1	019	19	1
030	82	1	073	80	2	168	78	1	005	87	1	131	60	2
015	74	2	025	83	2	151	78	1	015	74	2	134	80	2
009	78	2	076	88	1	080	80	1	022	74	2	057	83	2
045	82	2	053	84	1	108	81	2	038	85	2	068	90	1
056	84	1	066	13	1	045	84	1	029	83	1	142	86	1
048	83	1	101	72	2	012	39	2	155	76	2	115	90	1
156	79	2	136	82	2	093	86	1	165	67	2	002	76	2
078	86	1	013	80	1	026	88	2						

Site #31
Camp Amnicon -- Douglas Till (Type Section)

152	86	1	163	85	1	127	54	1	097	79	1	121	81	2
119	82	2	053	10	1	111	15	2	021	32	2	177	12	1
062	42	1	126	79	1	161	30	2	168	88	2	107	65	1
016	78	1	122	76	2	081	61	1	104	55	2	069	55	1
003	69	1	048	05	2	166	79	2	103	85	1	067	85	2
004	30	2	162	61	2	154	59	1	076	77	1	125	81	2
045	51	1	119	55	1	099	55	2	162	35	2	095	79	2
089	74	1	132	79	2	087	82	1	100	86	1	098	65	2
016	76	2	004	87	2	131	72	2	144	83	2	154	88	2
026	85	2	054	39	2	171	85	2	116	84	2	116	90	1
014	90	1	135	74	2	134	79	2	144	65	2	166	63	1
047	77	1	096	40	2	095	23	2	103	50	2	156	82	1
137	67	2	063	68	2	109	21	1	101	83	2	103	83	2
156	24	2	067	87	2	096	24	2	141	59	2	131	59	2
166	77	1	063	86	2	118	59	2	121	44	2	167	83	2
140	79	2	048	71	1	129	75	2	002	80	2	175	74	2
150	16	2	008	86	2	114	76	1	155	85	1	048	82	2
064	90	1	002	88	2	008	87	1	165	89	2	127	85	2
097	60	2	021	77	1	104	54	2	134	83	2	063	89	2
098	82	1	165	47	2	154	12	2	136	84	1	128	82	2
051	76	1	036	69	1	016	47	1	175	27	2	100	60	1
105	76	2	072	81	1	079	87	1	165	77	1	176	77	1
072	82	2	057	79	1	132	90	1	044	84	1			

Site #32

Corp Project Site -- Douglas Till (Reference Section)

122	87	1	151	75	1	142	64	1	134	76	1	034	79	2
127	58	2	122	76	2	091	66	1	050	52	2	153	84	1
080	67	1	065	66	1	071	42	2	070	65	2	077	44	2
121	64	1	148	83	1	144	90	1	050	41	1	161	75	2
107	58	1	171	78	2	012	49	2	166	67	2	020	87	2
066	63	2	010	54	2	034	57	2	109	48	1	106	59	1
144	59	1	138	86	1	119	61	1	004	39	2	049	90	1
160	83	1	139	81	1	051	81	1	090	81	4	009	85	1
136	67	1	081	58	2	021	79	2	107	60	1	173	78	1
010	67	2	076	50	2	060	52	2	160	76	2	171	80	1
131	83	2	166	86	2	089	71	2	016	56	2	036	36	2
085	65	2	026	83	2	174	81	2	148	86	1	010	50	2
045	52	2	011	45	2	061	30	2	004	64	2	165	88	2
089	56	2	076	41	2	081	70	1	105	64	1	026	54	2
147	87	2	046	82	2	115	78	1	069	47	2	081	76	2
166	85	2	159	83	2	092	80	1	030	26	1	132	60	2
156	66	2	008	33	1	119	86	1	072	28	1	144	88	1
165	69	2	091	86	1	006	76	2	062	09	1	147	80	2
045	59	2	135	80	1	060	28	1	151	78	2	005	77	1
092	86	1	143	83	1	070	47	1	020	76	2	123	66	1
025	44	2	157	83	1	009	51	2	164	83	1	019	46	2
164	70	2	096	81	1	133	86	2	075	48	1	070	60	1
065	65	1	081	82	1	057	21	1	171	86	2	125	86	2
053	18	2												

Site #33

PEARSON CREEK -- DOUGLAS TILL

034	85	2	112	85	1	054	81	1	018	86	2	099	85	2
169	79	2	090	84	4	031	88	2	031	23	2	036	24	2
176	17	2	049	16	2	159	21	2	047	84	1	161	05	2
036	85	2	066	81	1	151	83	2	028	13	2	142	82	2
156	83	1	160	27	2	084	79	2	134	88	1	053	84	2
083	76	2	178	66	1	006	88	2	020	52	1	003	71	1
086	76	2	005	24	2	009	66	1	066	72	1	081	85	1
174	87	1	055	86	1	138	88	2	094	86	1	021	24	2
100	87	1	005	67	2	168	88	2	173	68	2	177	78	2
049	85	2	170	83	2	166	80	2	060	85	2	070	46	1
077	66	1	030	82	2	151	80	2	129	75	2	095	82	1
009	19	2	011	24	2	062	42	1	002	88	2	080	90	1
090	26	4	115	46	2	123	34	2	009	12	2	179	86	2
179	76	2	080	70	2	070	74	1	071	85	1	160	70	2
166	88	2	070	86	2	085	83	2	074	70	2	081	57	2
168	87	1	072	29	1	080	67	1	078	86	1	071	89	1
074	84	1	164	72	2	060	15	2	083	14	2	065	87	2
071	52	2	064	85	2	178	84	1	114	90	1	084	77	1
068	42	2	137	70	2	081	45	2	118	89	2	081	85	2
088	82	1	119	84	1	084	84	2	015	90	1	063	88	2
007	87	1	001	82	2	175	74	1	066	88	2	064	86	2
023	60	1	033	83	1	020	89	1	137	81	2	119	85	2
150	12	2	076	86	1									

Site #34
EAST OF AMINICON RIVER -- HANSON CREEK TILL

156	80	2	151	85	1	066	21	2	121	65	2	164	84	1
081	90	1	175	89	1	074	17	2	157	90	1	056	81	1
042	80	1	166	89	1	072	11	2	177	90	1	025	78	1
029	80	2	004	86	2	012	90	1	014	86	1	007	84	1
116	12	1	084	21	2	111	65	2	144	84	1	106	20	2
130	75	1	041	71	2	157	75	2	039	88	2	044	71	2
154	80	2	081	18	2	080	44	2	065	51	1	041	87	2
061	71	1	021	80	1	155	90	1	146	66	2	065	72	2
060	87	2	029	55	1	151	24	1	121	11	1	049	82	1
029	89	2	125	88	1	127	90	1	126	89	1	006	87	2
153	73	1	015	80	1	157	11	1	074	82	2	015	87	1
122	08	1	123	87	1	044	88	2	042	89	2	175	17	1
017	79	2	112	73	1	112	16	1	149	80	1	104	90	1
151	80	2	132	89	2	161	86	1	075	69	2	072	68	2
058	88	2	065	82	1	123	89	1	094	85	2	116	78	2
132	85	2	080	84	1	019	08	2	142	71	1	122	81	2
092	11	1	054	54	1	070	54	1	013	90	1	096	75	2
111	62	1	076	12	2	091	74	2	079	89	1	128	21	1
059	71	1	074	50	1	047	67	1	168	87	1	148	89	2
142	12	1	062	76	2	179	82	1	081	90	1	047	82	1
021	14	2	099	85	2	080	89	1	086	85	2			

Site #35
OSP-2 HANSON CREEK TILL

030	59	1	033	63	1	104	79	1	028	70	1	014	21	2
176	73	1	142	87	2	009	44	1	147	74	1	111	68	2
107	84	2	085	60	1	154	85	1	177	84	1	009	28	2
114	01	1	058	83	1	061	81	1	063	85	1	140	82	2
086	46	1	017	78	1	081	64	2	032	26	2	139	82	1
114	11	2	005	23	2	057	65	2	144	84	1	140	40	2
177	70	1	145	24	2	164	30	2	169	75	1	070	80	2
105	82	1	137	06	2	048	80	2	040	64	2	068	15	2
058	70	2	102	82	1	058	15	2	176	32	2	058	58	2
161	88	1	094	06	1	100	90	1	044	61	2	162	90	1
153	64	1	051	35	1	170	24	2	085	58	2	159	90	1
097	15	2	177	51	1	032	08	2	112	20	2	054	67	2
142	10	2	147	85	1	030	86	1	096	88	1	171	73	1
164	09	2	018	22	2	002	26	2	096	84	2	034	56	1
146	14	2	077	60	2	001	37	2	103	73	2	100	76	2
036	72	2	104	69	2	037	80	2	033	62	1	006	24	2
149	74	2	061	87	1	143	50	1	062	90	1	174	20	2
054	67	2	052	76	2	001	40	1	101	12	2	040	65	2
131	47	1	096	84	2	040	66	2						

Site #36-2

OUTAGAMIE LANDFILL -- **Middle Inlet till**

016	89	2	039	90	1	177	88	2	054	90	1	119	82	1
179	86	2	053	86	2	123	88	1	104	75	2	132	86	1
043	83	1	142	87	1	030	88	1	166	88	1	035	86	1
079	89	1	163	85	2	050	83	1	072	90	1	092	89	2
080	90	1	112	89	2	174	83	1	089	89	2	152	83	2
169	82	2	116	86	2	038	85	2	010	88	1	003	67	1
030	72	1	111	85	2	059	89	2	130	83	2	052	87	2
021	86	2	114	86	2	062	84	2	002	78	2	003	81	1
051	88	1	014	88	1	029	87	1	170	87	2	110	90	1
032	88	2	034	87	1	072	89	2	023	82	1	002	84	1
024	89	1	110	90	1	035	88	1	041	79	1	117	90	1
016	83	2	003	73	1	138	83	1	048	65	1	015	89	2
058	85	1	047	84	1	096	82	2	020	90	1	060	88	2
076	78	1	062	85	1	006	82	1	050	86	2	081	73	1
085	84	2	109	89	1	082	86	2	048	80	1	105	85	2
149	82	1	092	86	1	157	63	1	008	87	2	037	88	2
021	85	1	175	86	1	041	82	1	136	90	1	042	89	2
160	82	1	022	90	1	054	85	1	161	88	1	045	80	1
140	84	1	017	81	1	142	87	2	125	87	2	015	85	2

Site #36-1

OUTAGAMIE COUNTY LANDFILL -- UPPER LACUSTRINE UNIT

047	76	1	062	81	2	095	83	1	024	84	2	154	77	1
114	89	1	025	85	2	164	86	1	111	86	2	176	84	2
025	81	1	042	83	2	160	78	1	026	79	1	091	86	1
145	78	1	018	79	2	024	90	2	144	83	1	073	89	1
045	88	1	145	79	1	122	86	1	105	87	1	154	86	1
102	82	1	134	85	1	092	90	1	013	76	1	119	80	1
105	79	2	010	78	2	030	67	1	096	77	1	097	80	1
095	77	1	178	82	2	098	87	1	074	86	2	071	90	1
042	83	2	127	83	1	166	73	2	089	89	1	053	88	1
112	72	1	132	88	1	004	76	2	070	86	2	111	90	1
024	81	2	078	87	2	005	80	1	077	80	2	000	82	2
152	76	1	033	80	1	126	79	1	142	76	2	170	76	1
048	85	1	137	87	2	076	86	1	127	86	2	166	85	1
022	81	2	154	83	1	103	82	1	012	90	1	046	88	2
162	83	1	072	84	1	046	88	2	012	87	1	115	80	1
156	79	1	124	86	1	154	88	1	077	86	1	029	65	1
169	78	2	042	78	1	093	77	2	002	76	1	046	81	1
040	82	2	106	89	2	023	71	1	175	88	2	038	85	1
011	87	2	084	83	1	160	84	1	076	89	2	137	81	2
159	87	2	010	72	2	010	79	1	093	86	1	144	79	1
120	73	1	122	86	1	036	85	2	137	85	2			

Site #37

KOENEN FARM -- **Middle Inlet till**

148	80	2	019	67	2	156	72	2	178	72	2	115	77	2
120	13	1	039	90	1	130	82	2	170	45	2	059	86	1
062	77	1	165	13	2	024	82	2	096	82	2	130	68	2
175	87	2	008	80	1	134	26	2	119	89	2	105	90	1
177	77	2	133	78	2	138	78	2	084	39	1	132	14	2
116	85	2	018	78	2	037	83	2	069	90	1	180	05	2
116	90	1	176	09	1	111	84	2	062	89	1	142	81	2
059	82	2	035	72	2	017	81	2	125	79	2	118	89	2
105	85	2	030	70	2	111	32	2	106	05	1	045	02	2
032	85	2	118	83	2	126	08	2	022	79	2	092	15	1
146	77	2	146	77	2	176	74	2	086	80	1	019	71	2
043	72	2	077	82	1	131	70	2	178	79	2	064	14	1
142	00	1	060	88	2	113	90	1	038	85	1	127	77	2
165	06	1	096	90	1	170	73	2	122	82	2	077	52	1
083	83	1	029	78	2	022	86	2	016	88	2	046	07	2
106	86	1	111	79	2	109	77	2	027	13	1	133	78	2
016	71	2	016	05	1	057	06	2	014	81	2	114	88	1
113	88	1	121	78	2	144	72	2	131	08	1	124	75	2
123	19	2	124	13	1	119	83	2	027	62	2	091	83	2
021	80	2	026	72	2	109	86	2	019	84	2	002	82	2
079	72	2	009	35	2	162	78	2	005	84	1			

Appendix 3b: Raw Pebble Fabric Data

Three digit number is trend of long axis of elongate pebbles
Two digit number is plunge of long axis of elongate pebbles

Site #12

031 TWO RIVERS PIT -- PEBBLE FABRIC OF LOWER PORTION

239 16 124 21 262 19 270 29 277 21 244 26 300 05 285 20 058 06 081 29
027 16 091 06 096 04 133 42 096 42 249 20 266 19 256 19 262 16 114 04
269 42 089 27 259 10 212 00 032 00 280 26 257 13 169 54 268 13 110 53
206 08

037 TWO RIVERS PIT -- PEBBLE FABRIC -- UPPER PORTION -- EAST WALL

128 24 106 08 122 33 097 32 157 38 260 08 227 10 053 12 036 22 091 39
344 06 162 18 008 34 160 06 157 32 291 04 116 06 298 07 124 26 115 25
280 01 165 17 210 19 330 32 090 38 063 54 137 52 257 02 037 16 002 46
129 02 136 36 066 32 099 04 256 03 064 56 304 06

Site #20-1

040 HAVEN TYPE SECTION --- PEBBLE FABRIC -- HAVEN TILL

019 45 153 08 008 24 017 28 184 13 158 10 356 37 165 27 216 13 235 34
359 47 314 18 336 37 077 59 330 08 344 09 163 08 061 12 356 21 323 21
333 02 081 50 165 08 121 13 360 17 156 33 158 57 137 09 178 05 343 21
323 13 334 55 140 19 101 41 095 34 002 56 020 05 298 15 148 21 186 15

Site #31

036 PEBBLE FABRIC -- DOUGLAS TILL -- CAMP AMNICON

170 11 181 02 022 24 228 05 030 22 049 31 011 33 050 28 168 36 214 07
002 15 058 30 180 09 214 10 048 24 215 25 062 27 130 00 067 10 058 38
211 13 285 37 224 18 030 42 210 37 134 15 238 36 072 25 062 10 040 50
005 35 064 30 025 32 088 20 079 33 037 32

Site #33

036 PEBBLE FABRIC -- PEARSON CREEK -- DOUGLAS TILL

110 23 094 18 298 12 288 01 337 30 221 14 289 12 311 19 016 14 296 04
113 23 286 28 120 04 320 04 328 12 338 11 118 01 223 05 151 20 283 29
301 13 344 03 010 21 102 02 121 07 307 15 102 08 154 51 181 02 022 08
043 22 087 28 245 52 097 11 310 17 284 13

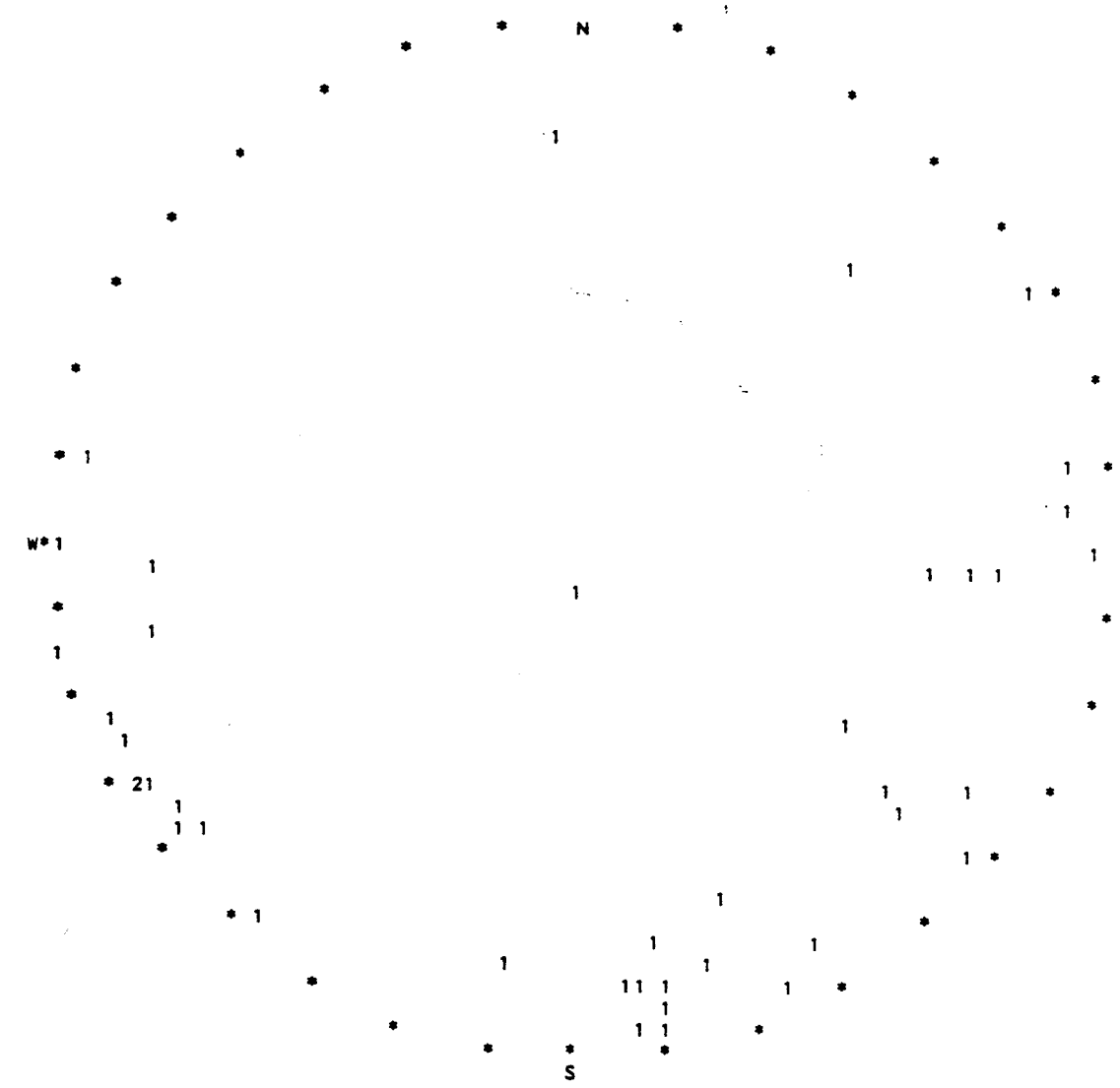
Site #34

050 AMINICON RIVER ROAD -- PEBBLE FABRIC -- HANSON CREEK TILL

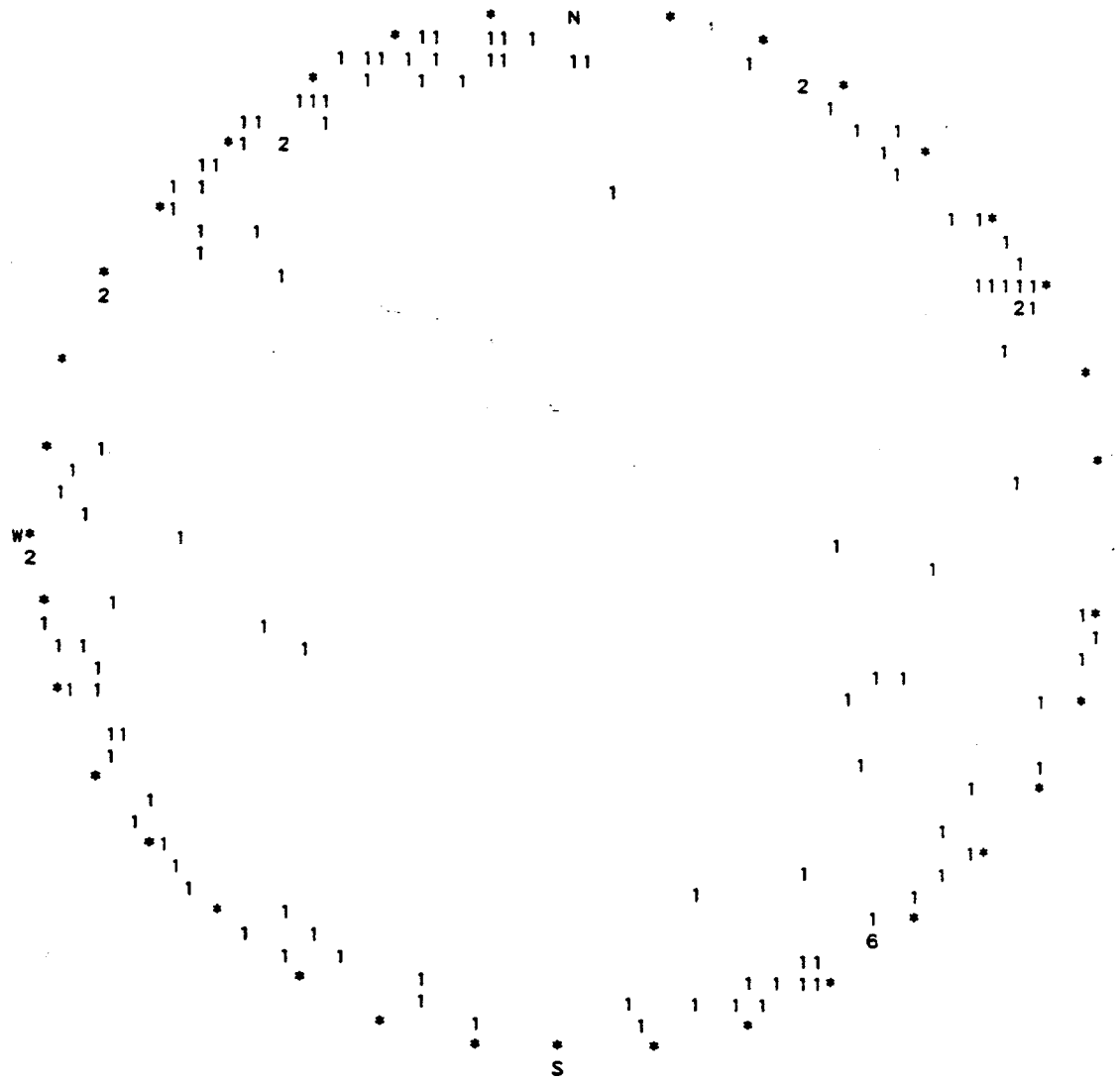
336 24 355 29 352 31 304 05 029 29 044 32 041 44 034 41 120 40 074 31
023 41 344 42 032 11 339 27 130 04 080 08 034 19 295 05 051 38 341 05
131 21 357 21 029 26 040 26 067 22 340 20 195 39 054 10 067 23 058 20
358 25 038 54 037 05 034 19 290 39 064 16 250 33 126 04 048 20 063 17
011 20 036 24 036 16 050 19 135 11 016 34 109 29 021 21 024 48 249 26

Appendix 4: Plot of joint data on lower hemisphere equal area projection. Numbers within circle are the number of poles to joint planes per print position. Output was printed using a modified version of PATCH (Mahtab and others, 1972).

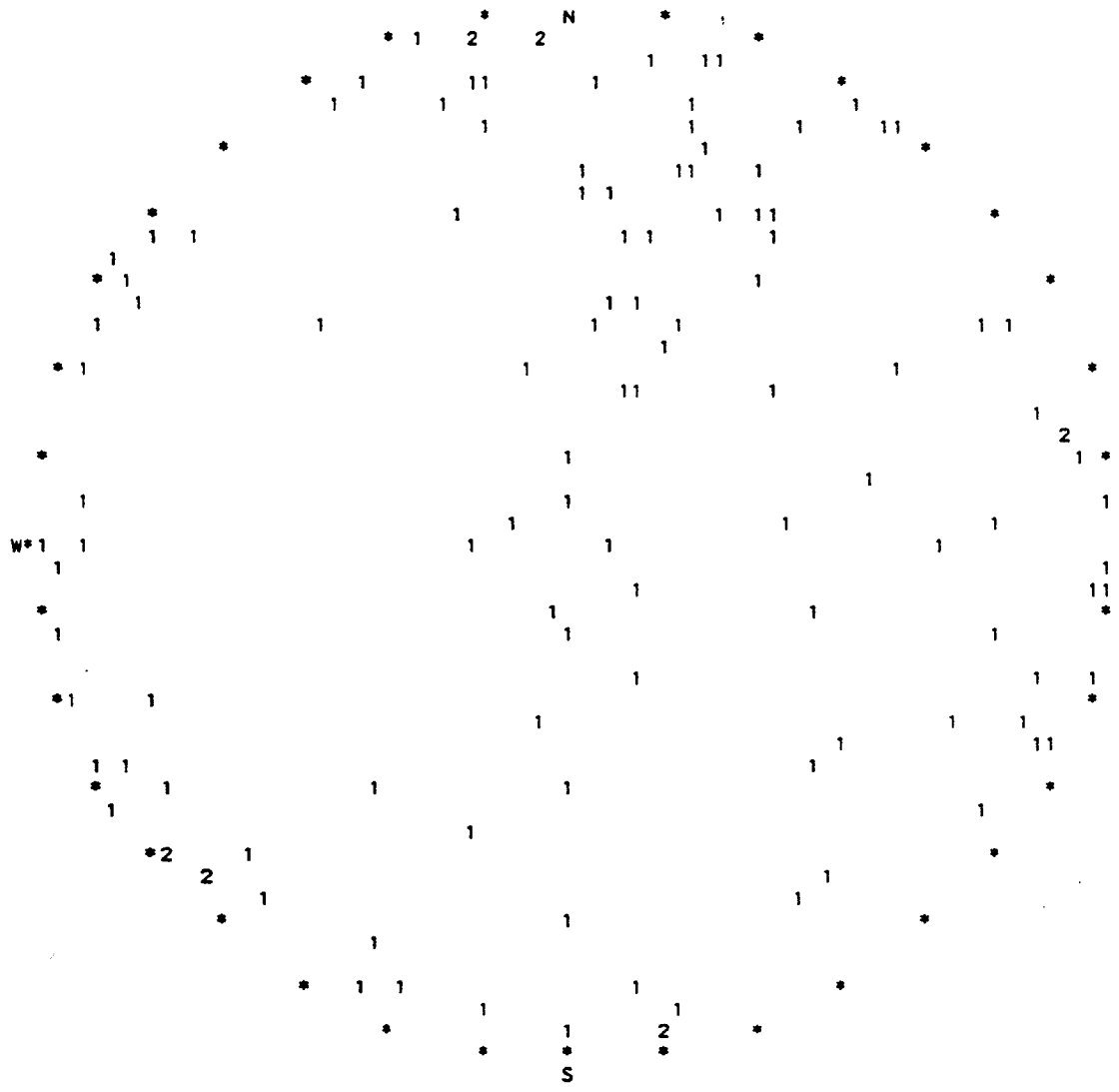
MIDDLETON QUARRY ORDOVICIAN DOLOMITE DATA SET 01
THERE ARE 41 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



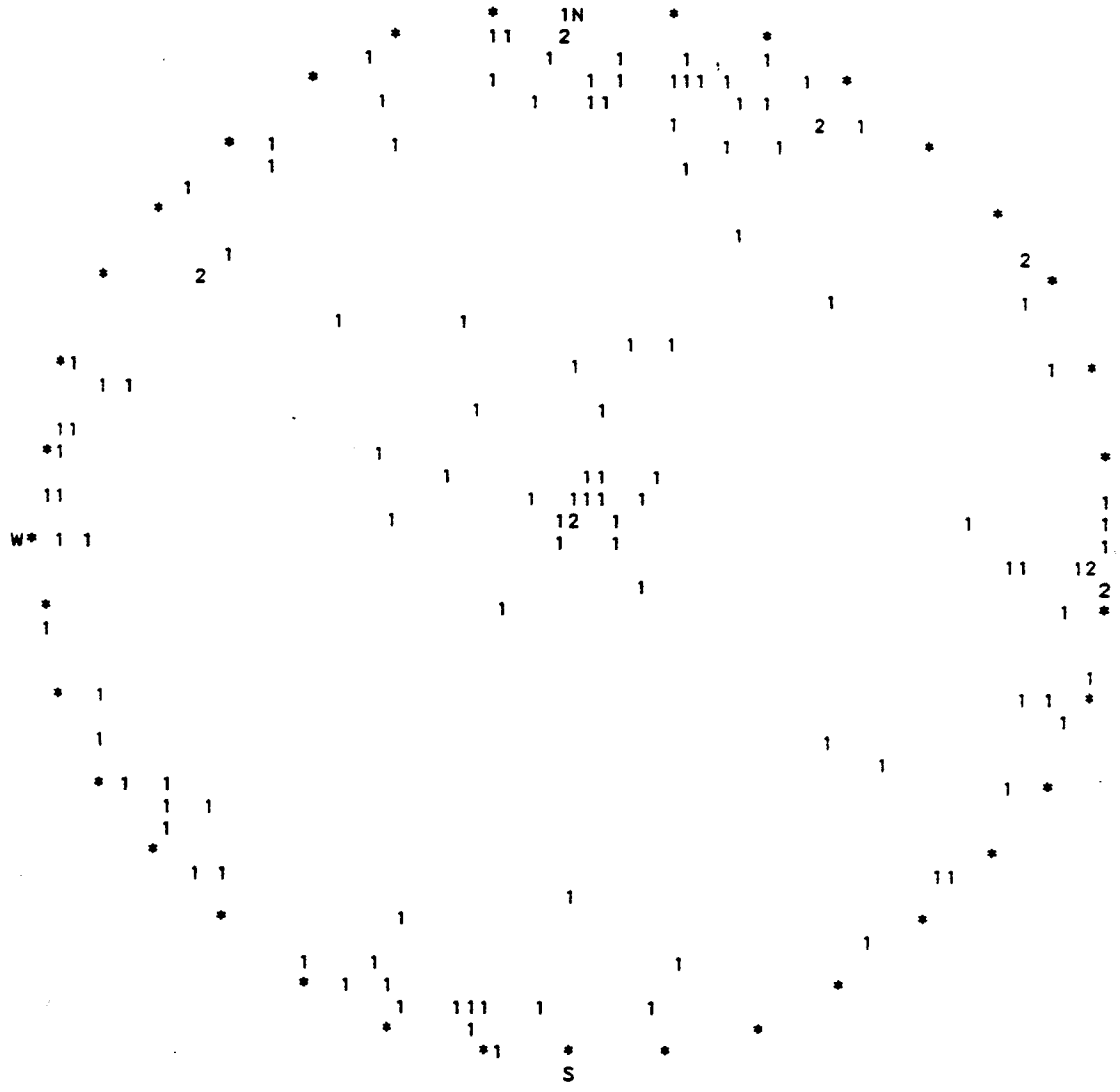
DOOR COUNTY SILURIAN DOLOMITE DATA SET 13
THERE ARE 130 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



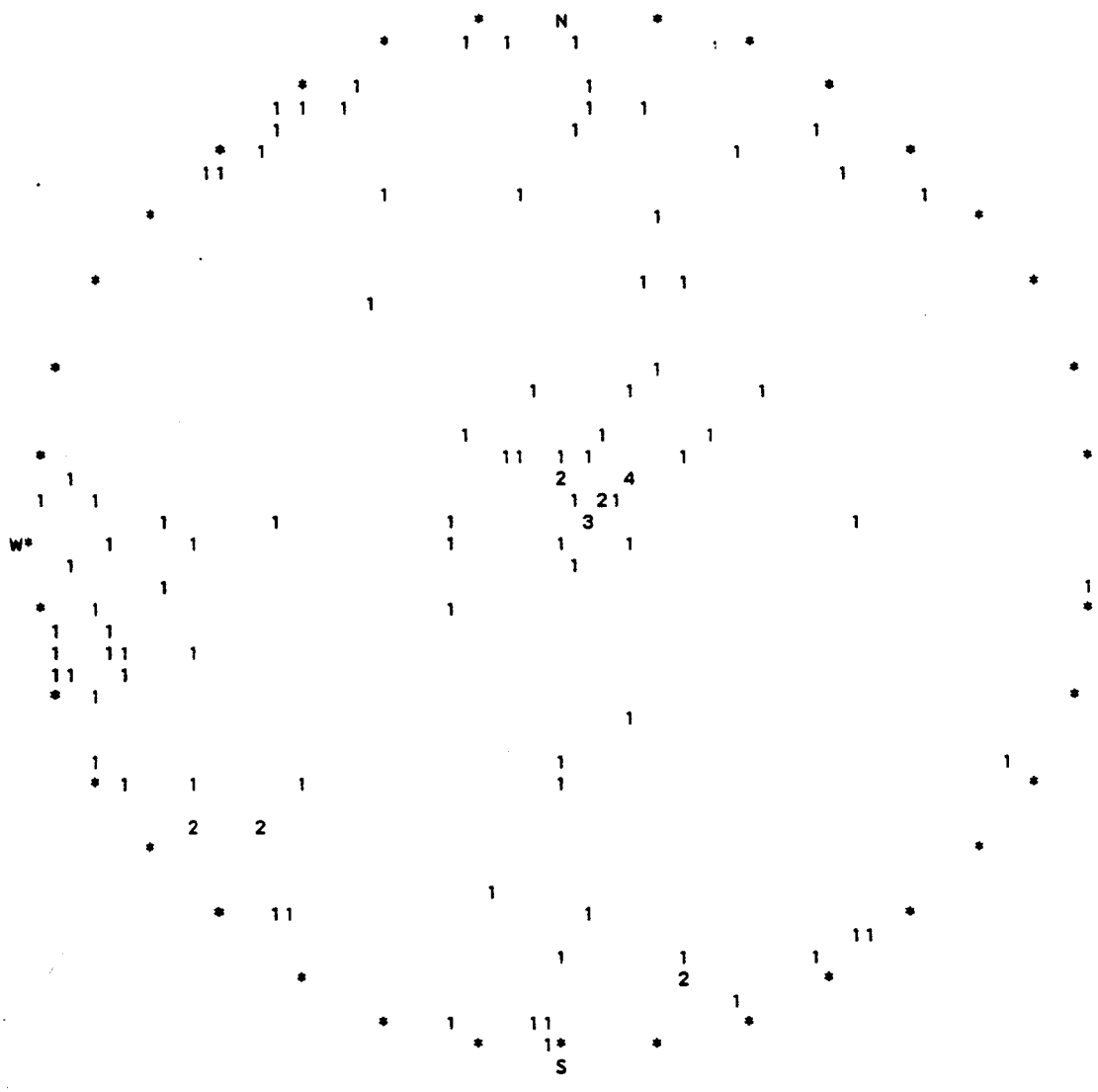
DOOR COUNTY SAND PIT GLENMORE TILL DATA SET 14
THERE ARE 125 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



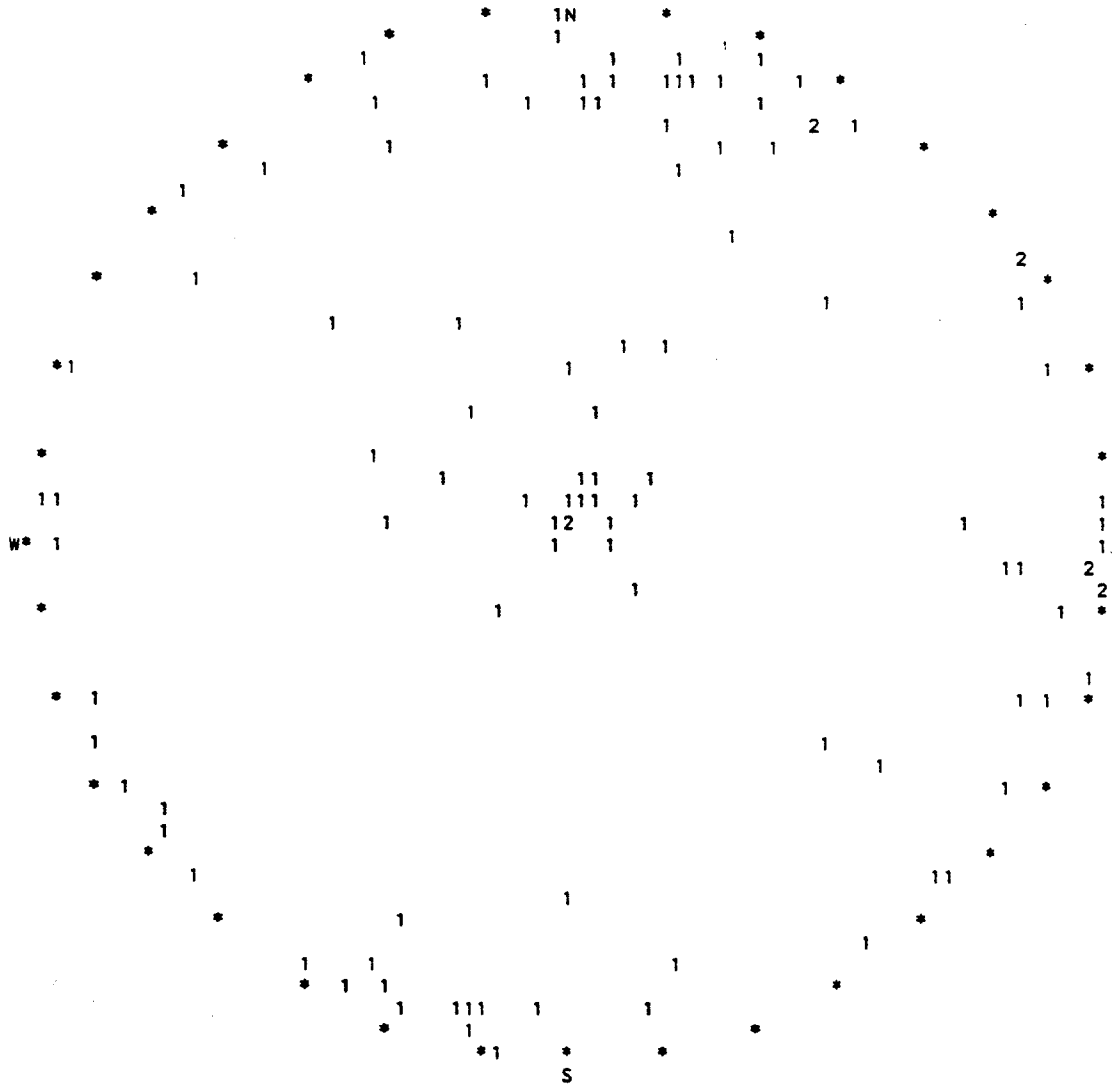
SANDY BAY LACUSTRINE SILTS
THERE ARE 128 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



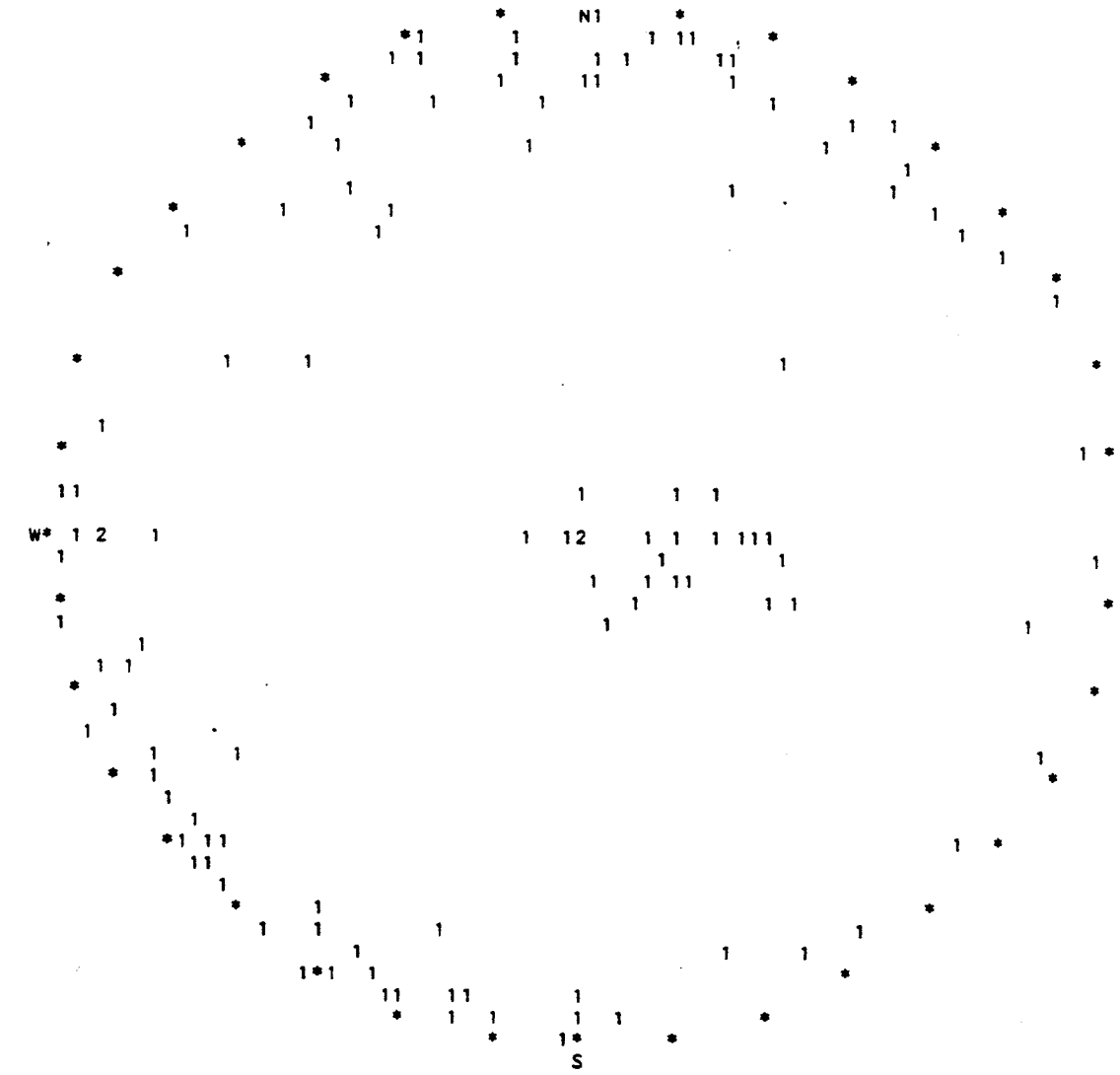
SANDY BAY HAVEN TILL DATA SET 16
THERE ARE 108 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



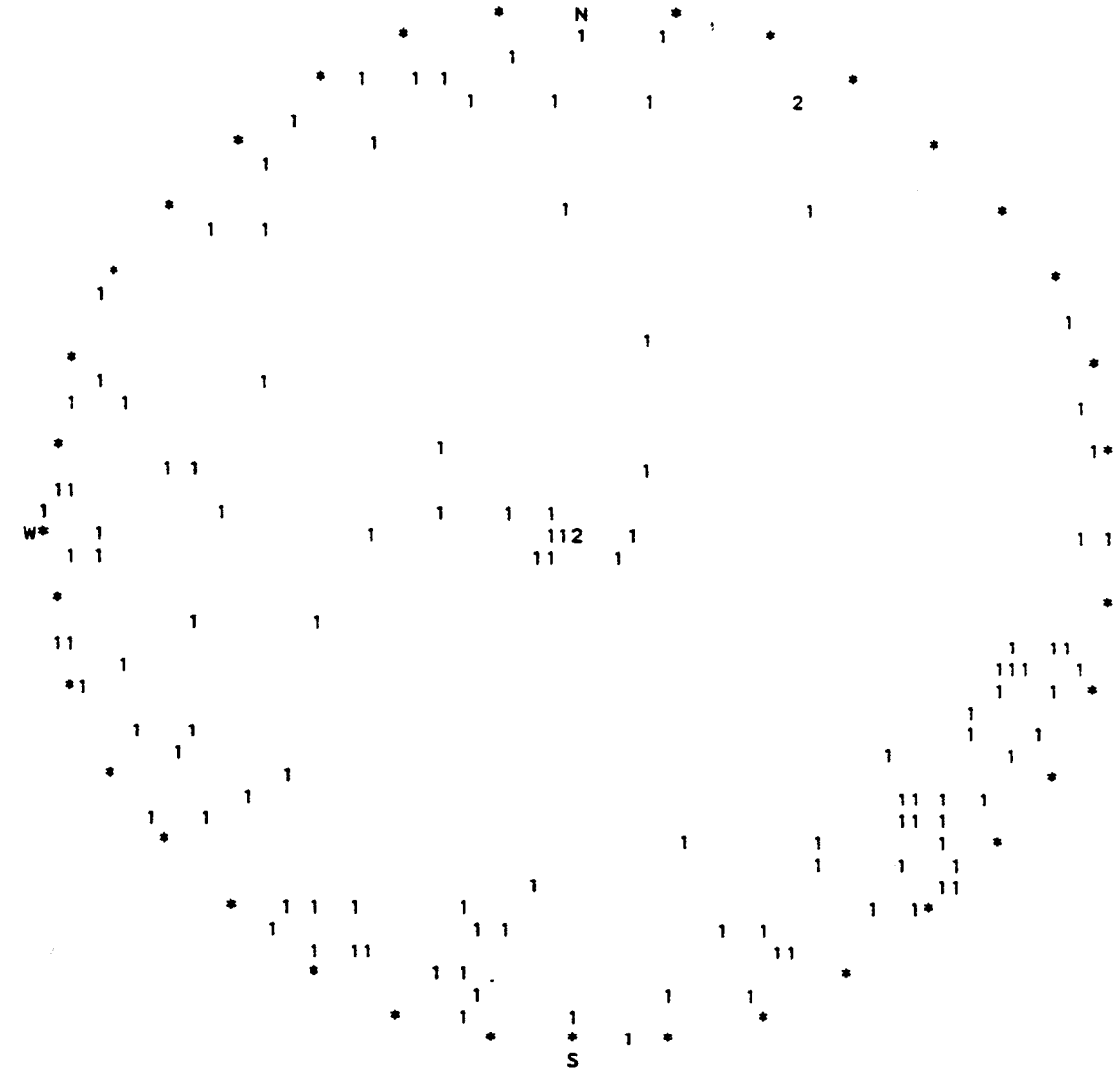
SANDY BAY LACUSTRINE SILT AND CLAY DATA SET 15
THERE ARE 108 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



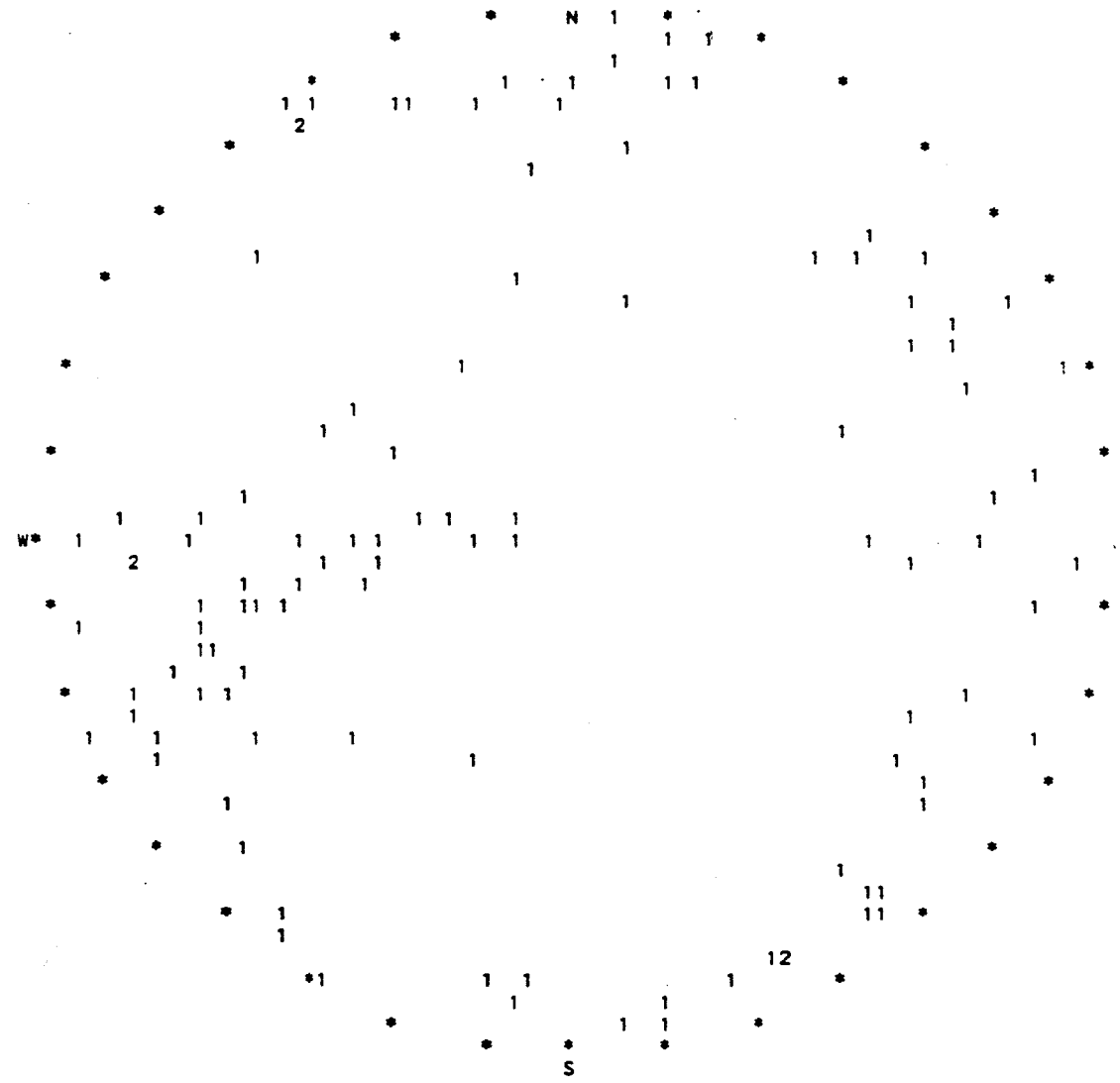
SANDY BAY -- TWO RIVERS TILL (ADDITIONAL MEASUREMENTS)
THERE ARE 119 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



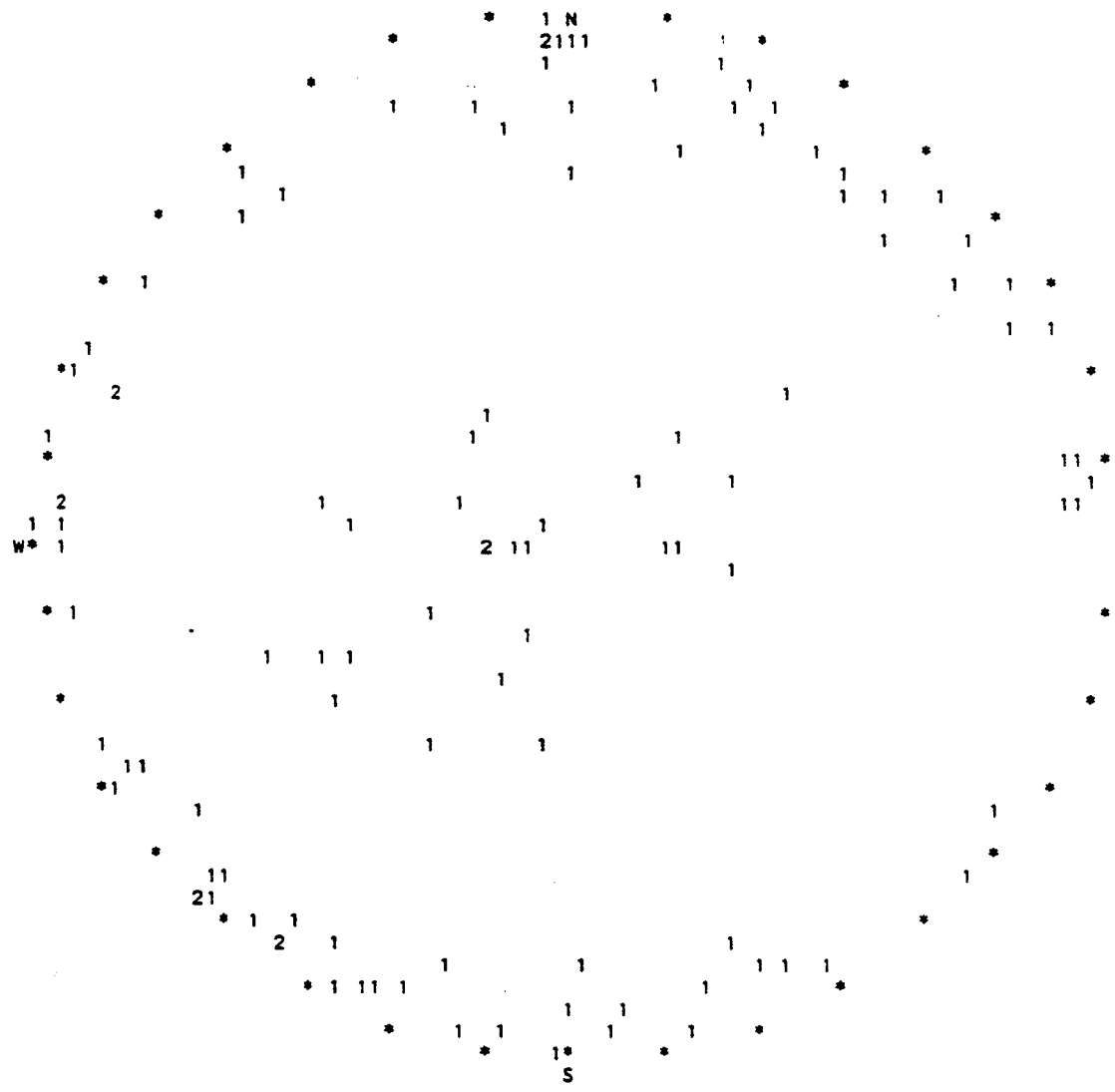
HWY BB -- TWO RIVERS TILL COMBINED MEASUREMENTS
THERE ARE 122 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



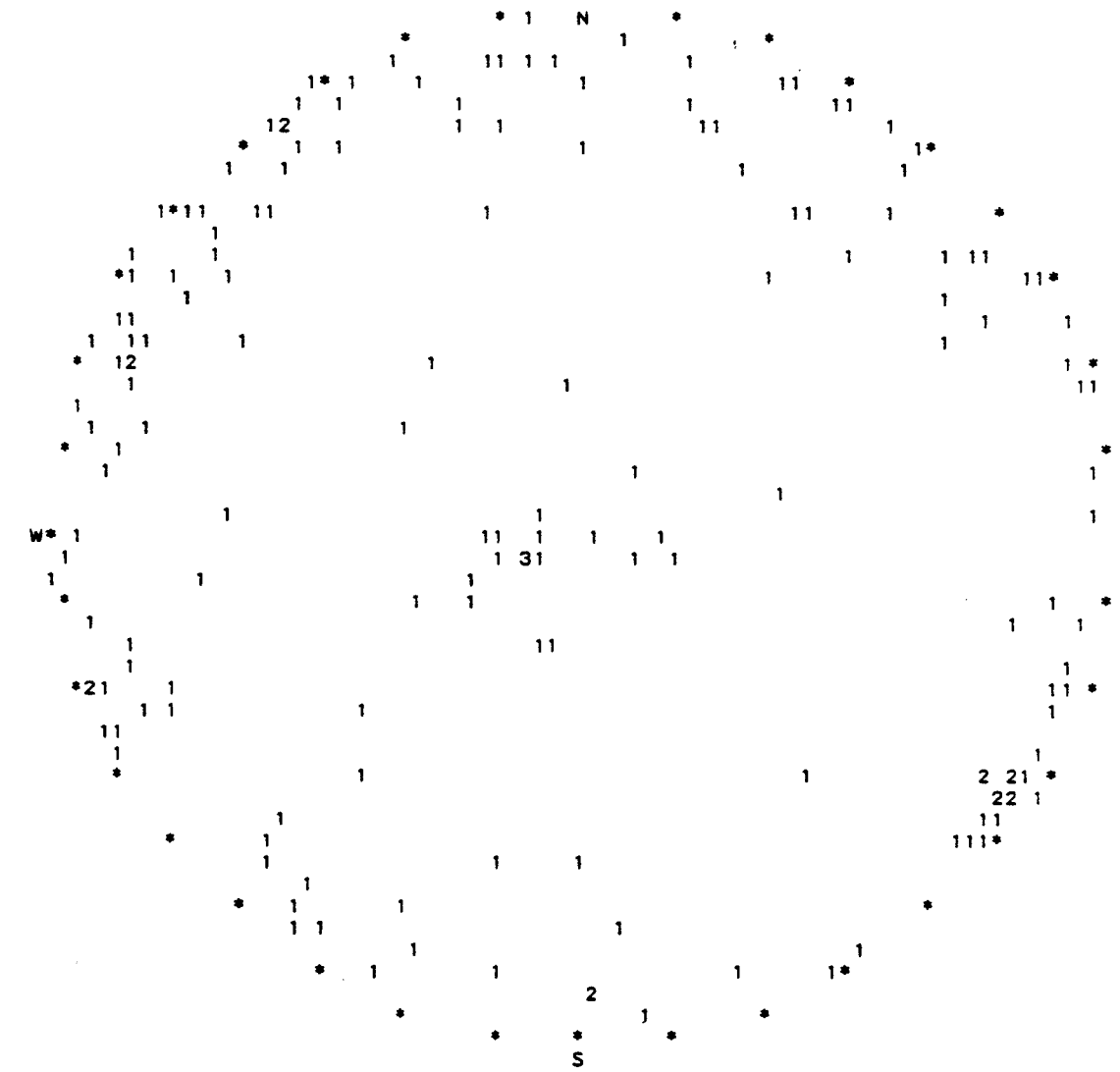
HWY BB SITE -- PRE-TWO RIVERS LACUSTRINE SEDS DATA SET 06
THERE ARE 110 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



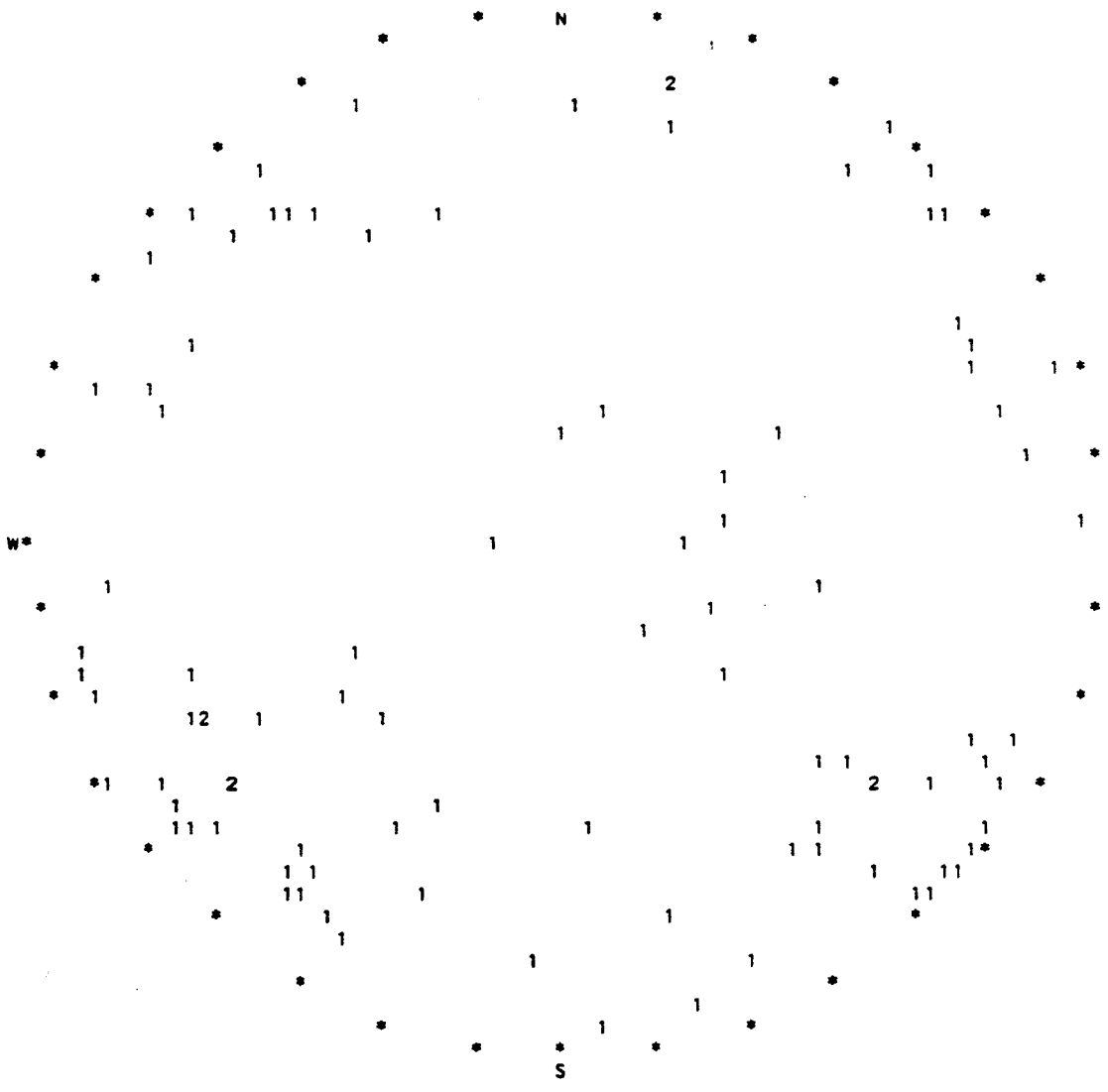
TWO CREEKS TYPE SECTION PRE-TWO RIVERS LACUSTRINE SEDS DATA SET 20
THERE ARE 112 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



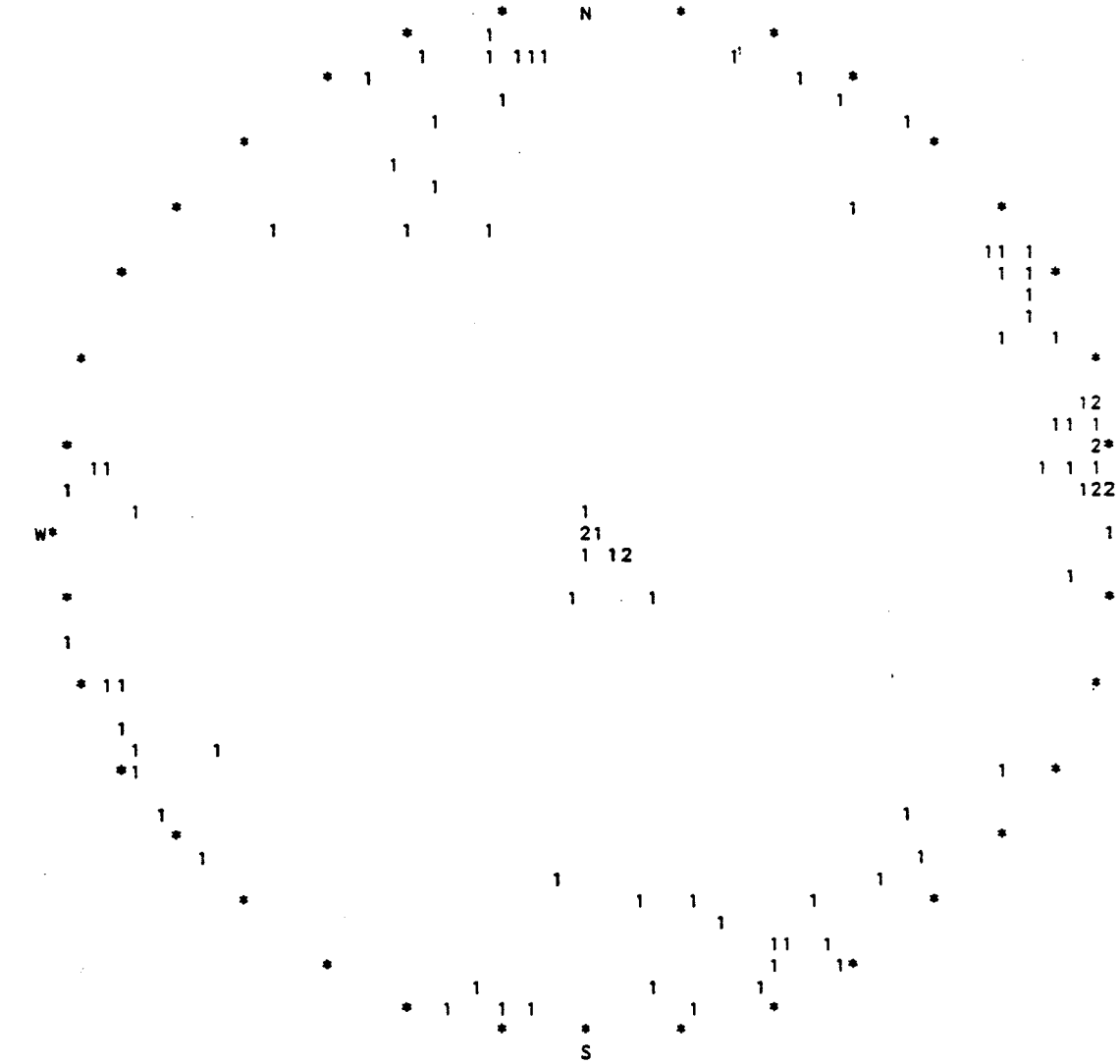
TWO RIVERS PIT -- TWO RIVERS TILL (ADDITIONAL MEASUREMENTS)
THERE ARE 171 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



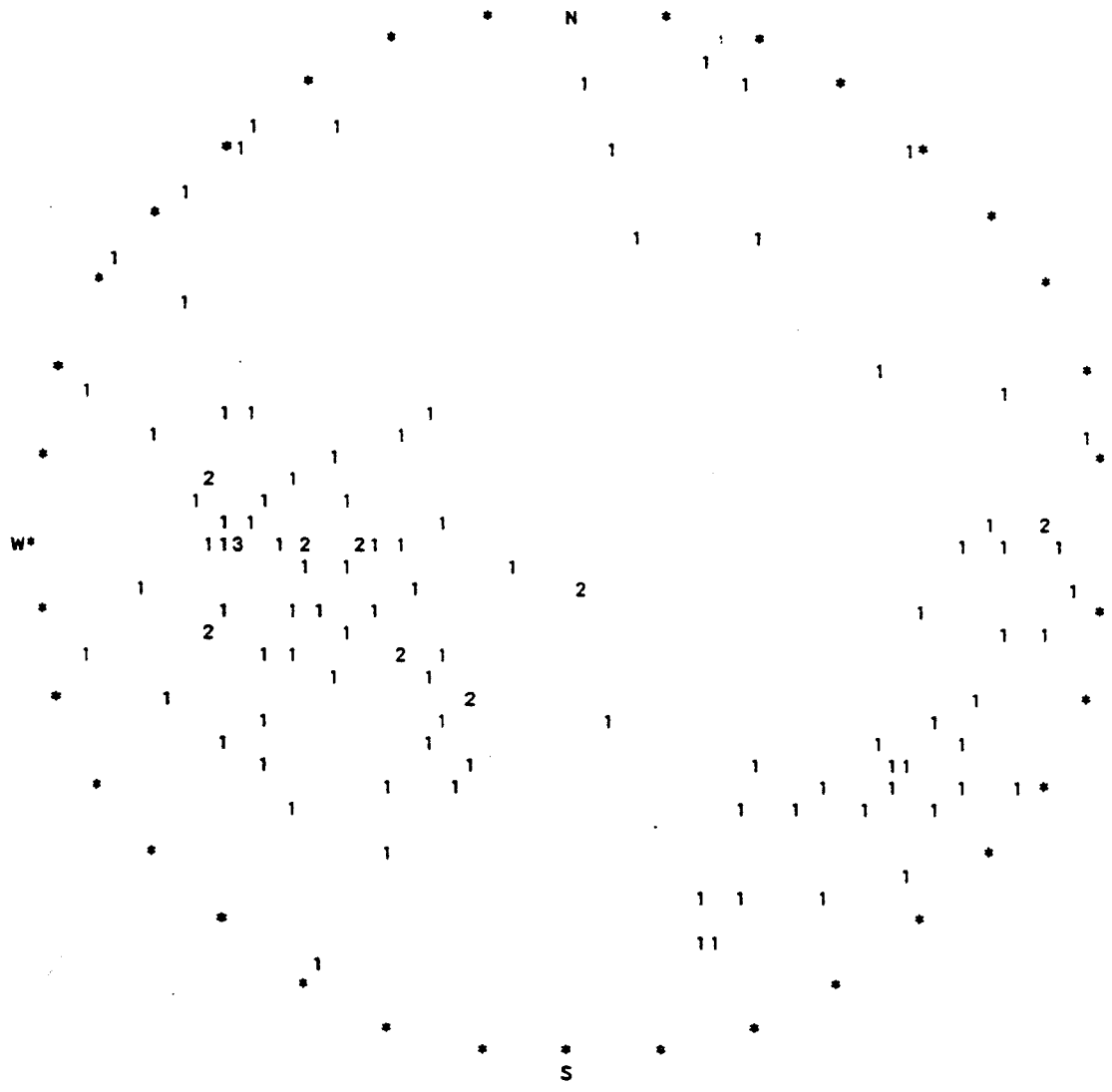
MANITOWOC RIVER -- HAVEN TILL DATA SET 10
THERE ARE 96 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



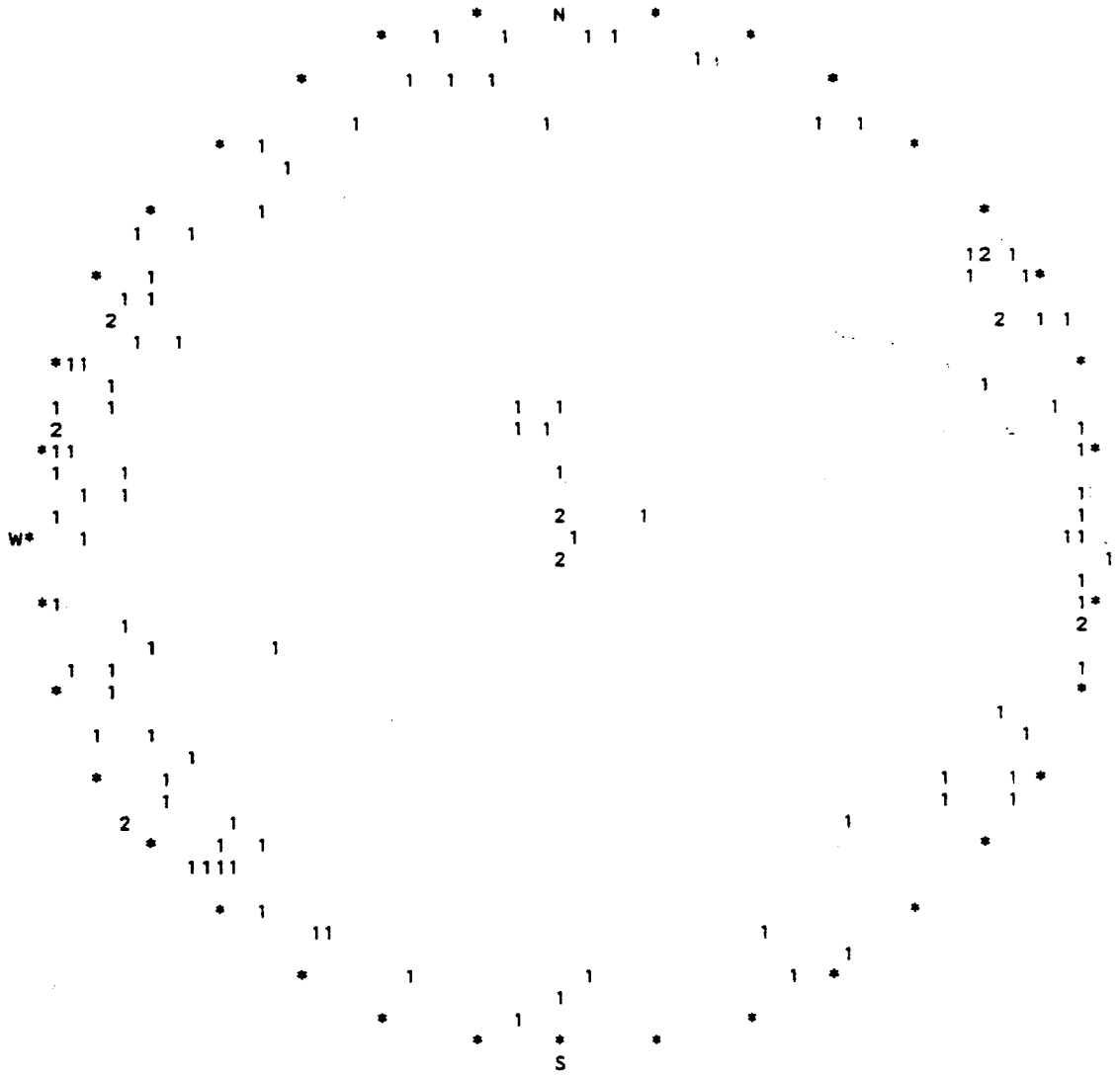
VALDERS QUARRY -- SILURIAN DOLOMITE DATA SET 18
THERE ARE 93 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



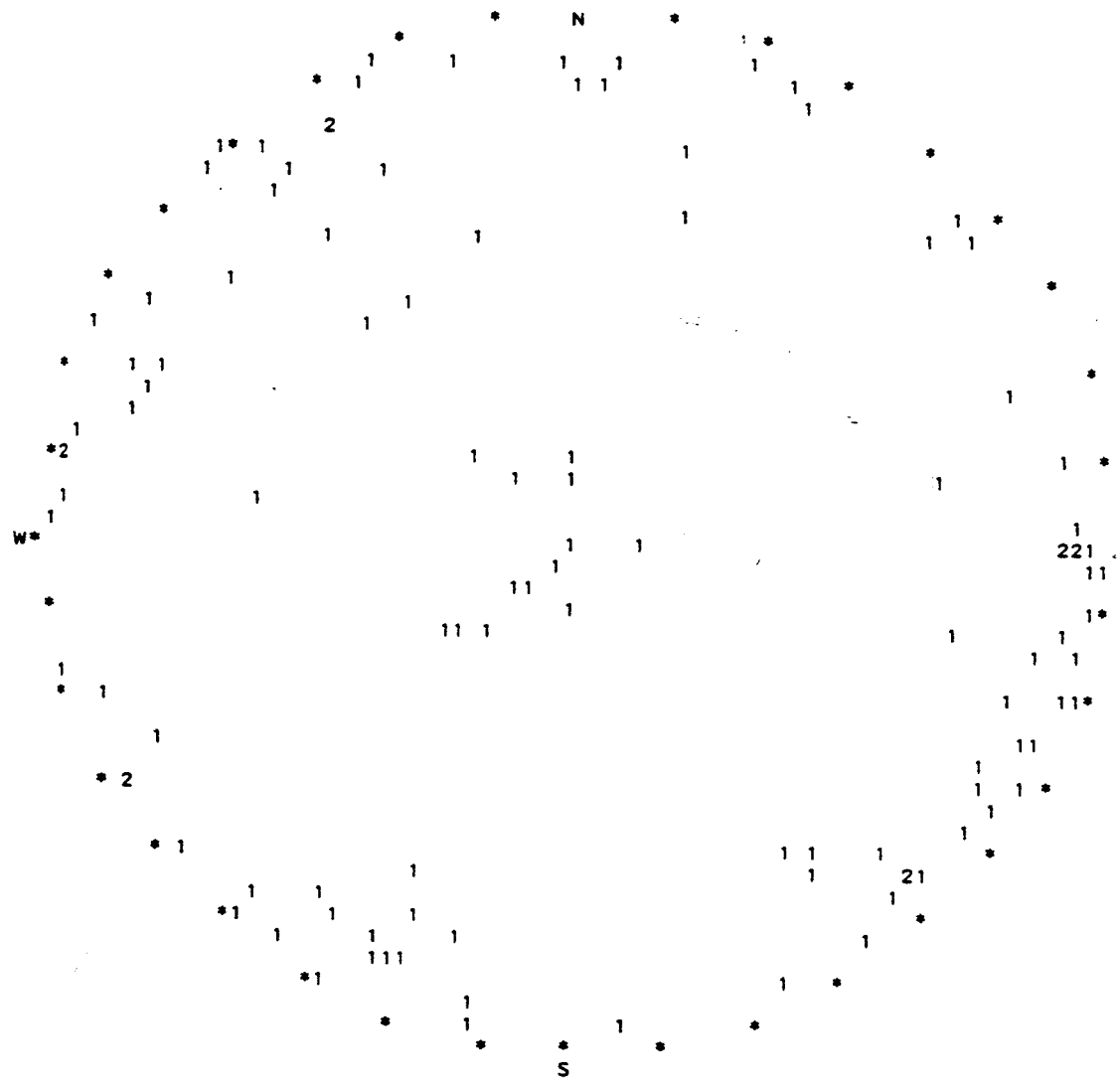
SUBURBAN MANITOWOC HAVEN TILL DATA SET 23
THERE ARE 113 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



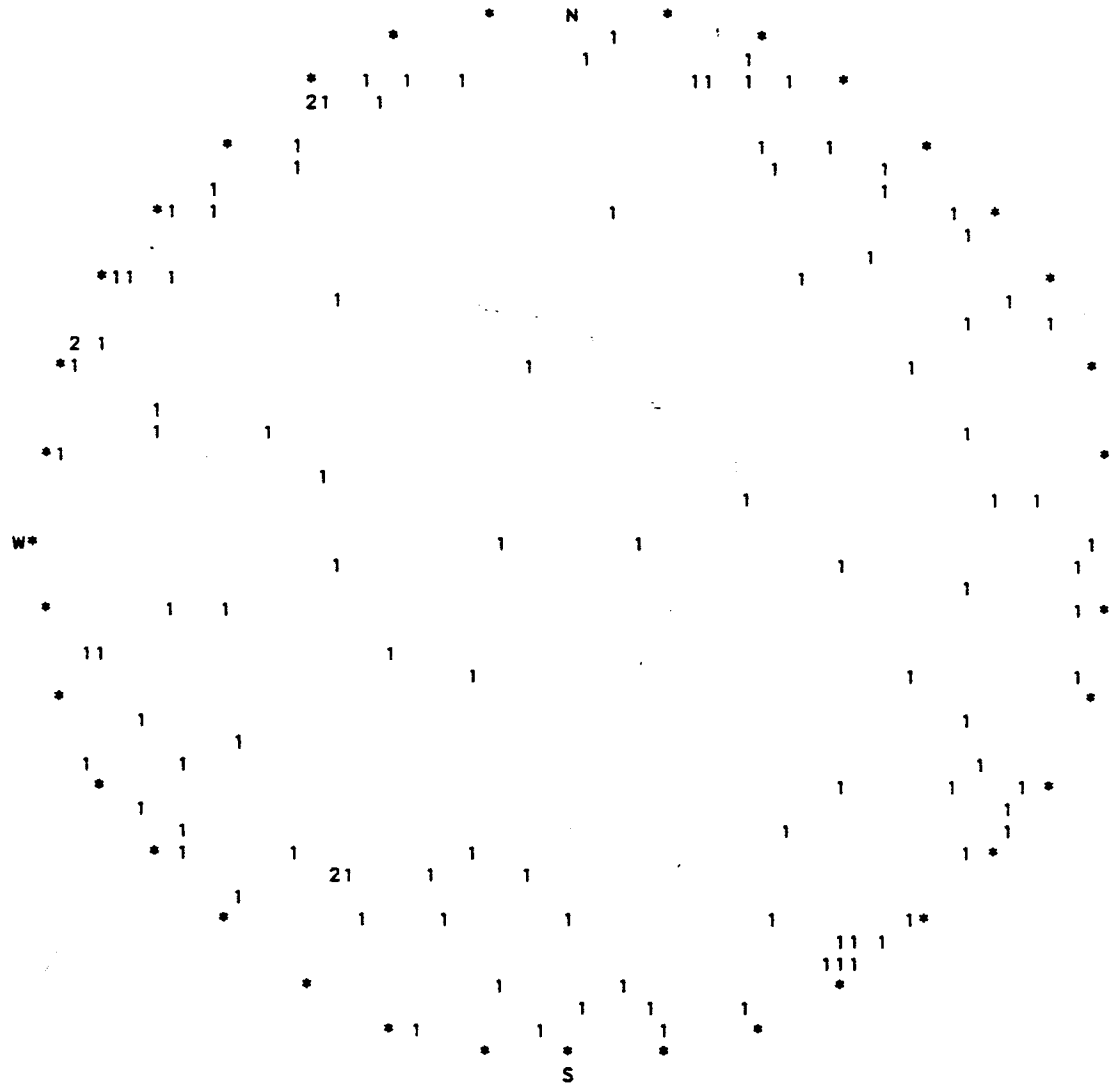
VALDERS QUARRY -- VALDERS TILL DATA SET 03
THERE ARE 116 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



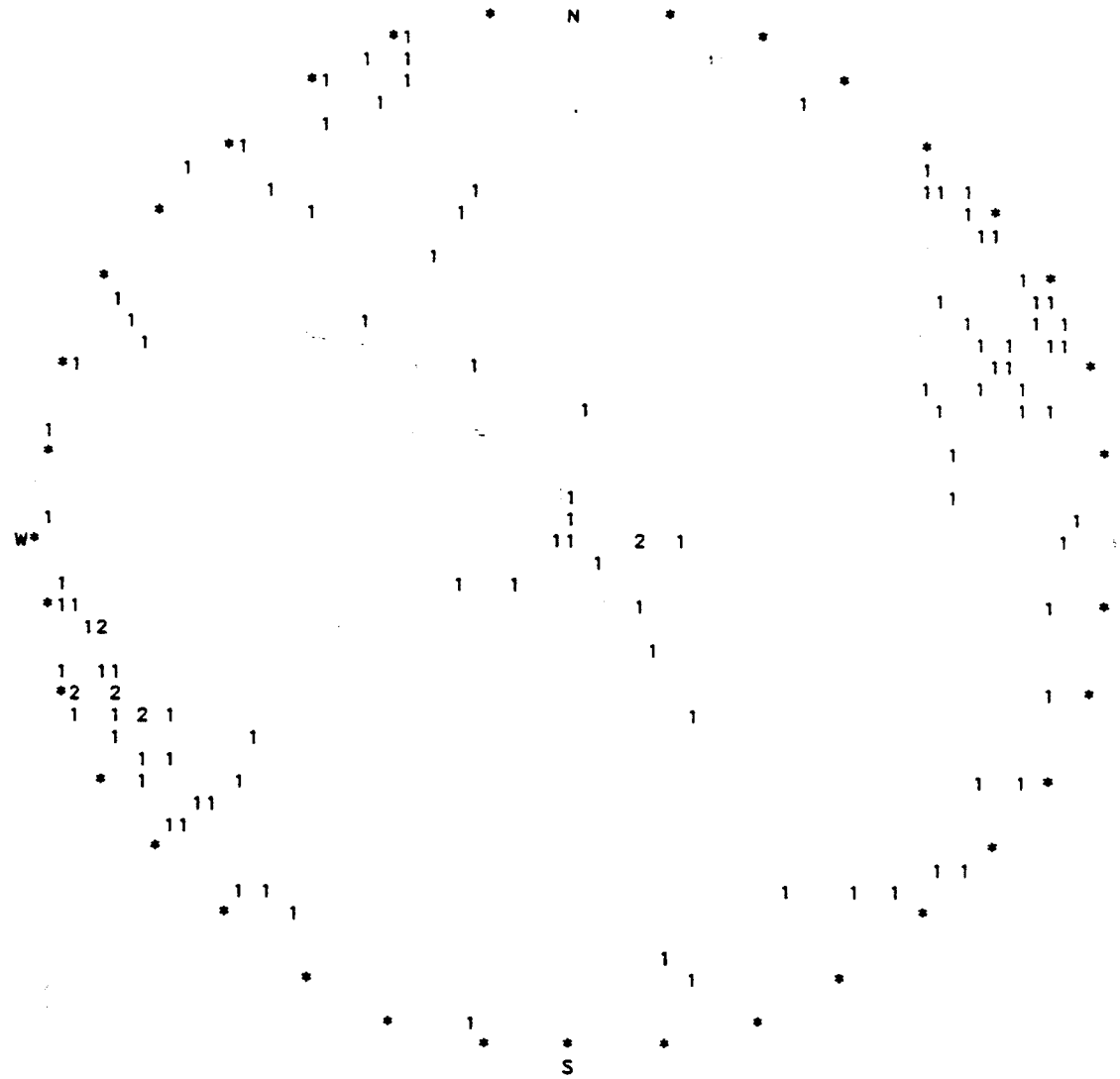
MEMORIAL DRIVE WAYSIDE -- HAVEN TILL DATA SET 21
THERE ARE 112 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



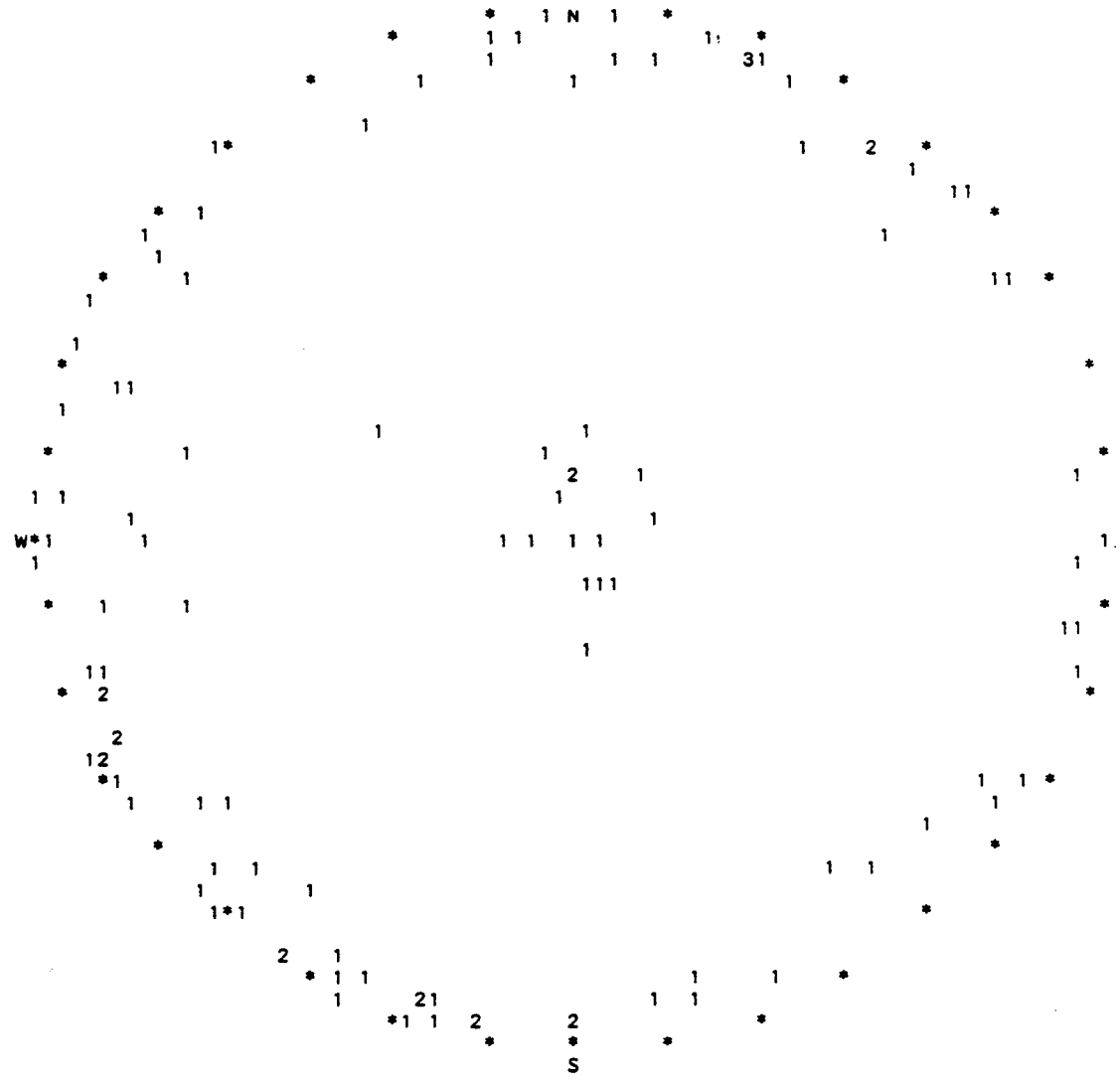
FRICKE QUARRY -- VALDERS TILL DATA SET 12
THERE ARE 111 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



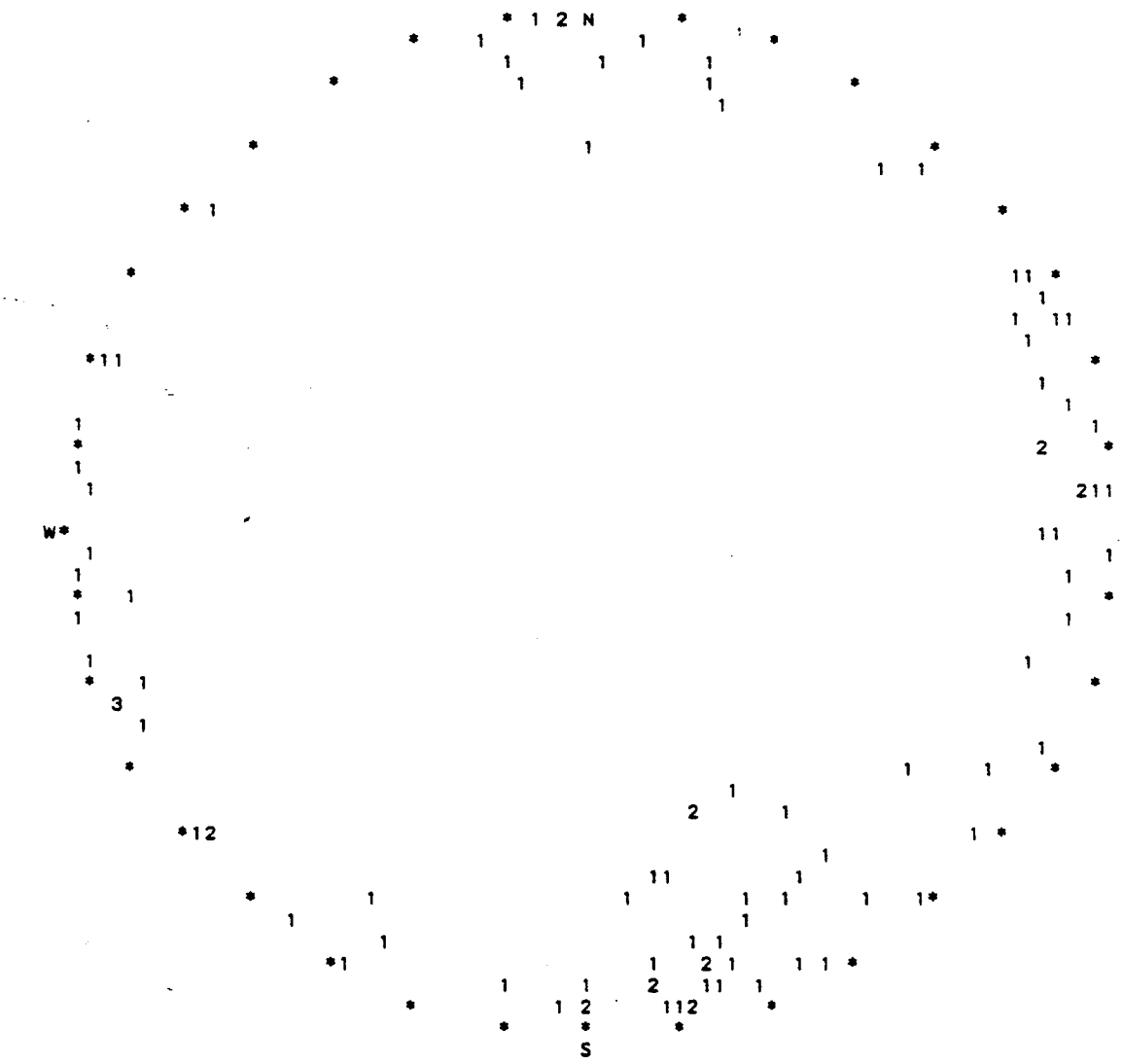
HAVEN TYPE SECTION -- VALDERS TILL DATA SET 11
THERE ARE 112 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



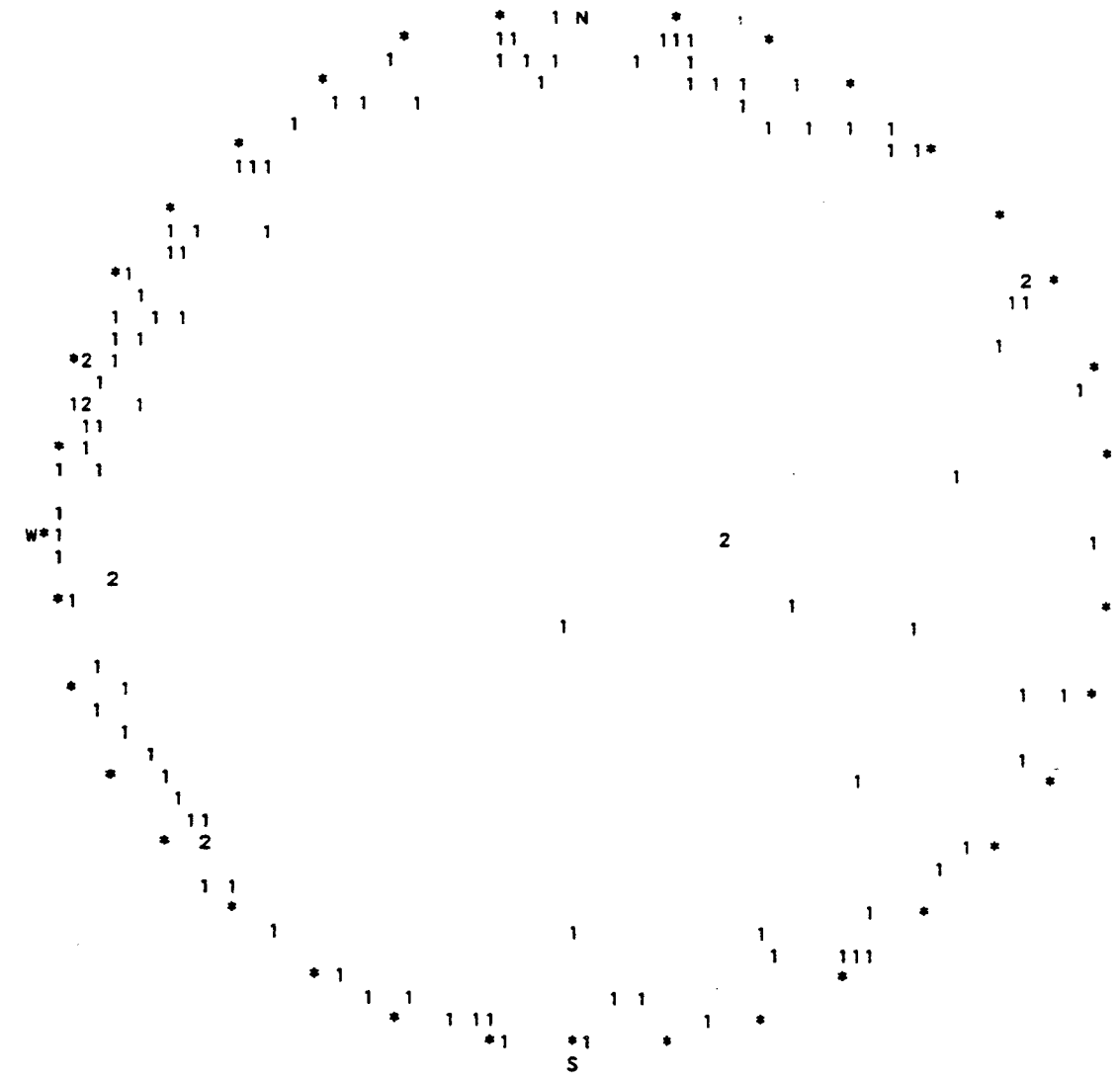
HAVEN TYPE SECTION -- VALDERS TILL DATA SET 24
THERE ARE 112 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



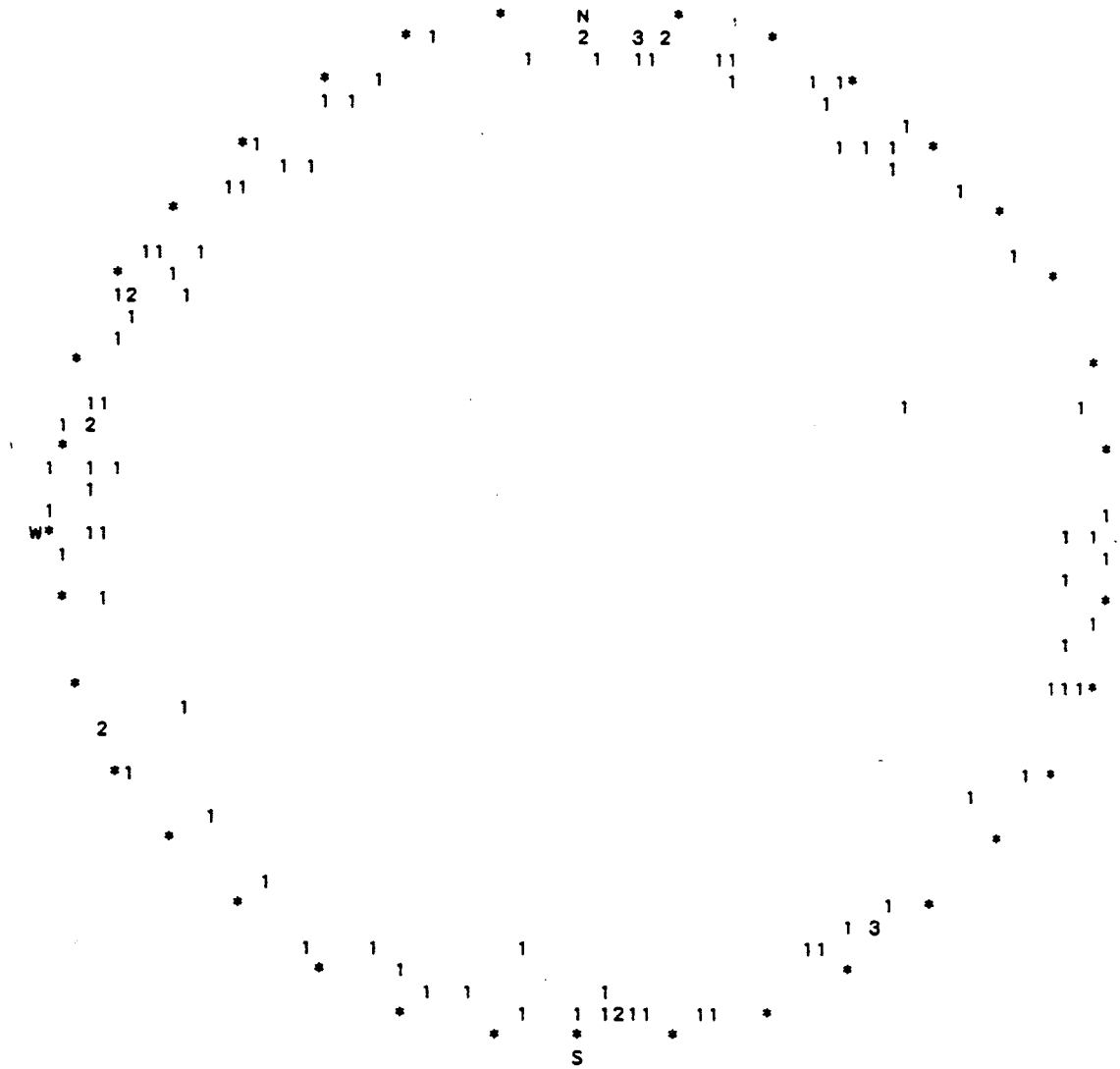
HAVEN TYPE SECTION -- VALDERS TILL -- NORTH WALL OF EXPOSURE
THERE ARE 103 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



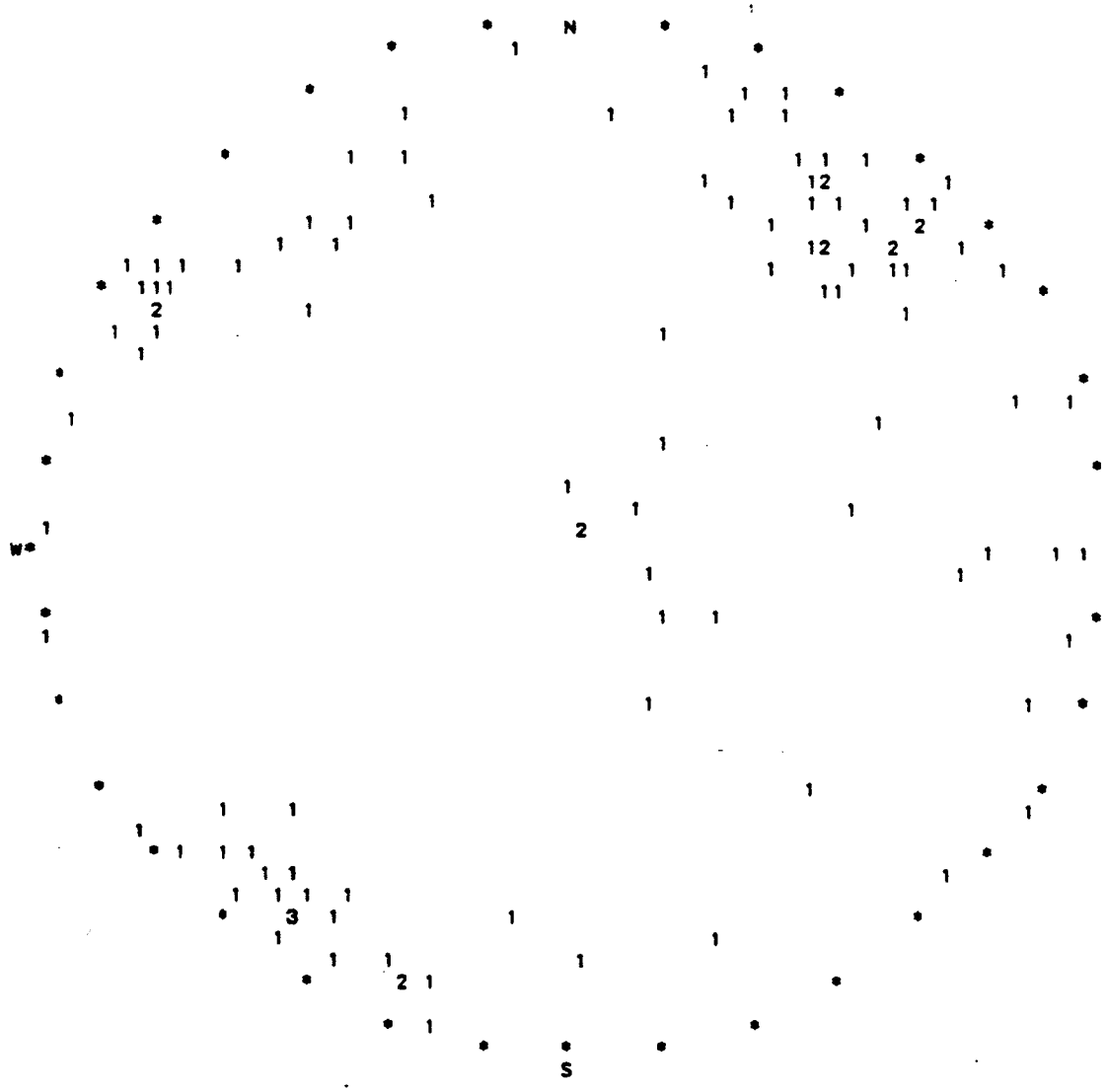
HAVEN TYPE SECTION -- HAVEN TILL -- WEST WALL -- UNIT C
THERE ARE 119 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



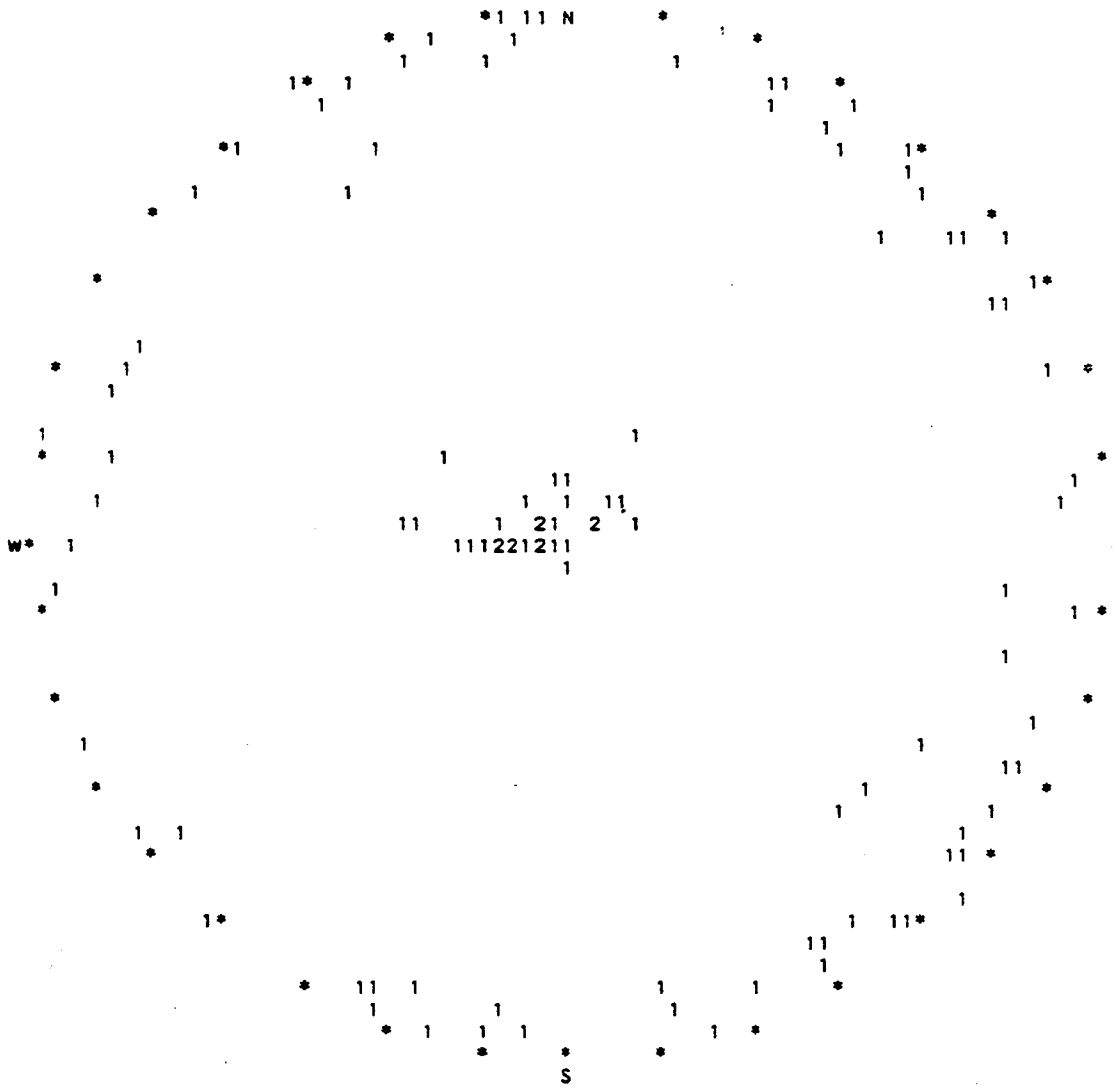
HAVEN TYPE SECTION -- VALDERS TILL -- WEST WALL
THERE ARE 104 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



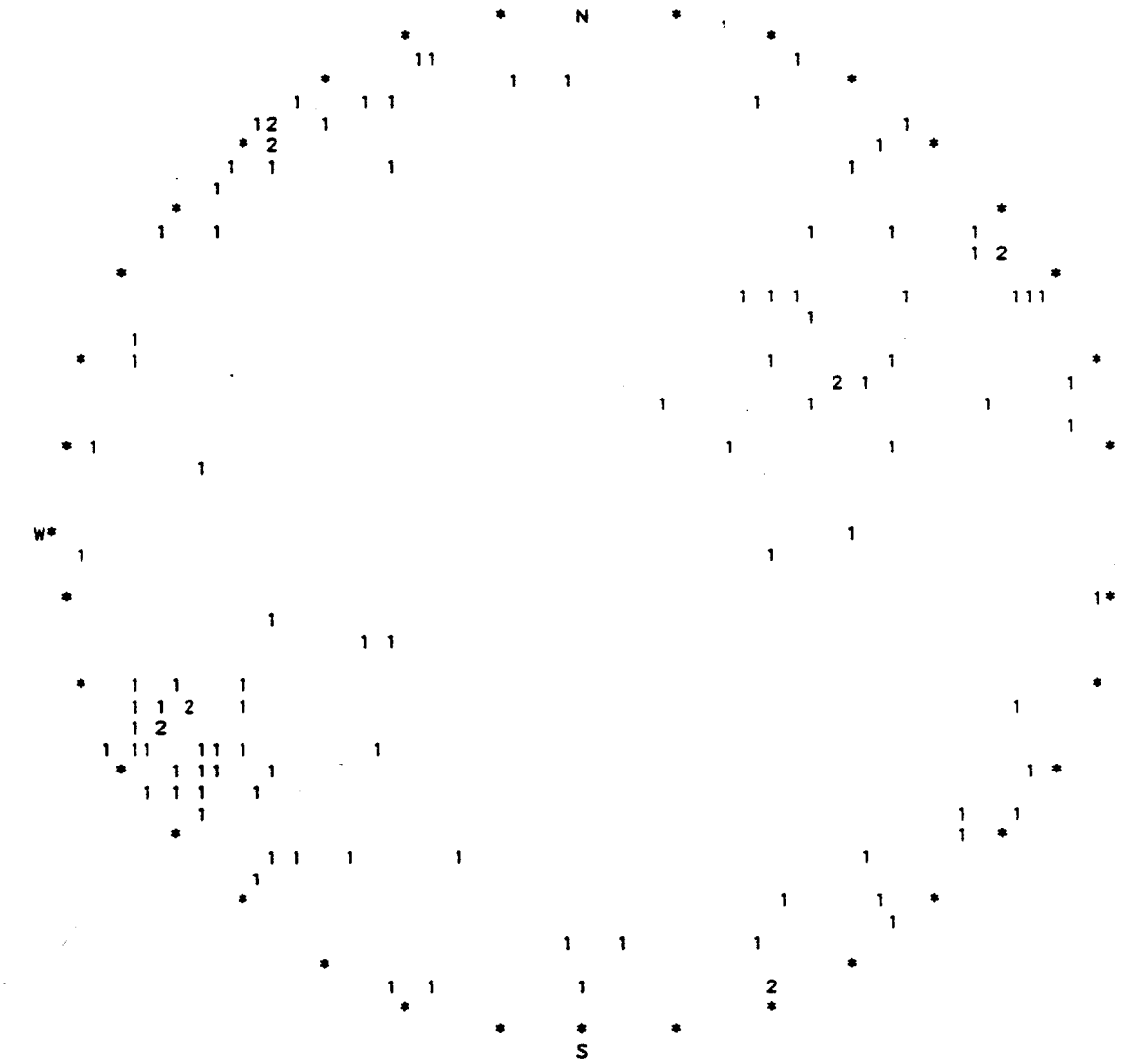
PORT WASHINGTON -- OZAUKEE TILL DATA SET 22
THERE ARE 112 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



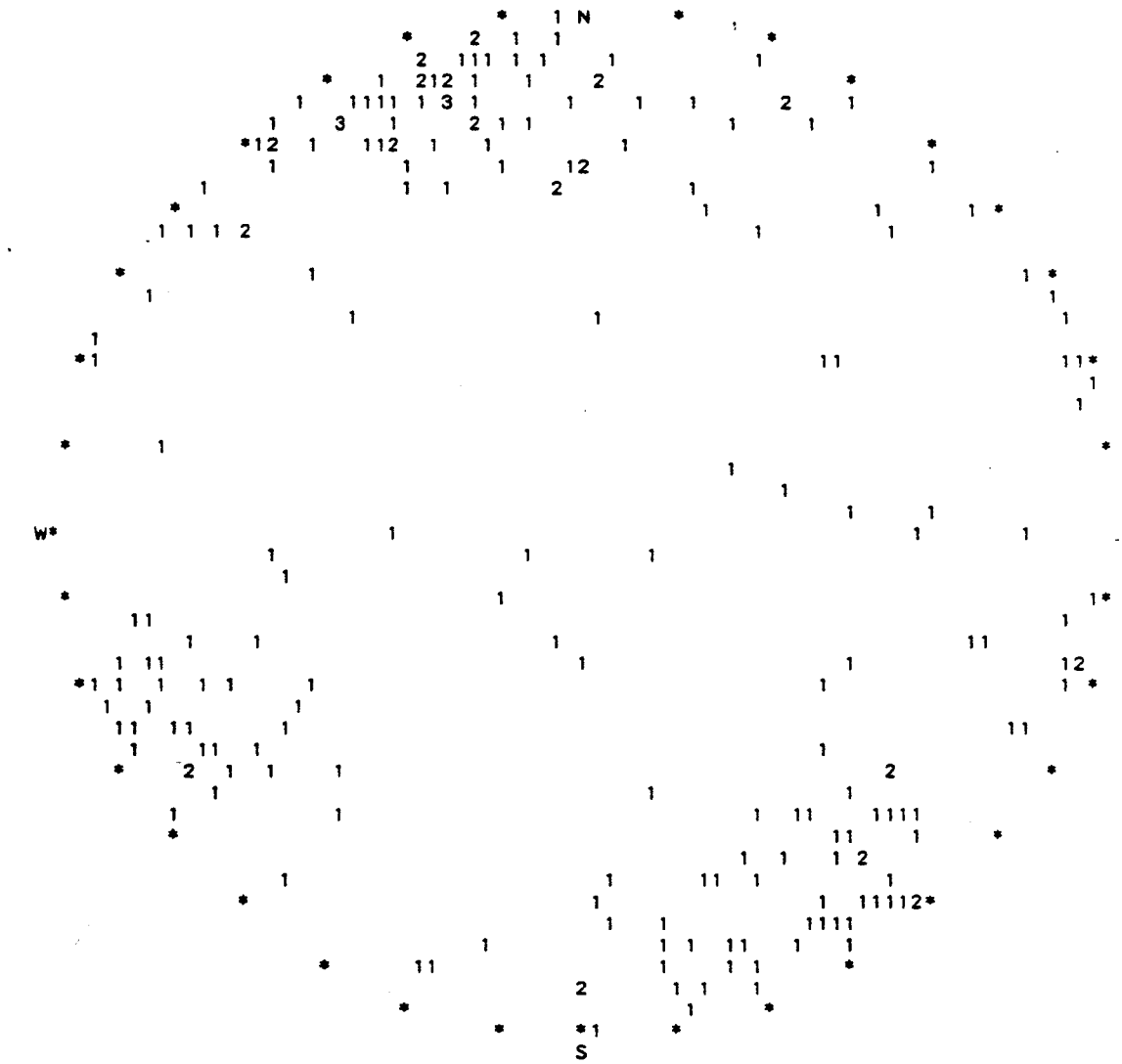
NOTRE DAME -- OZAUKEE TILL DATA SET 05
THERE ARE 111 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



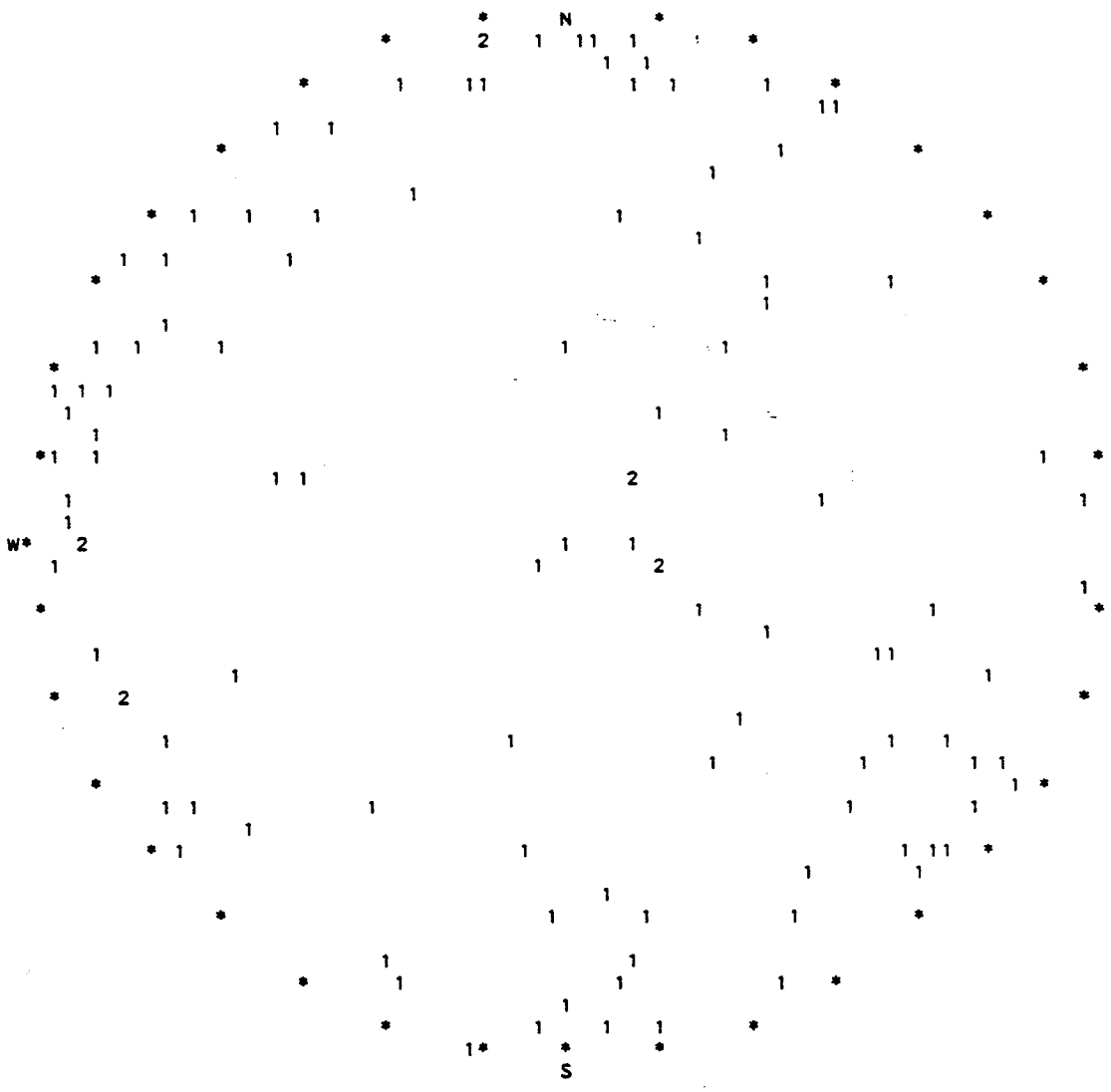
ST FRANCIS -- NEW BERLIN (HAEGER) TILL DATA SET 26
THERE ARE 112 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



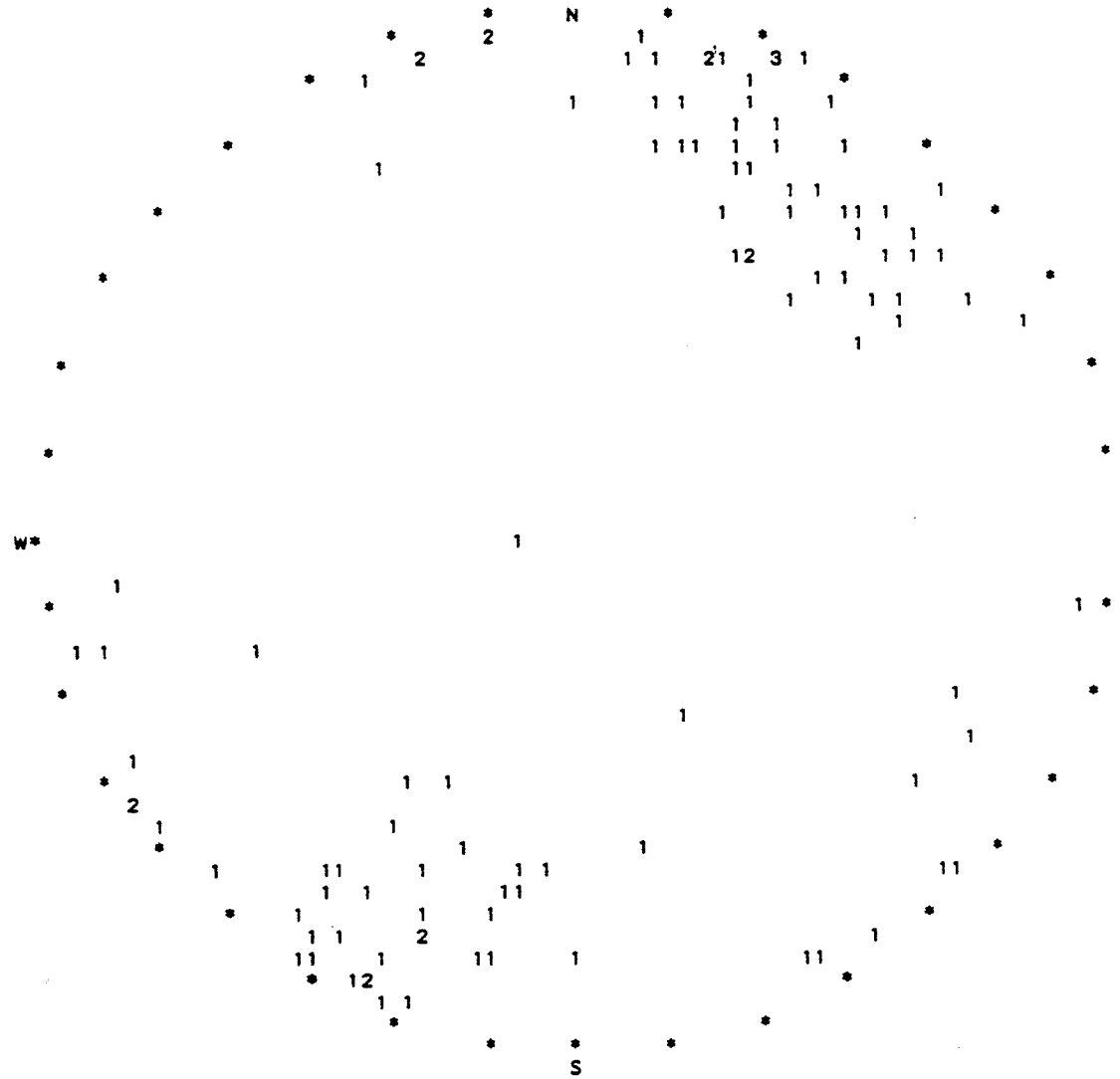
ST. FRANCIS -- WADSWORTH TILL (BASAL SECTION)
THERE ARE 224 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



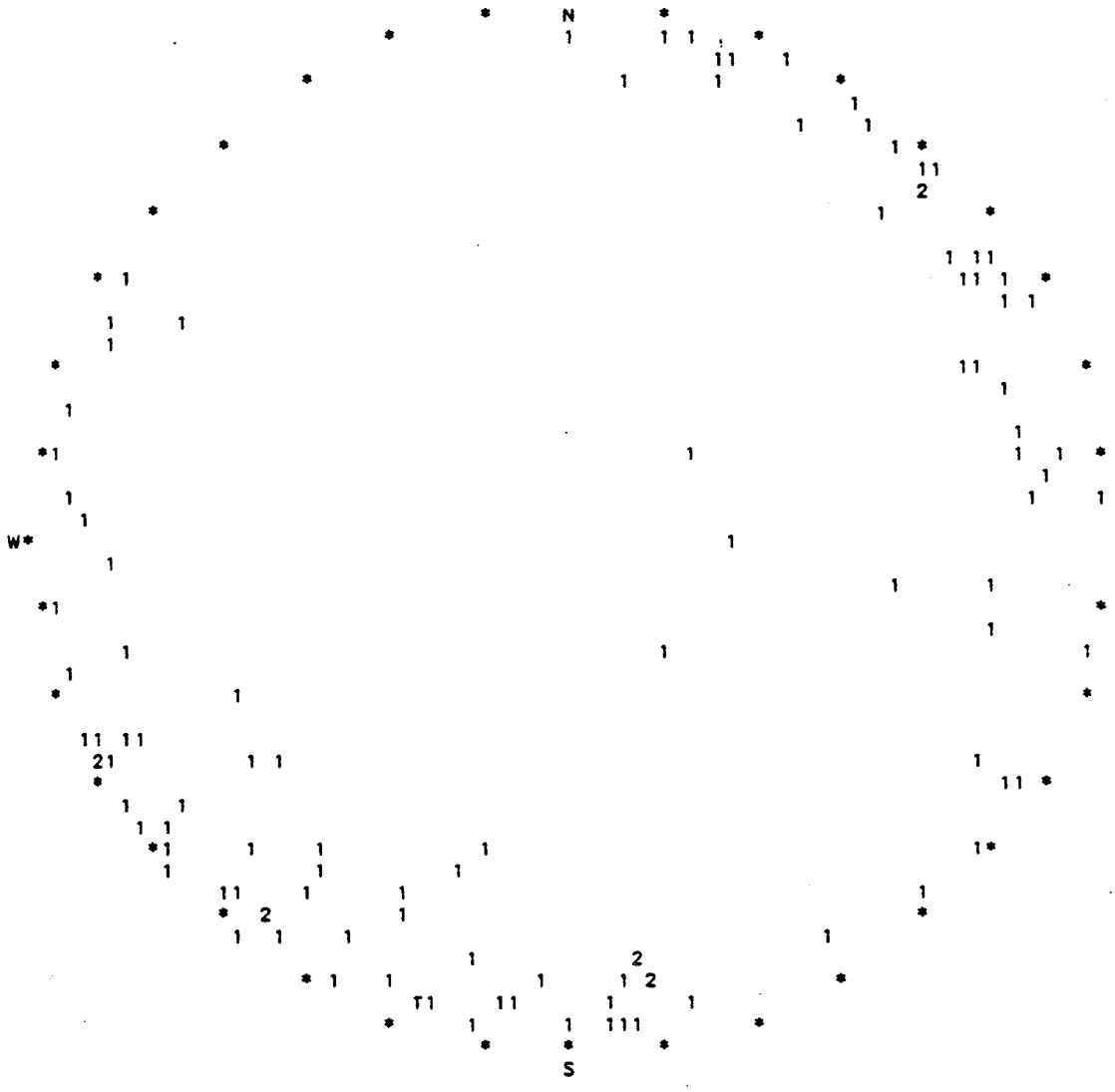
ST. FRANCIS -- 2B (UPPER GREY) TILL DATA SET 28
THERE ARE 114 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



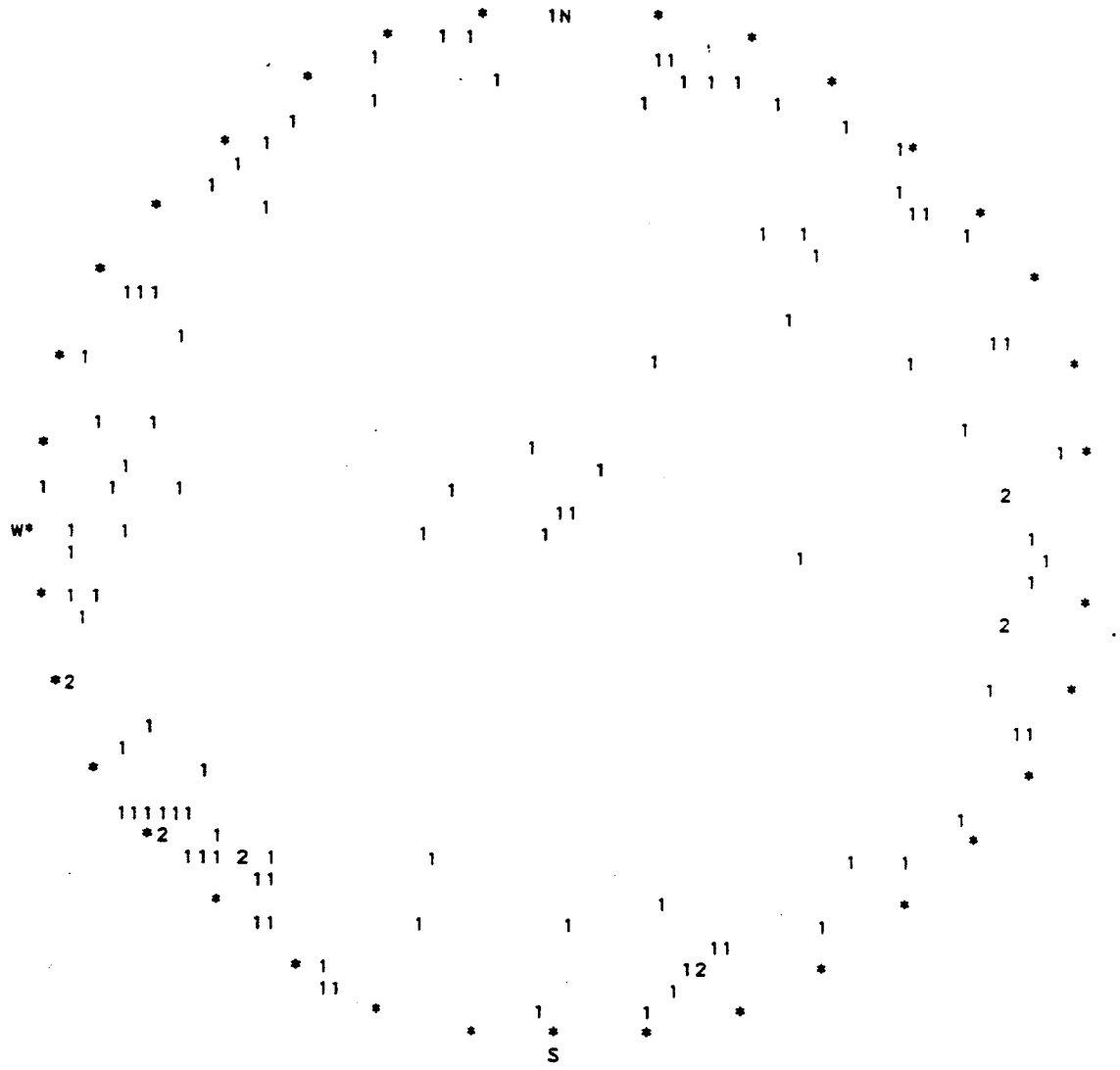
ST. FRANCIS 2C (UPPER RED BROWN) TILL DATA SET 29
THERE ARE 110 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



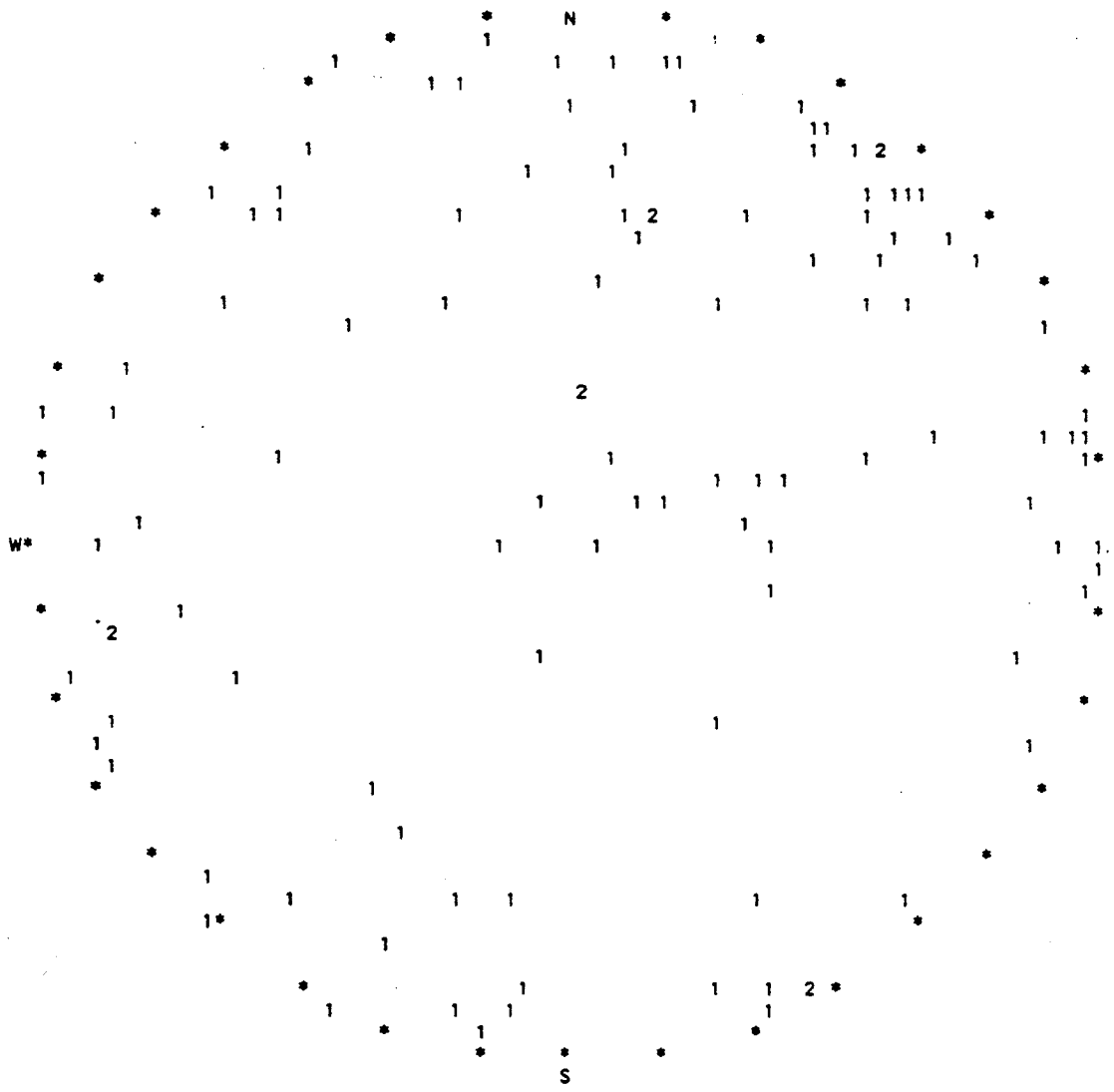
ST. FRANCIS -- POST-WADSWORTH LACUSTRINE SEDS DATA SET 30
THERE ARE 111 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



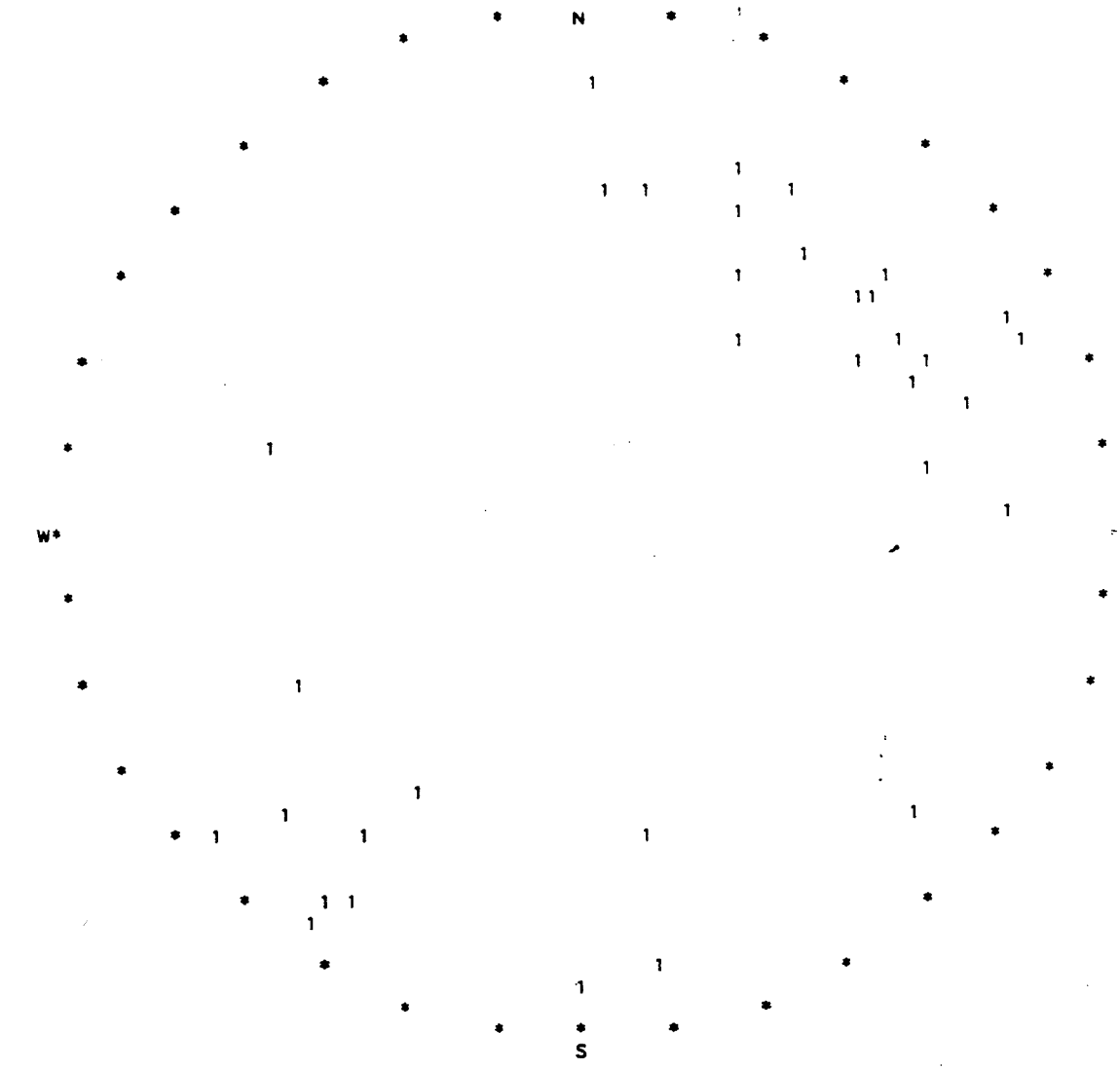
BENDER PARK -- OAK CREEK TILL (TILL 2B) DATA SET 35
THERE ARE 113 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



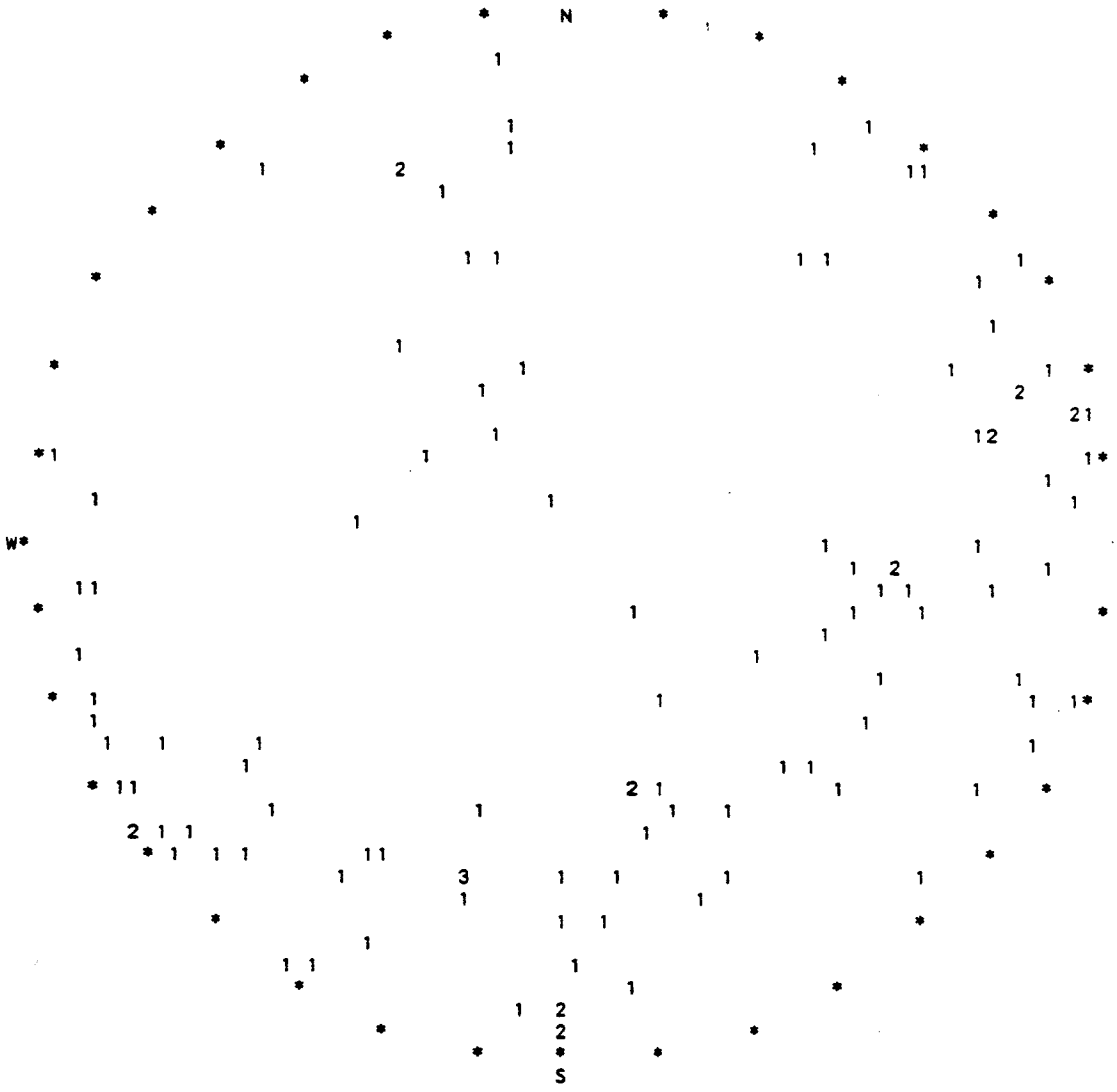
CAMP AMNICON -- DOUGLAS TILL (Type Section) DATA SET 31
THERE ARE 114 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



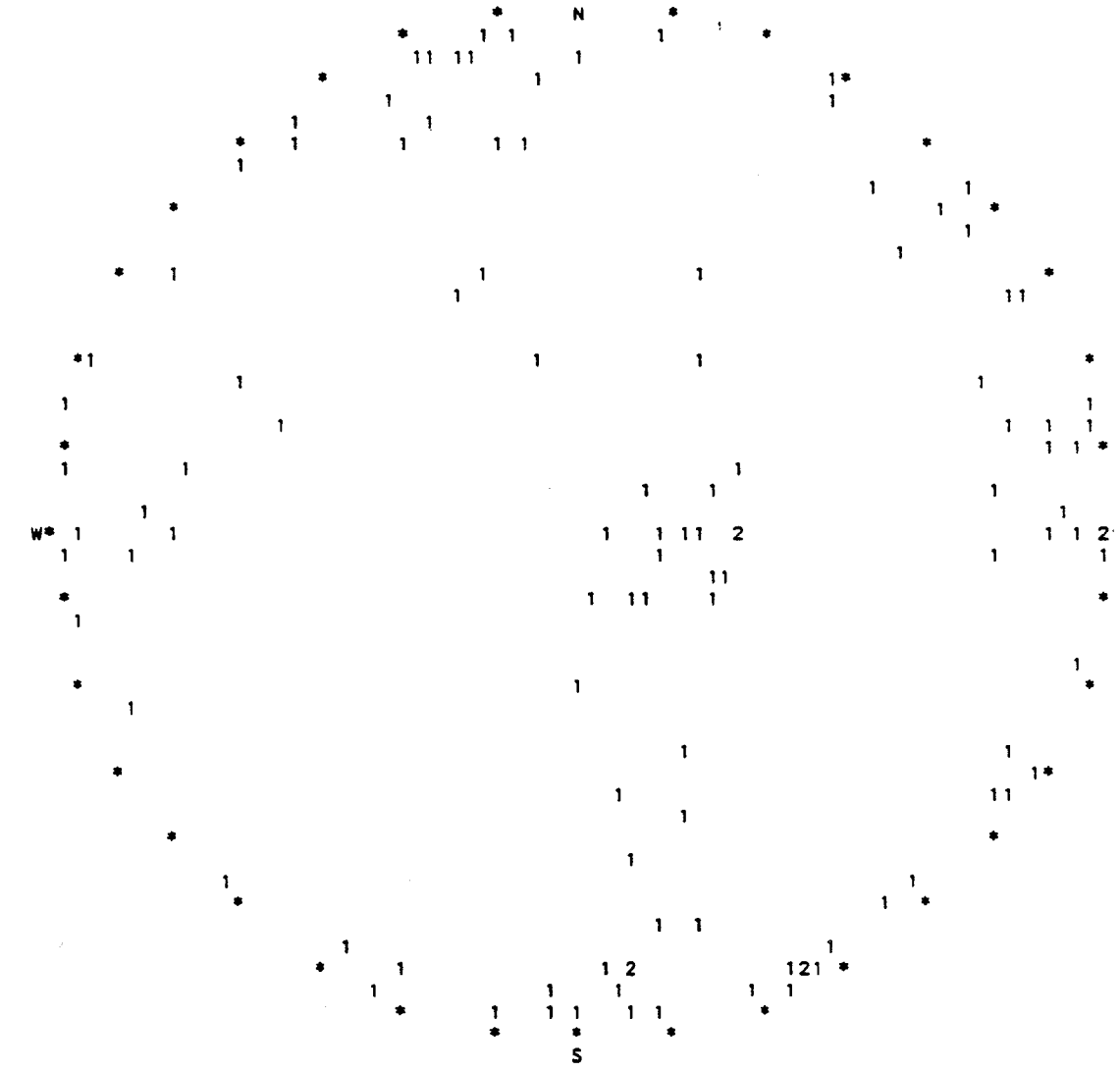
PEBBLE FABRIC -- DOUGLAS TILL -- CAMP AMNICON DATA SET 38
THERE ARE 36 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



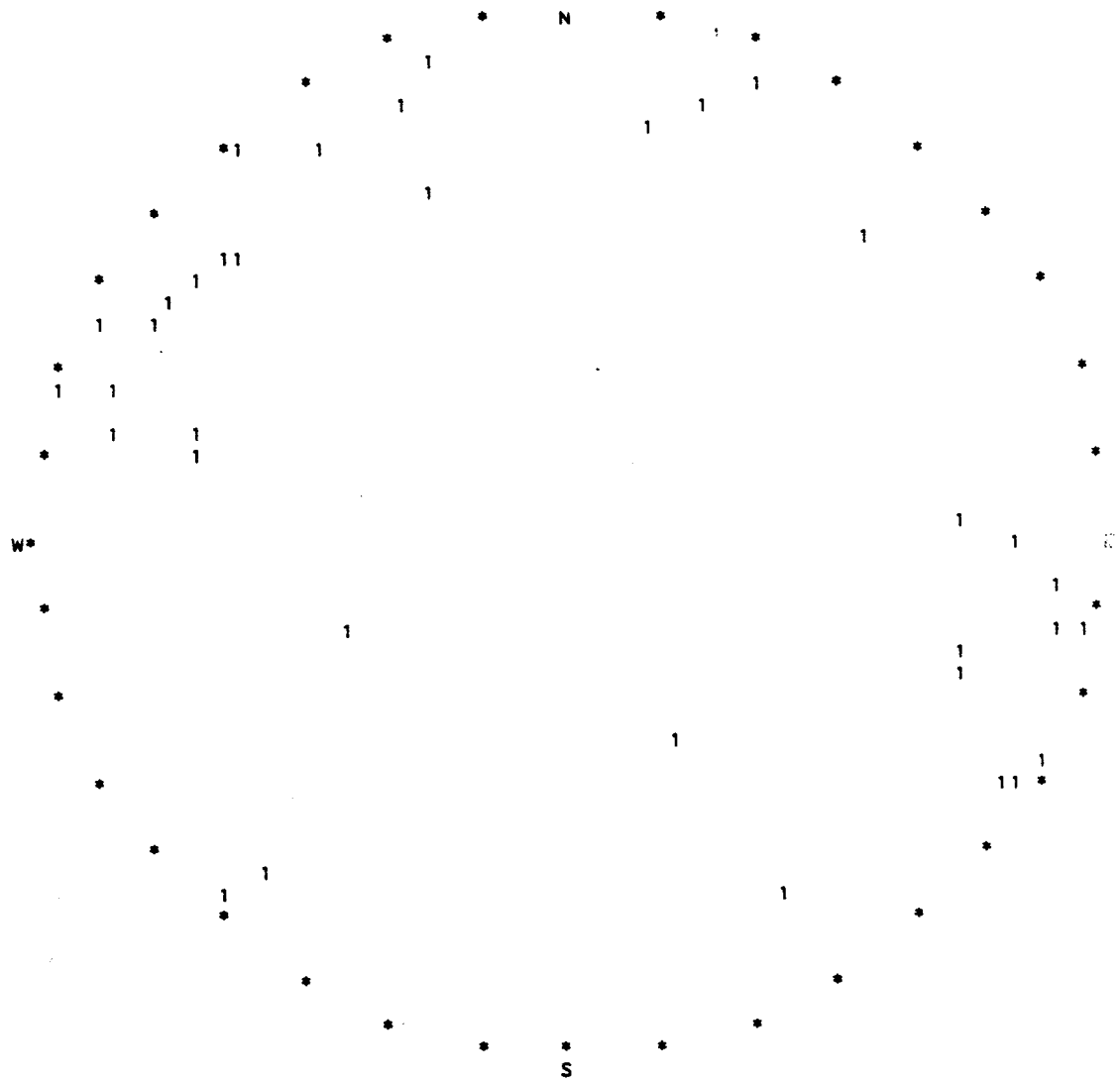
CORP PROJECT SITE -- DOUGLAS TILL (Reference Section) DATA SET 32
THERE ARE 116 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



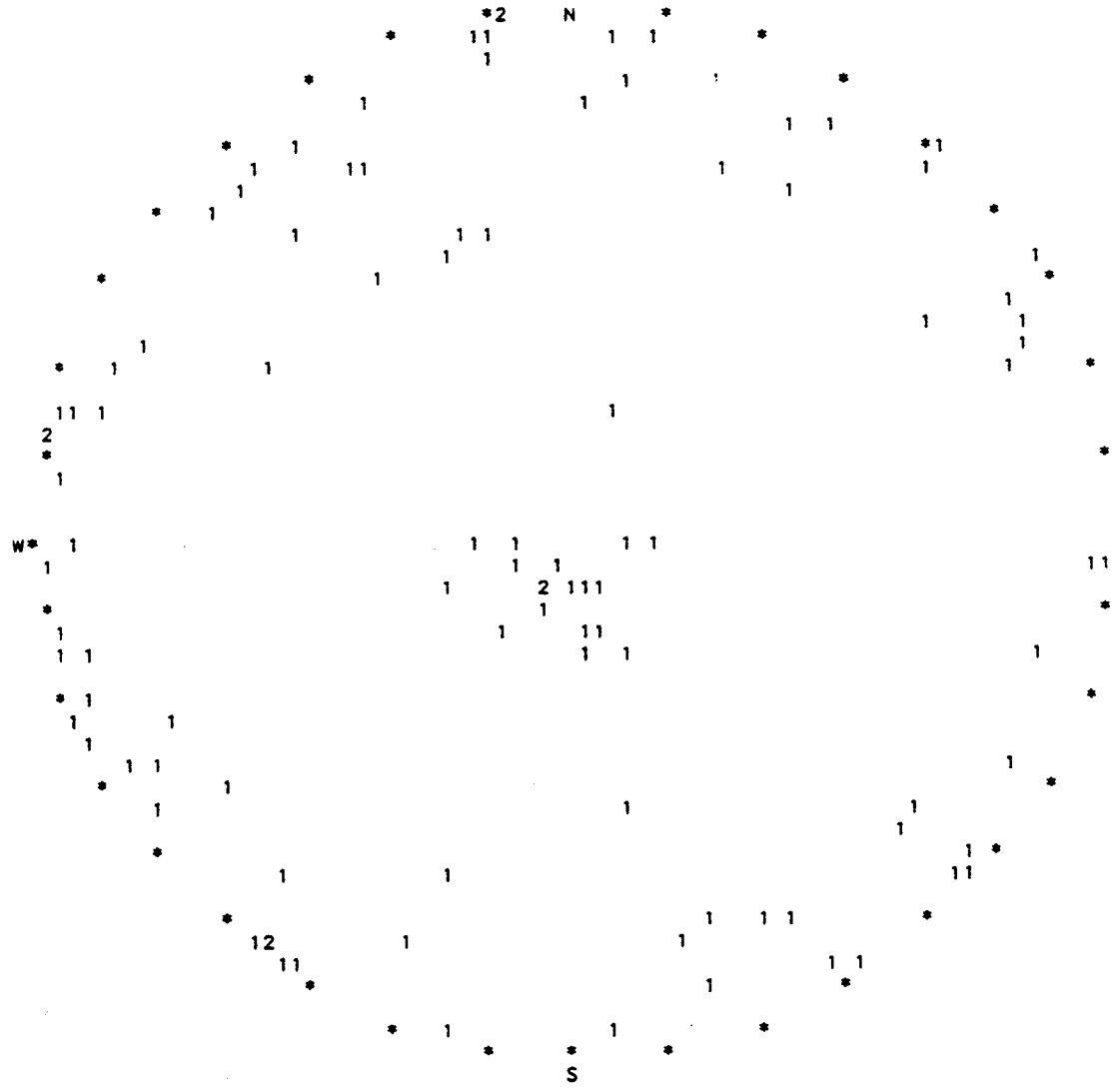
PEARSON CREEK -- DOUGLAS TILL DATA SET 36
THERE ARE 112 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



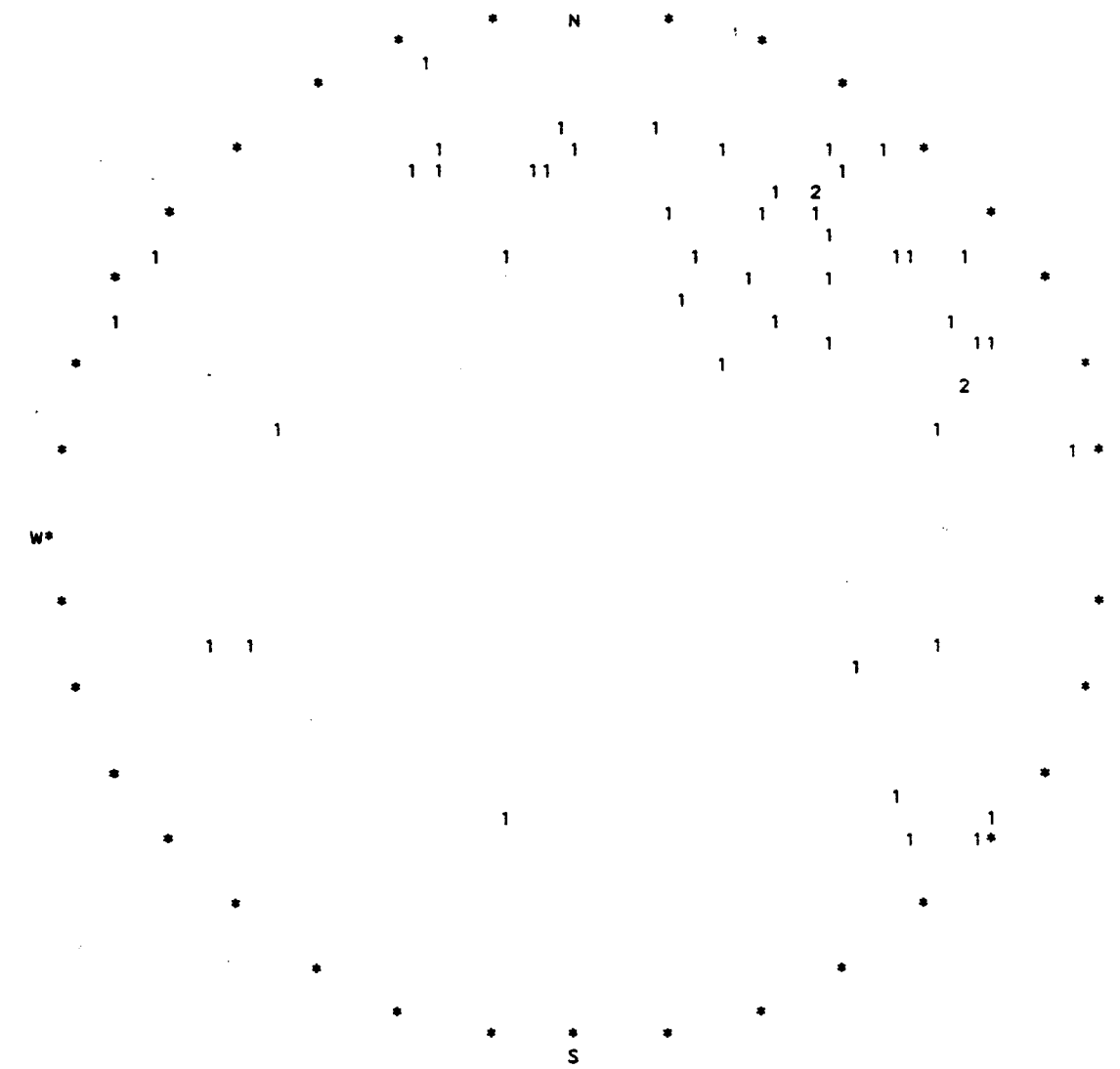
PEBBLE FABRIC -- PEARSON CREEK -- DOUGLAS TILL DATA SET 34
THERE ARE 36 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



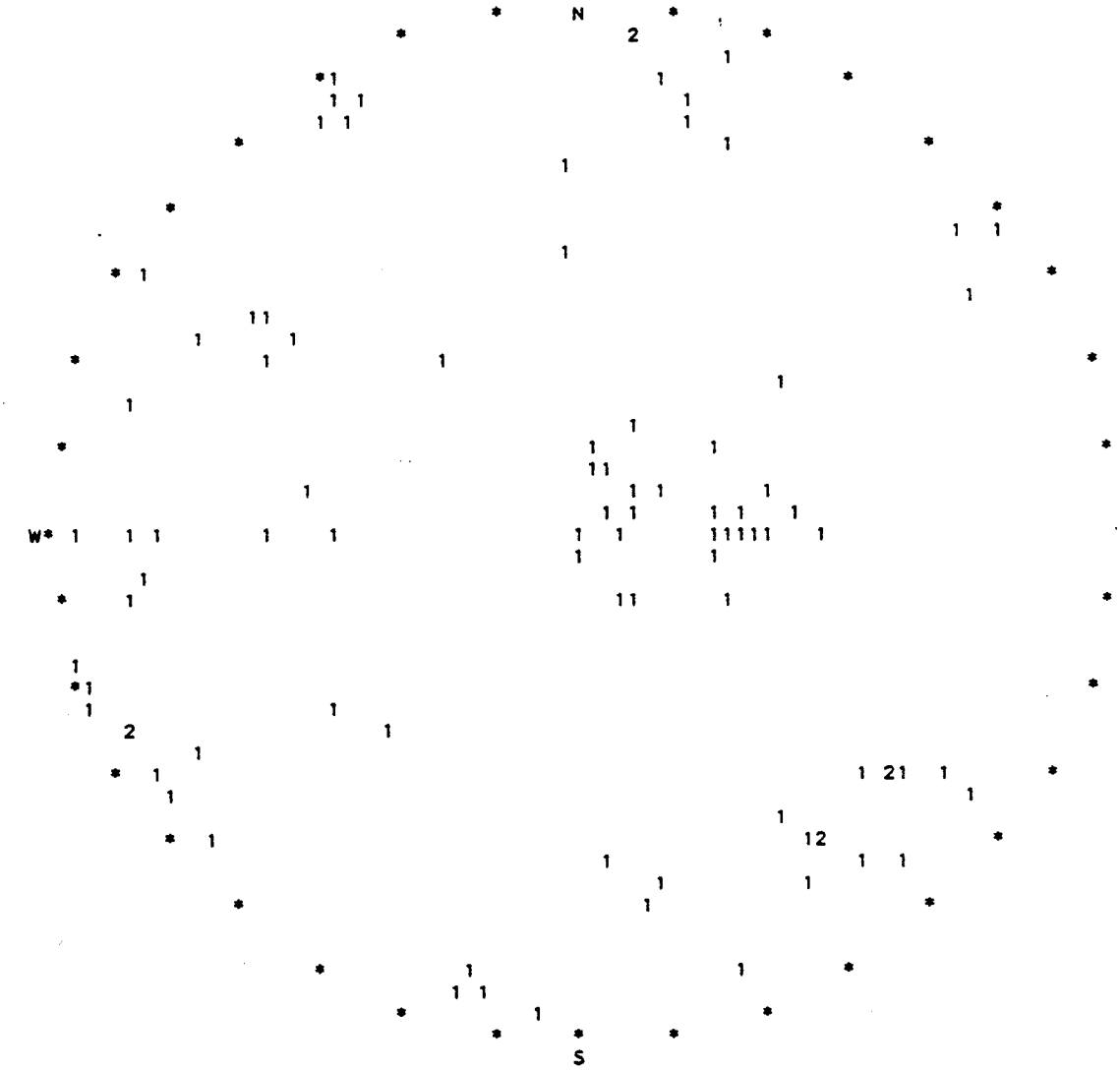
EAST OF AMINICON RIVER -- HANSON CREEK TILL DATA SET 37
THERE ARE 104 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



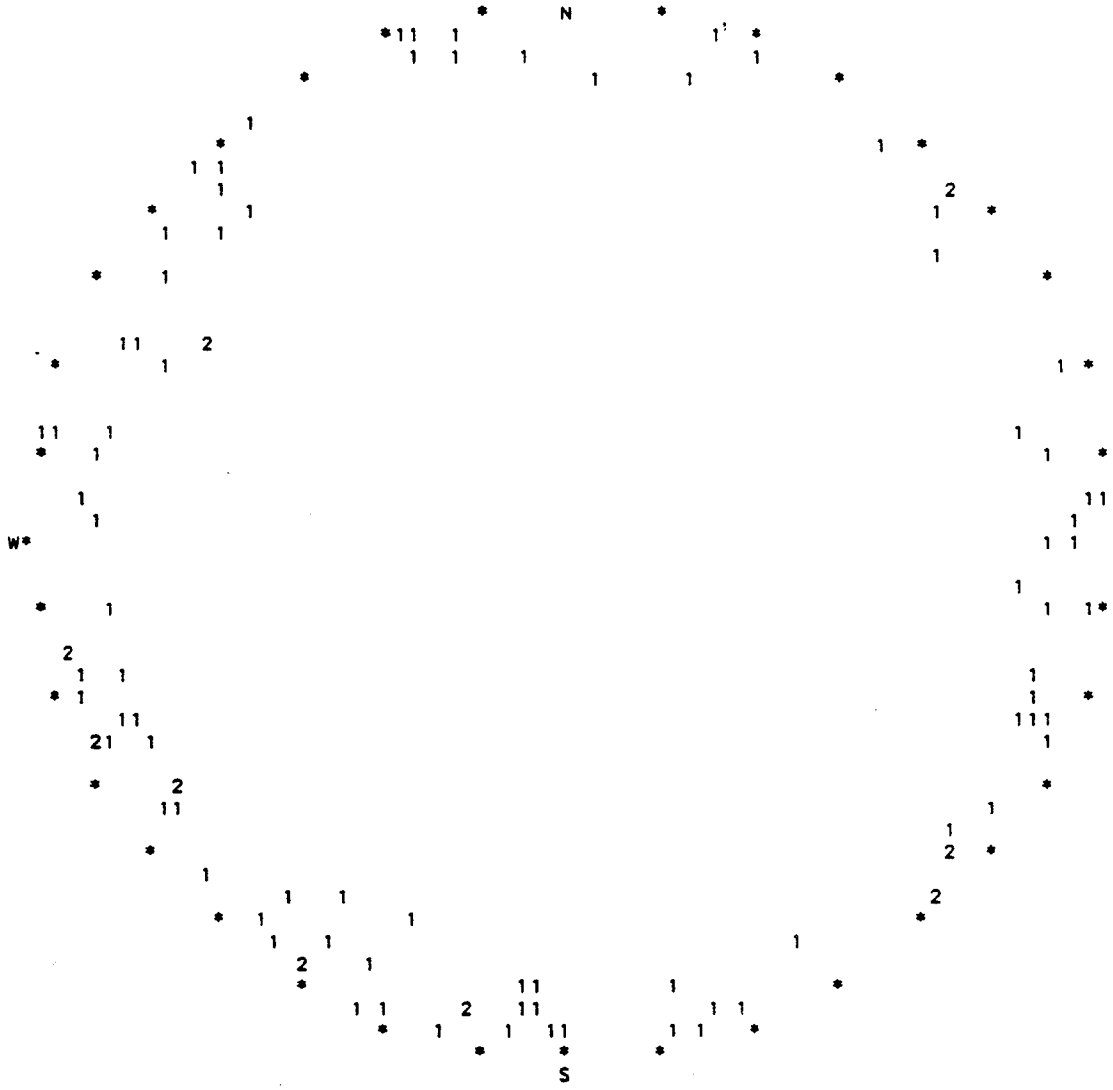
AMINICON RIVER ROAD -- PEBBLE FABRIC -- HANSON CREEK TILL DATA SET
THERE ARE 50 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



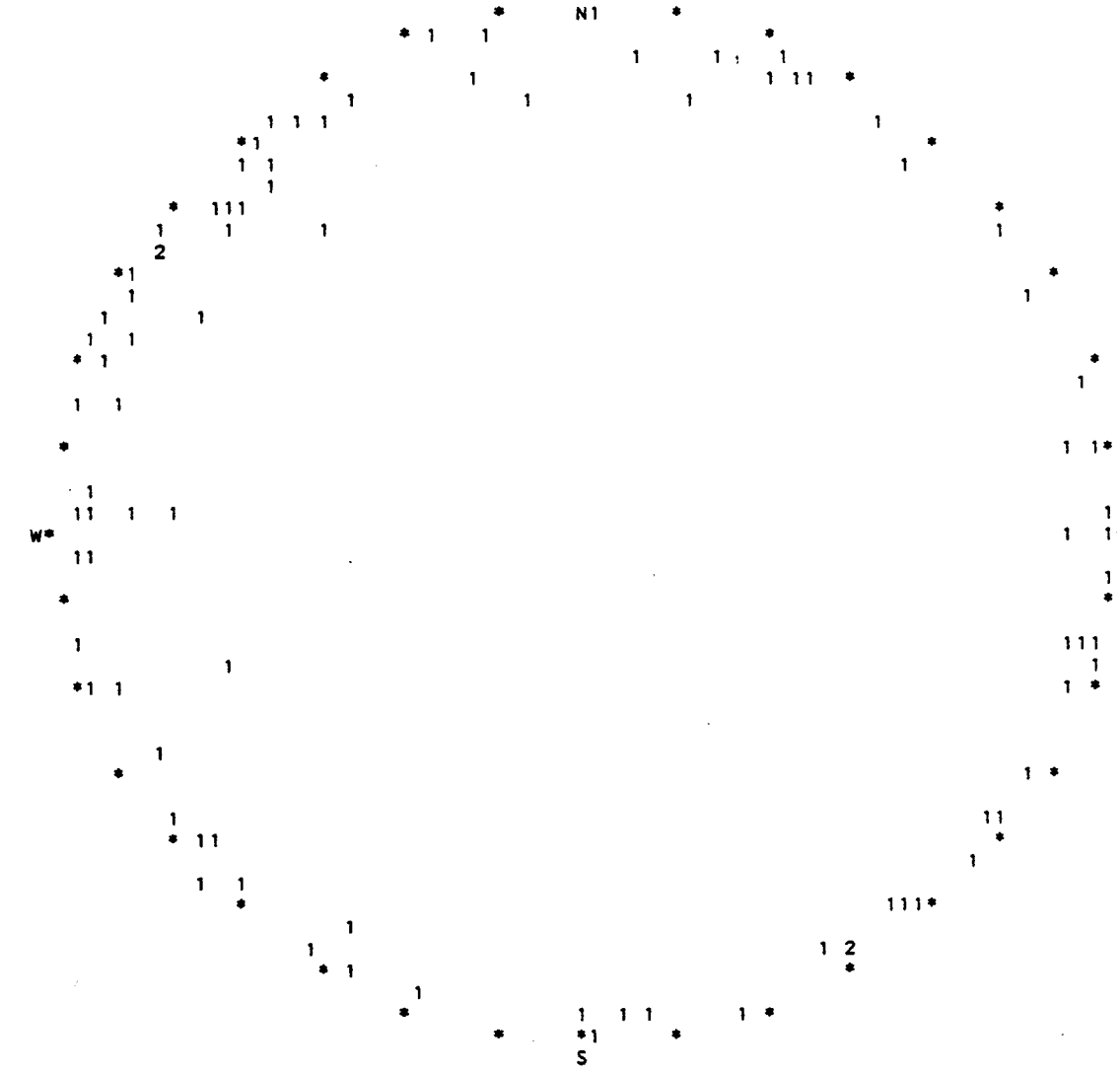
OSP-2 HANSON CREEK TILL DATA SET 33
THERE ARE 93 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



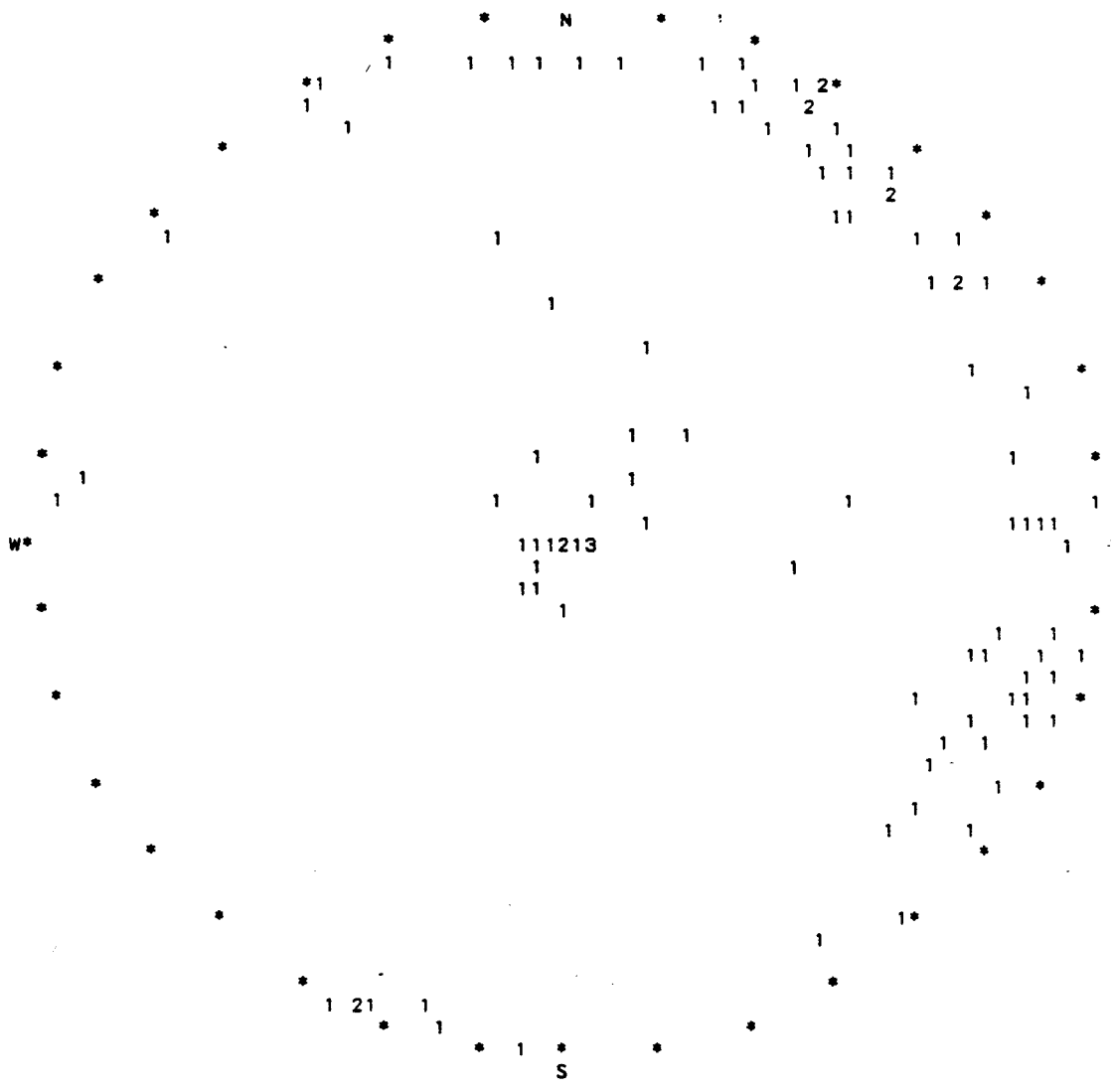
OUTAGAMIE COUNTY LANDFILL -- UPPER LACUSTRINE UNIT
THERE ARE 104 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



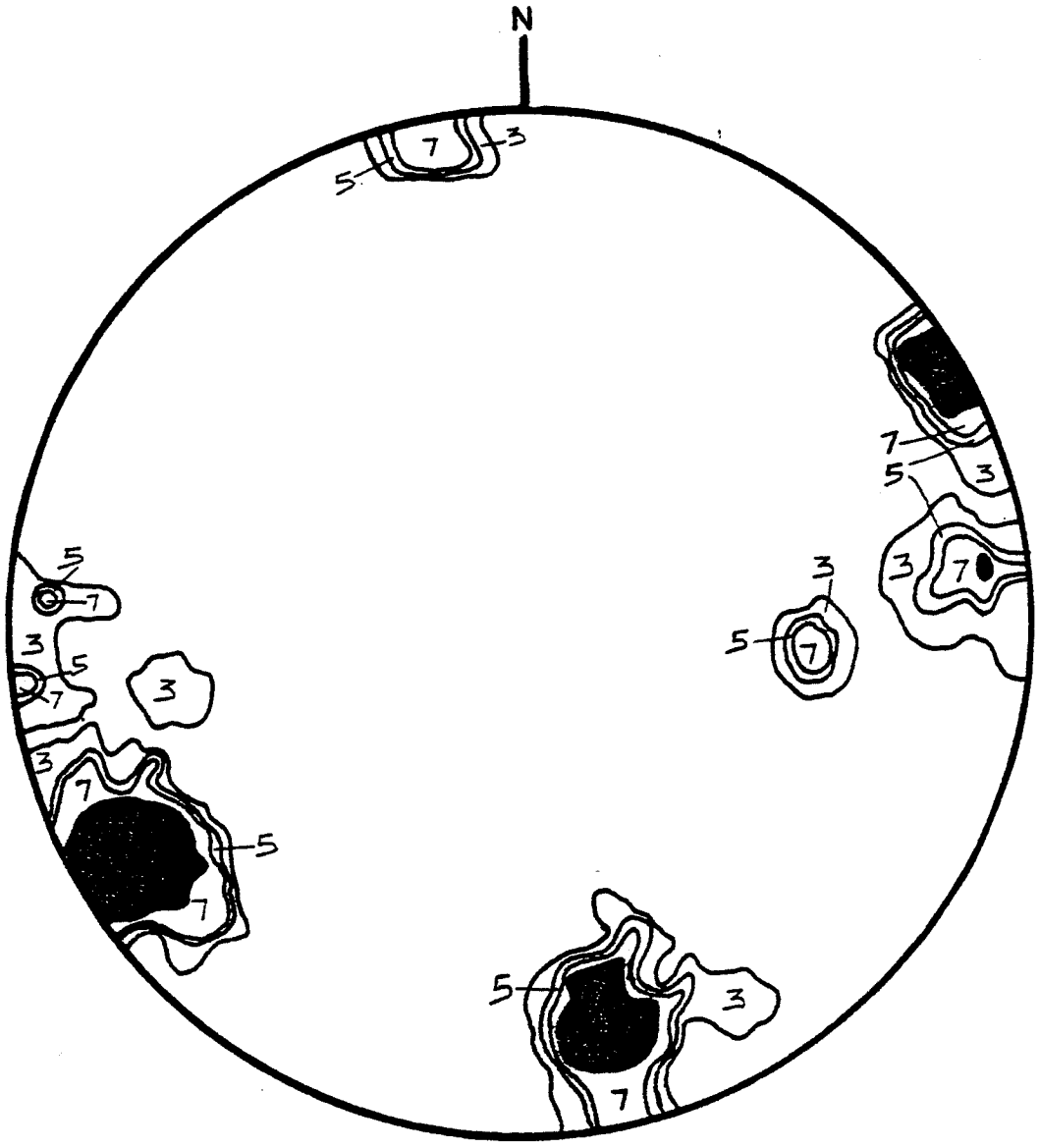
OUTAGAMIE LANDFILL -- TILL UNIT
THERE ARE 95 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



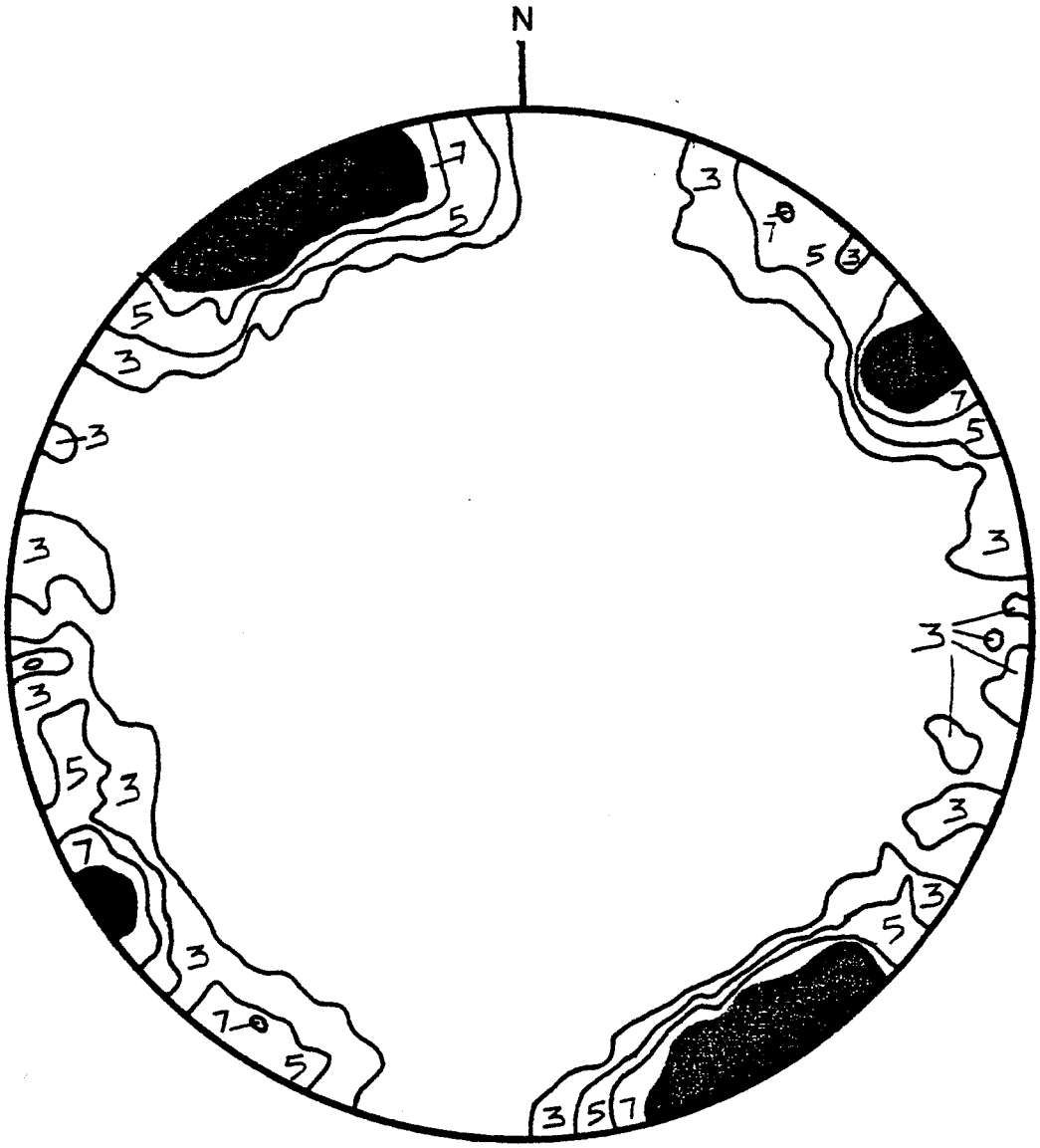
KOENEN FARM -- GLENMORE TILL
THERE ARE 104 POINTS IN THE SAMPLE
EQUAL AREA LOWER HEMISPHERE PROJECTION



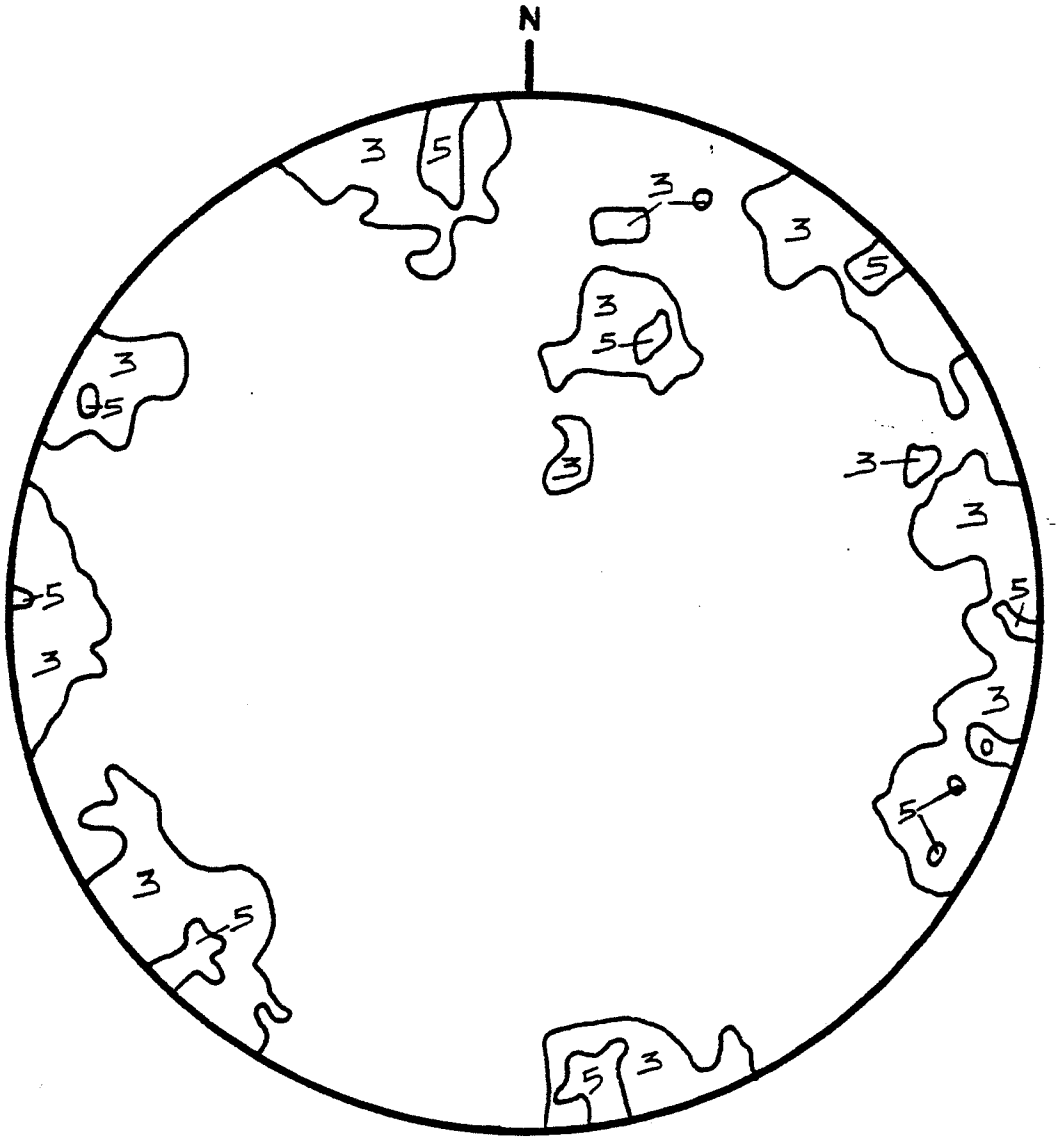
Appendix 5: Contoured equal area plot of joint data from output of POINT (Warner, 1969). Contours enclose areas of equal percentage of joint poles per unit area of the plot. Contour interval 2%.



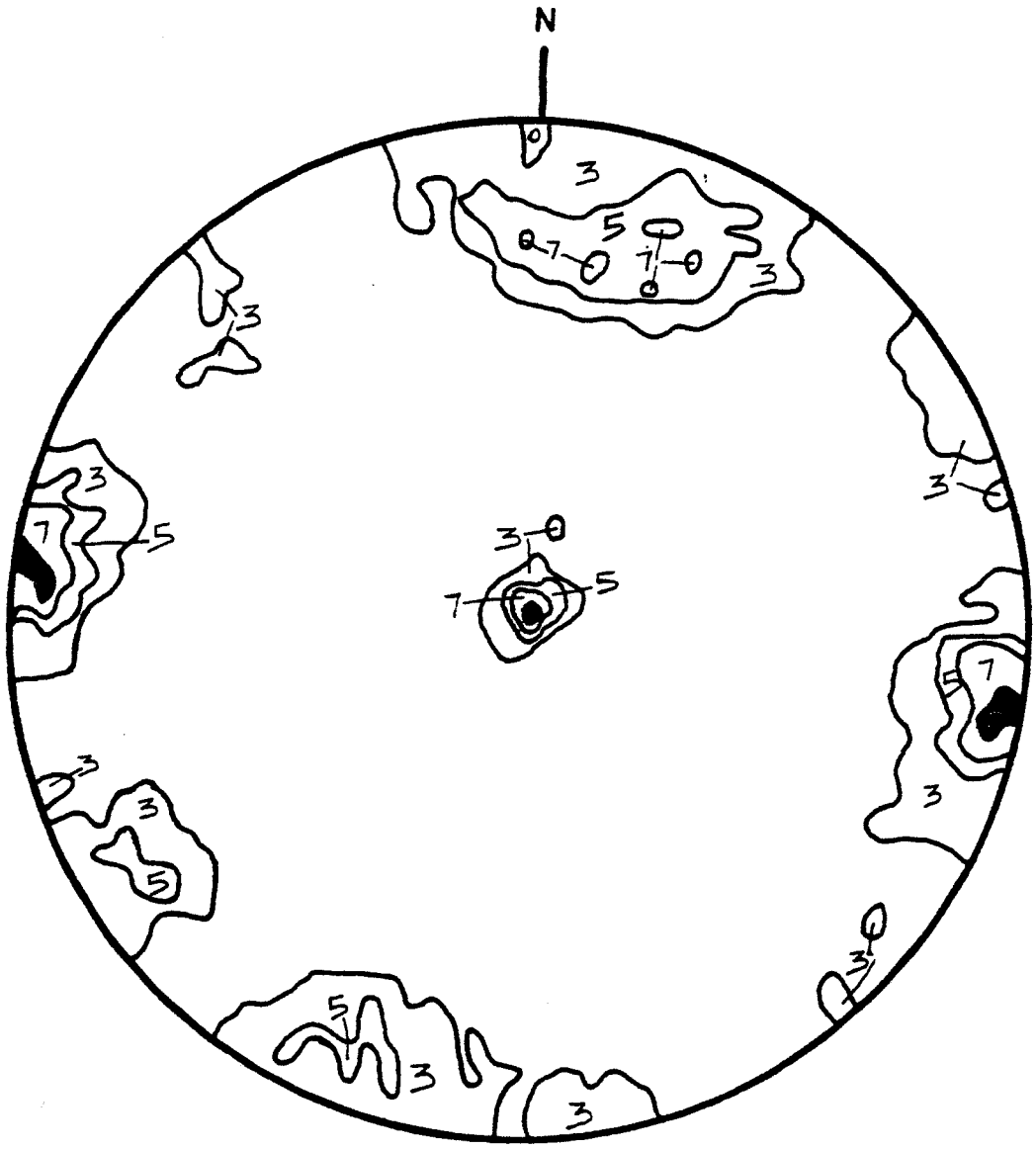
Middleton Quarry Ordovician DM Site #1 41 obs



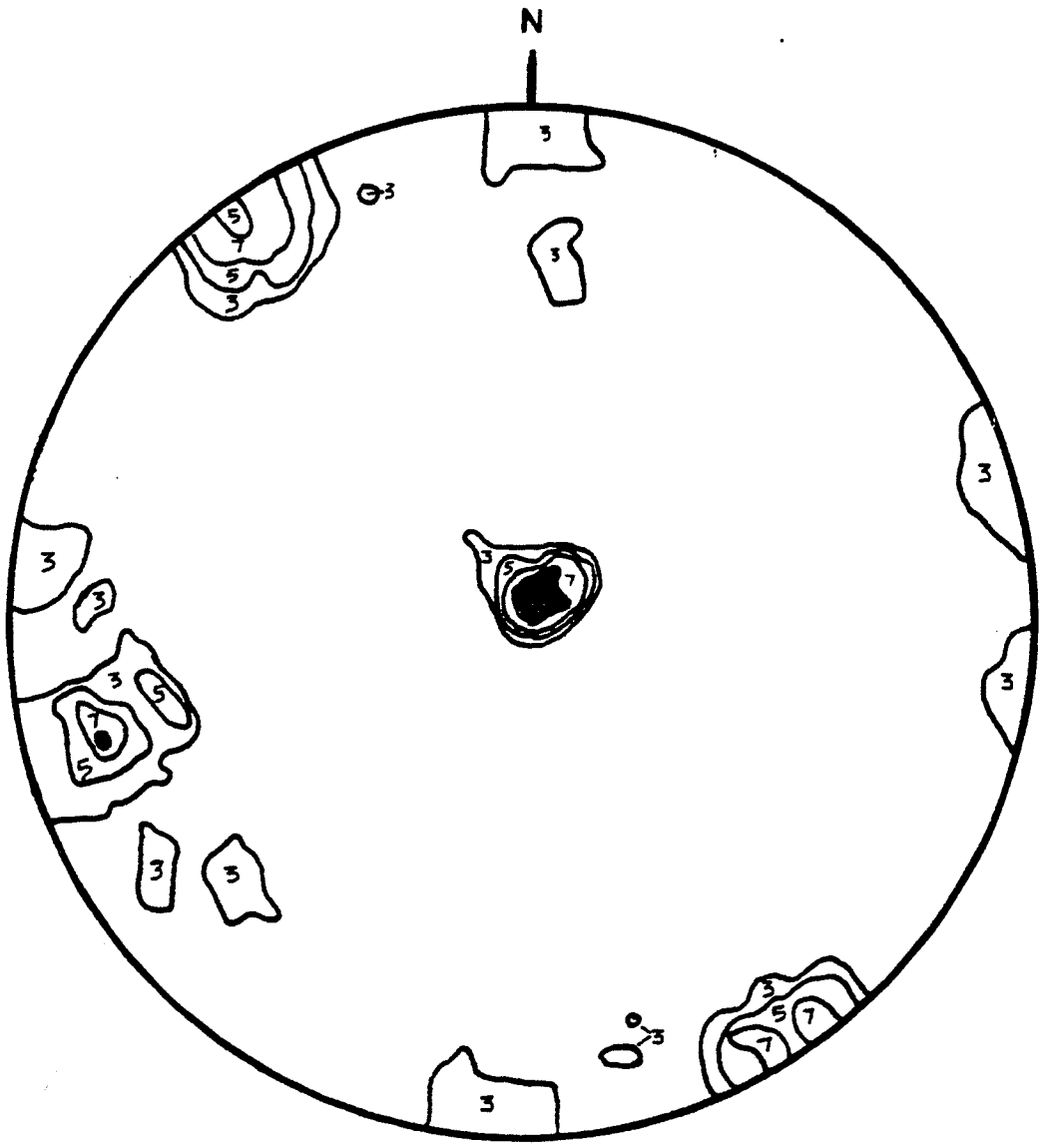
Door Quarry Silurian DM Site #2 130 obs



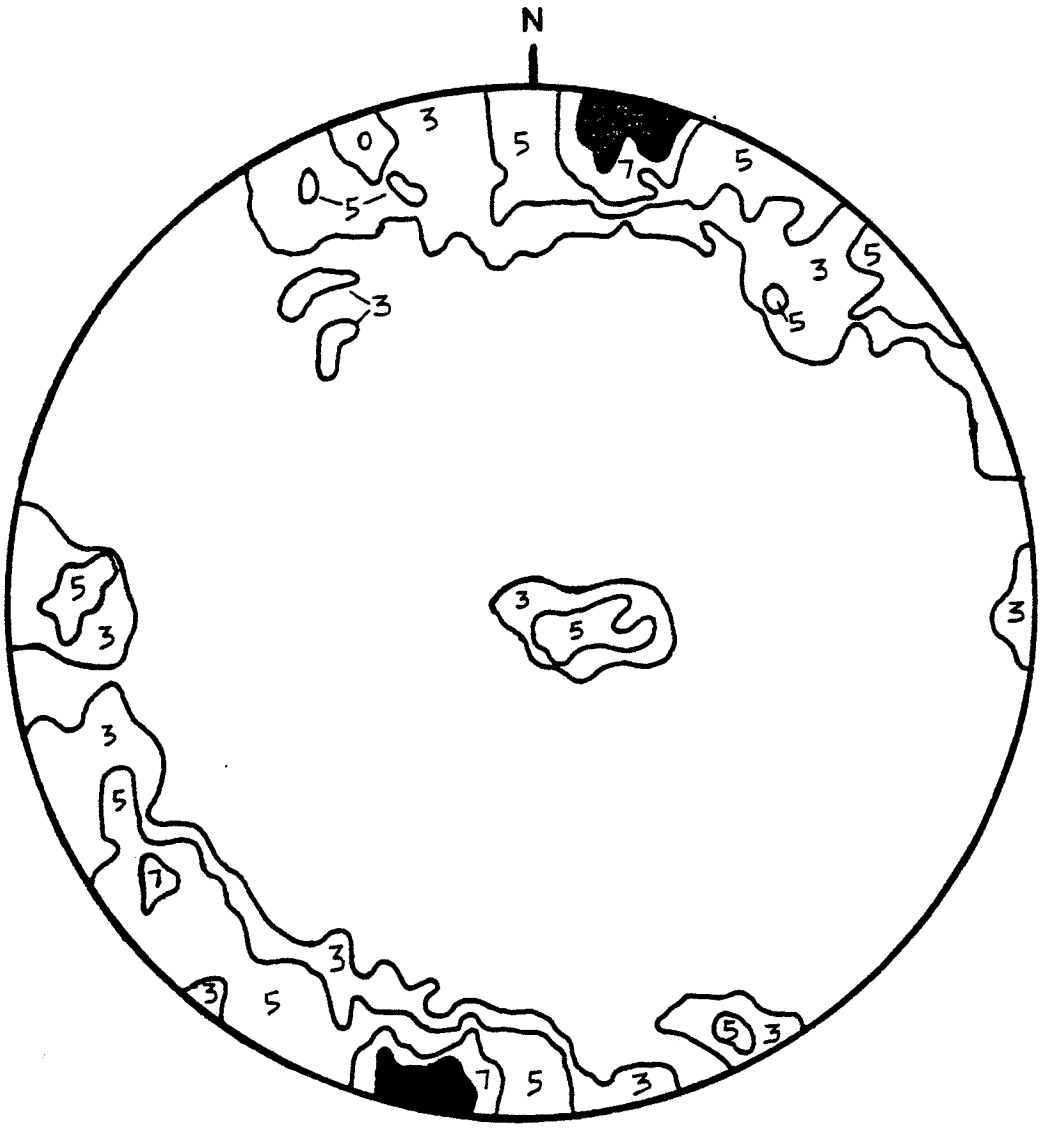
Door Pit Glenmore Till Site #3 125 obs



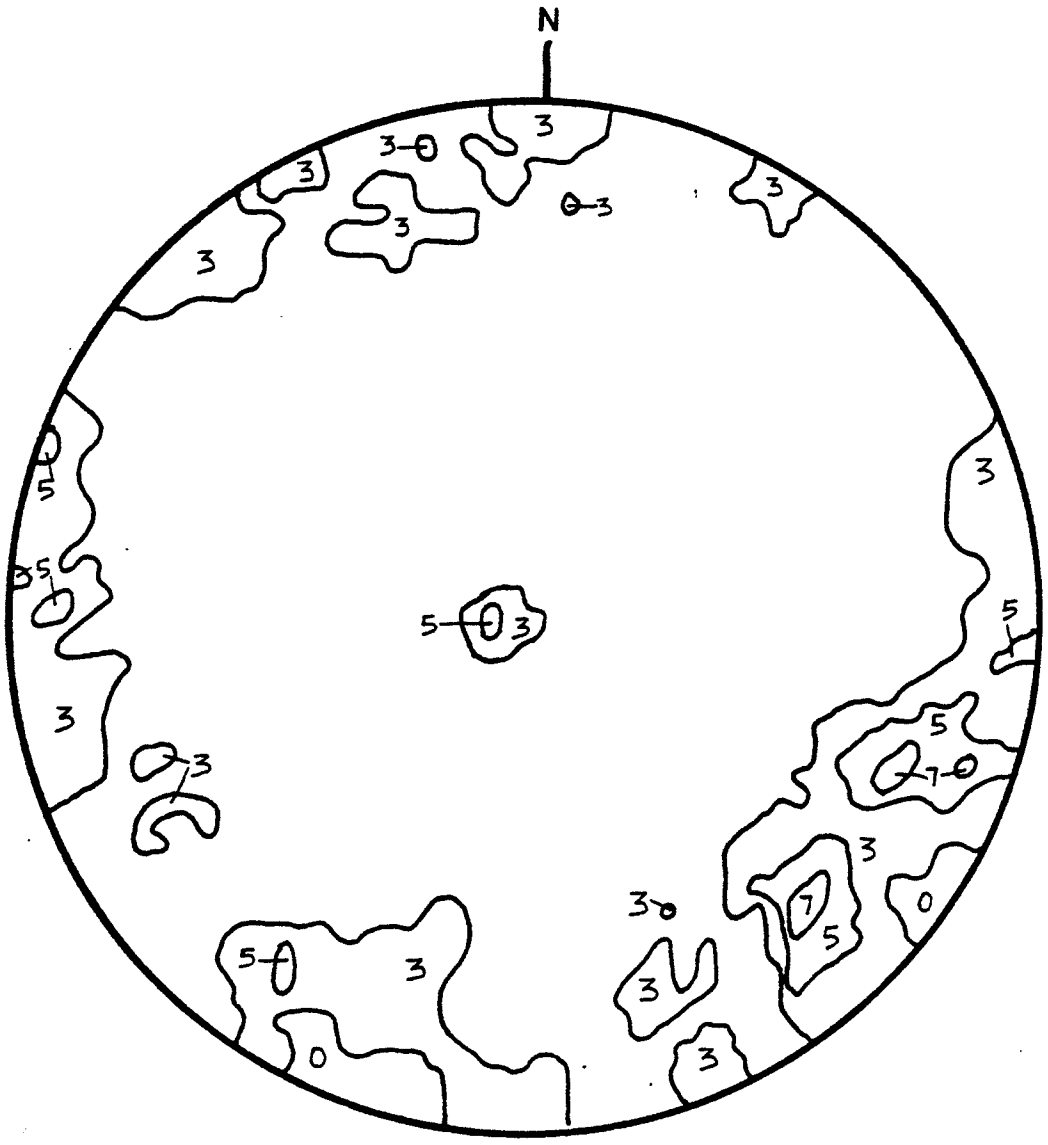
Sandy Bay Lacustrine Silty Clay Site #4 128 obs



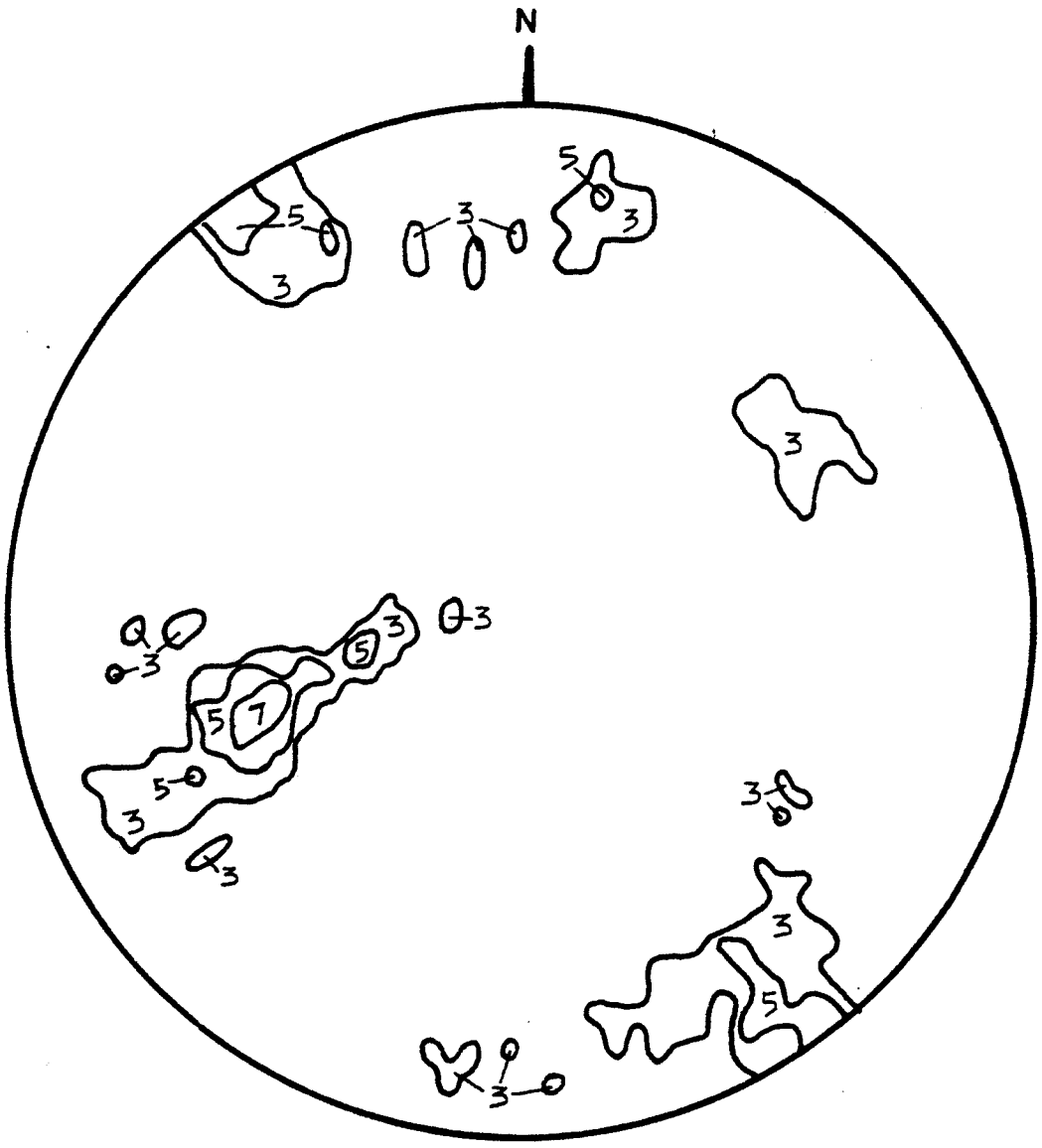
Sandy Bay Haven Till Site #5 108 obs



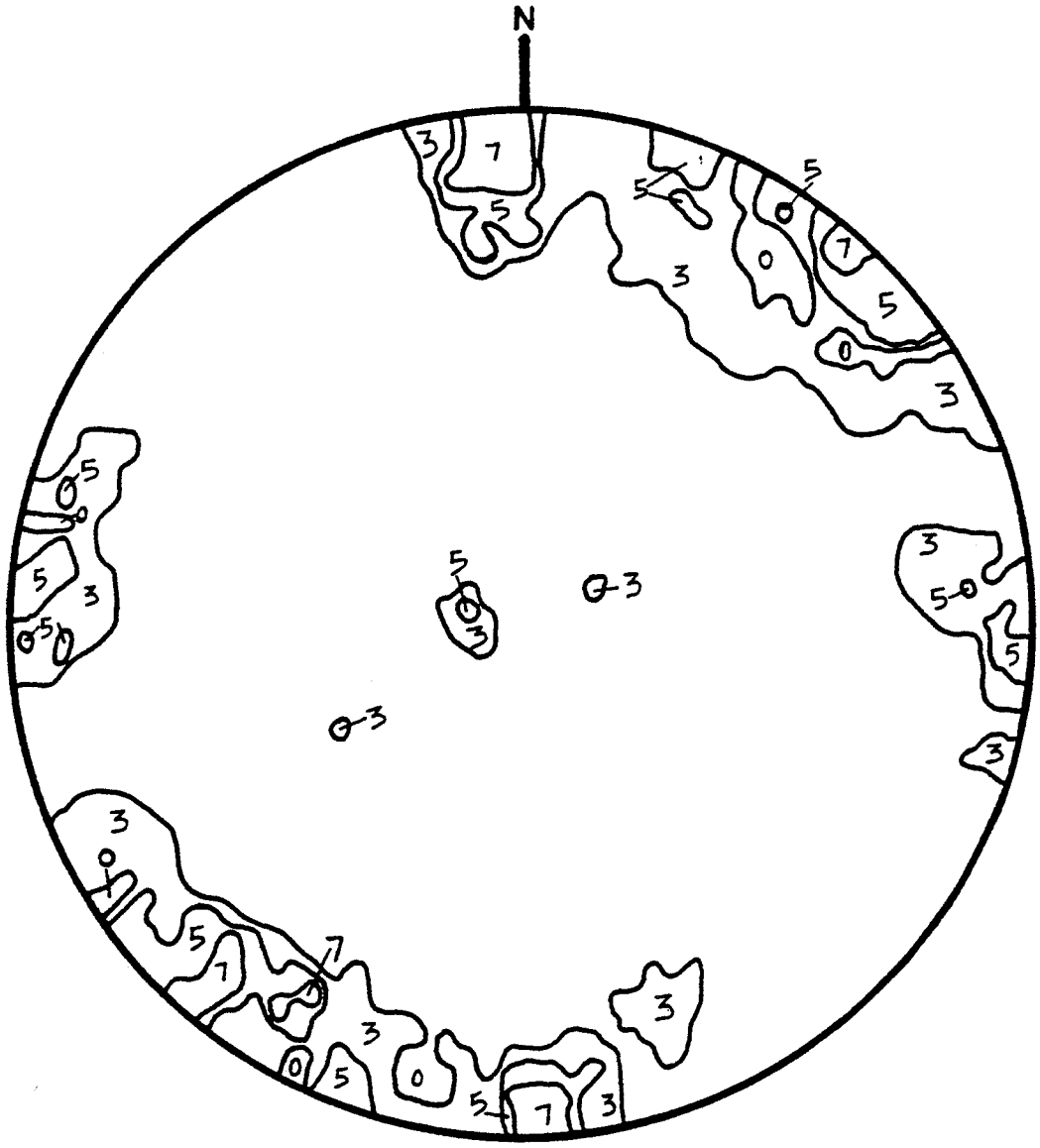
Sandy Bay Two Rivers Till Site #7 119 obs



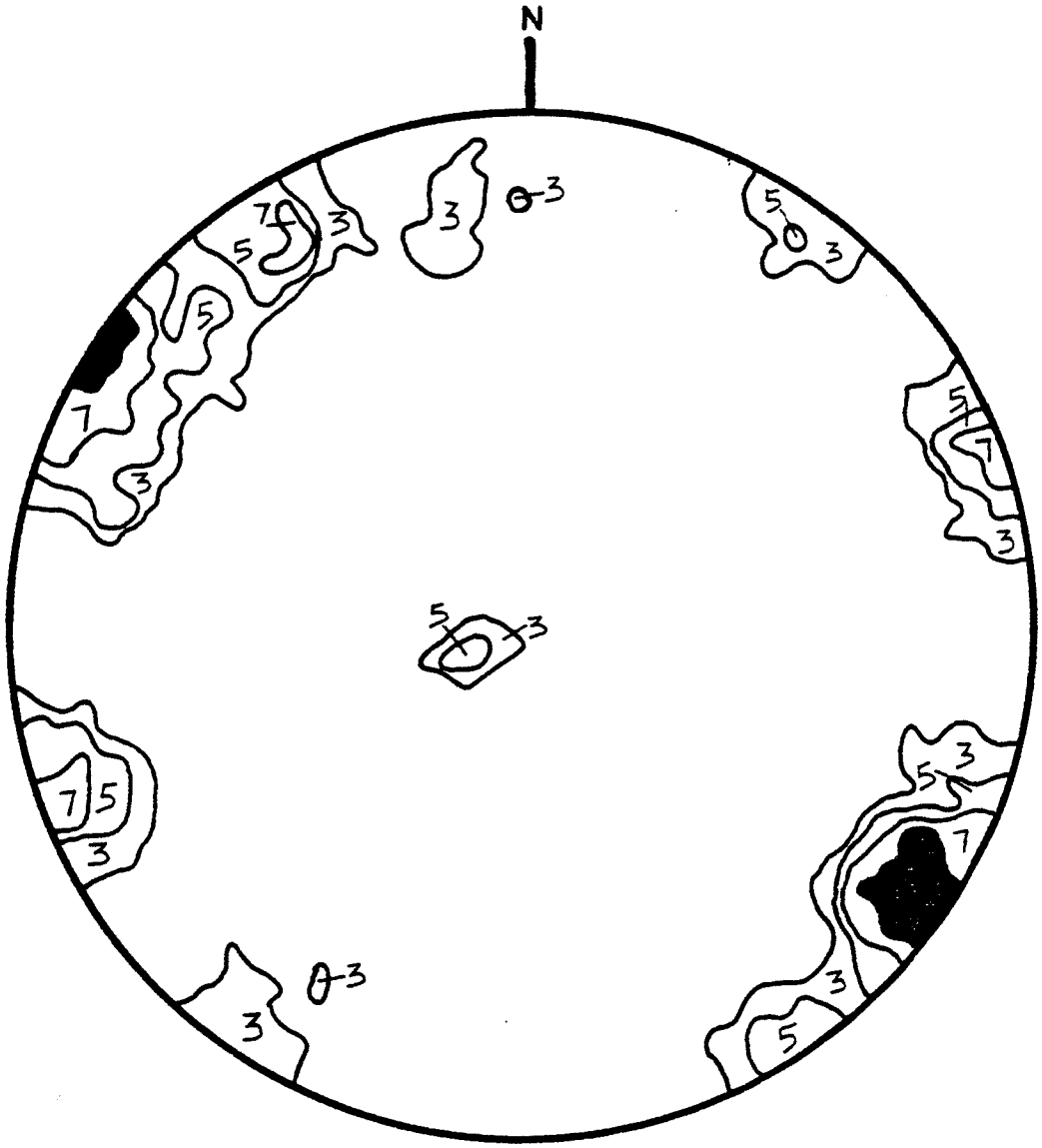
Hwy BB Two Rivers Till Site #8 122 obs



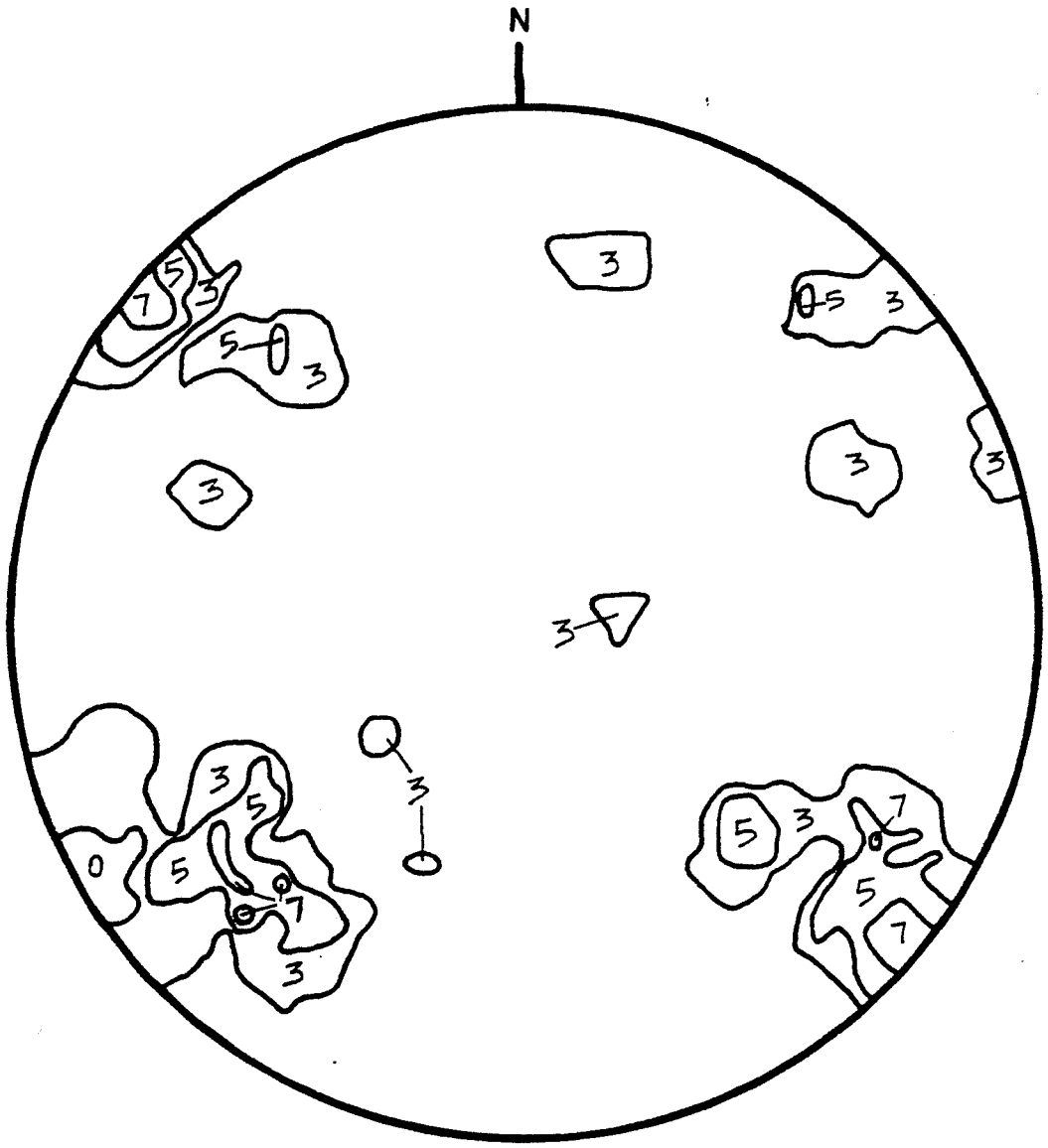
Hwy BB Pre-Two Rivers Lacustrine Sediment Site #9
110 obs



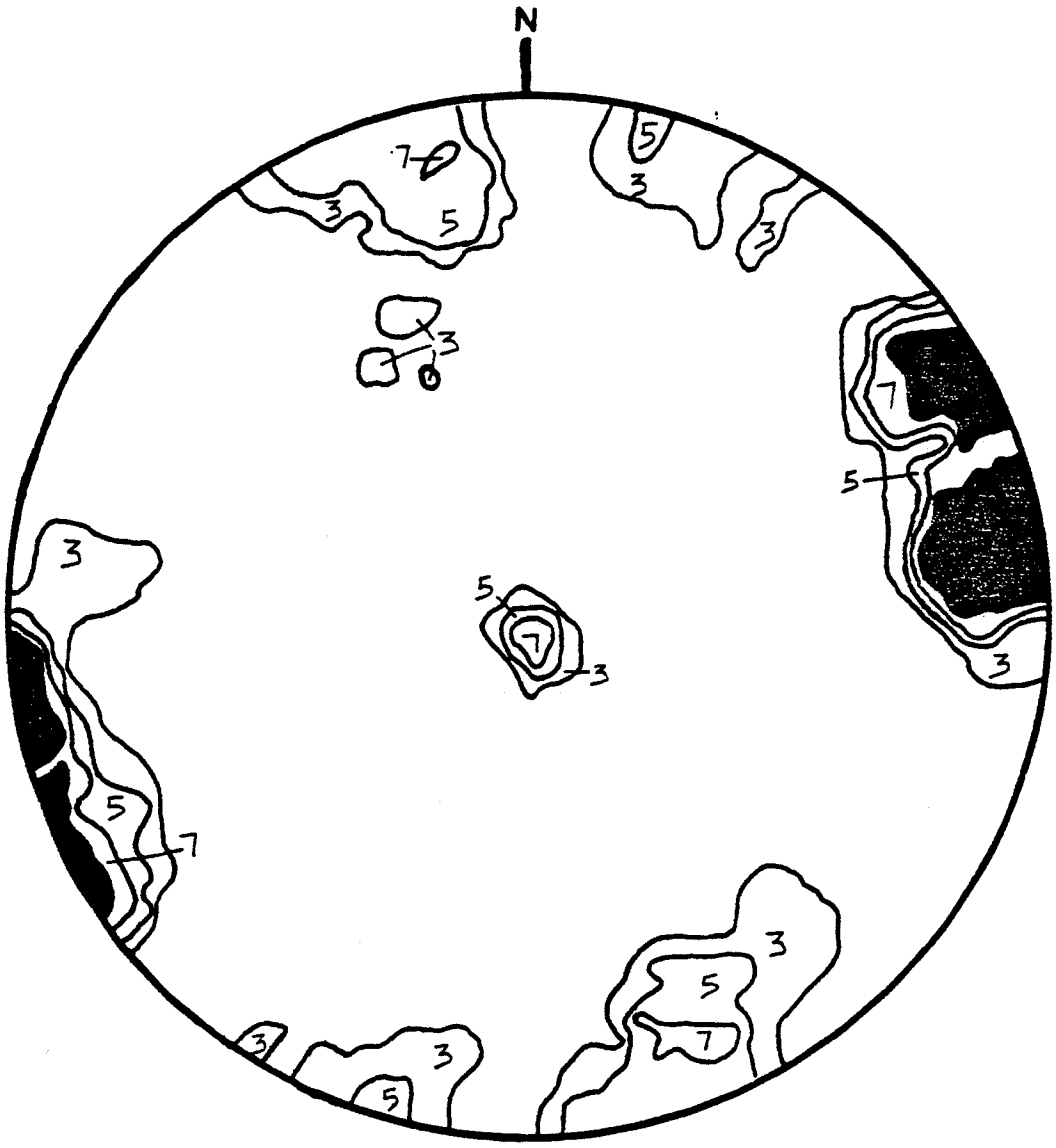
Two Creeks Type Section Pre-Two Rivers Lacustrine Sediment
Site #10 112 obs



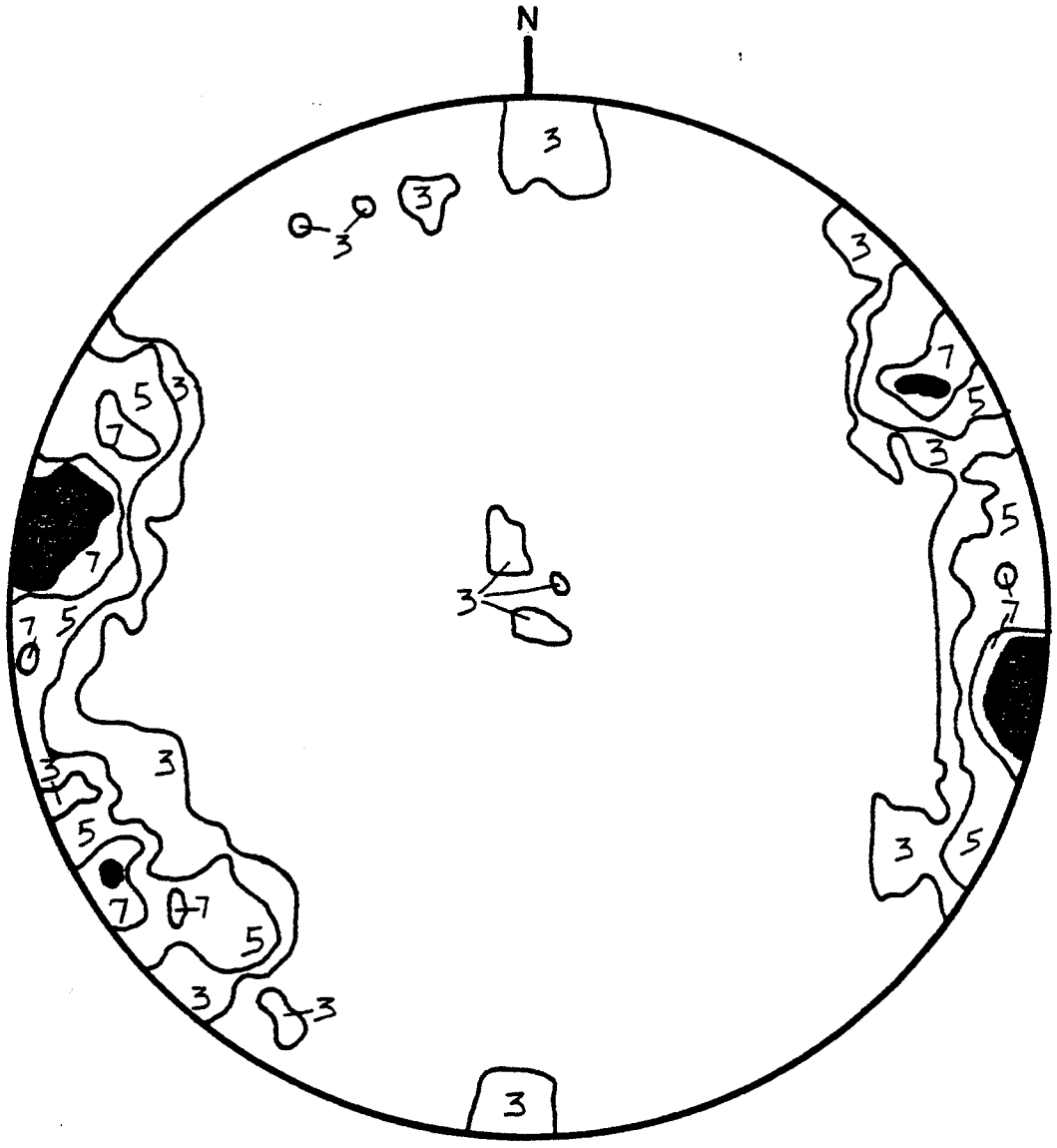
Two Rivers Pit Two Rivers Till Site #13 171 obs



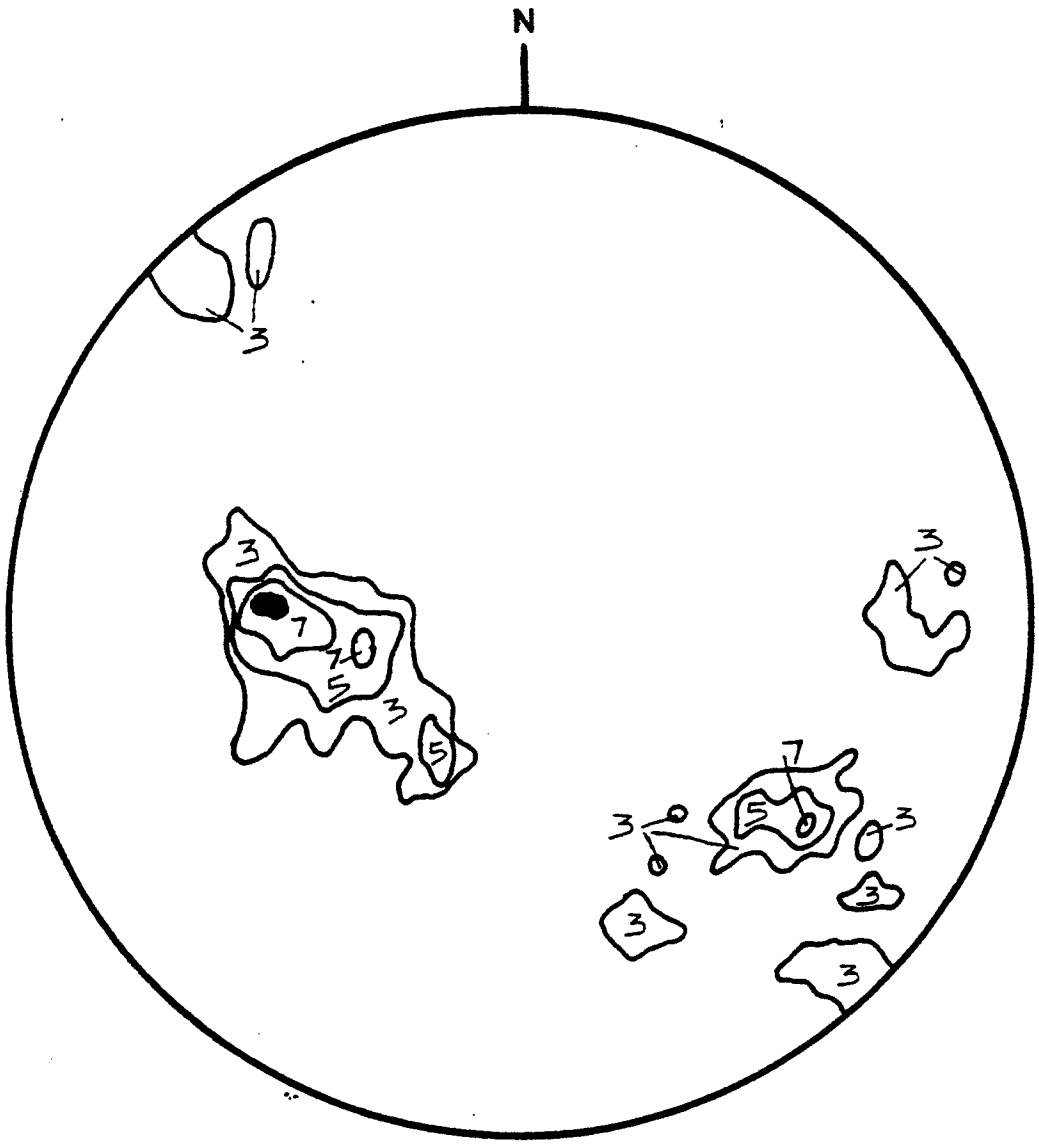
Manitowoc River Haven Till Site #13 96 obs



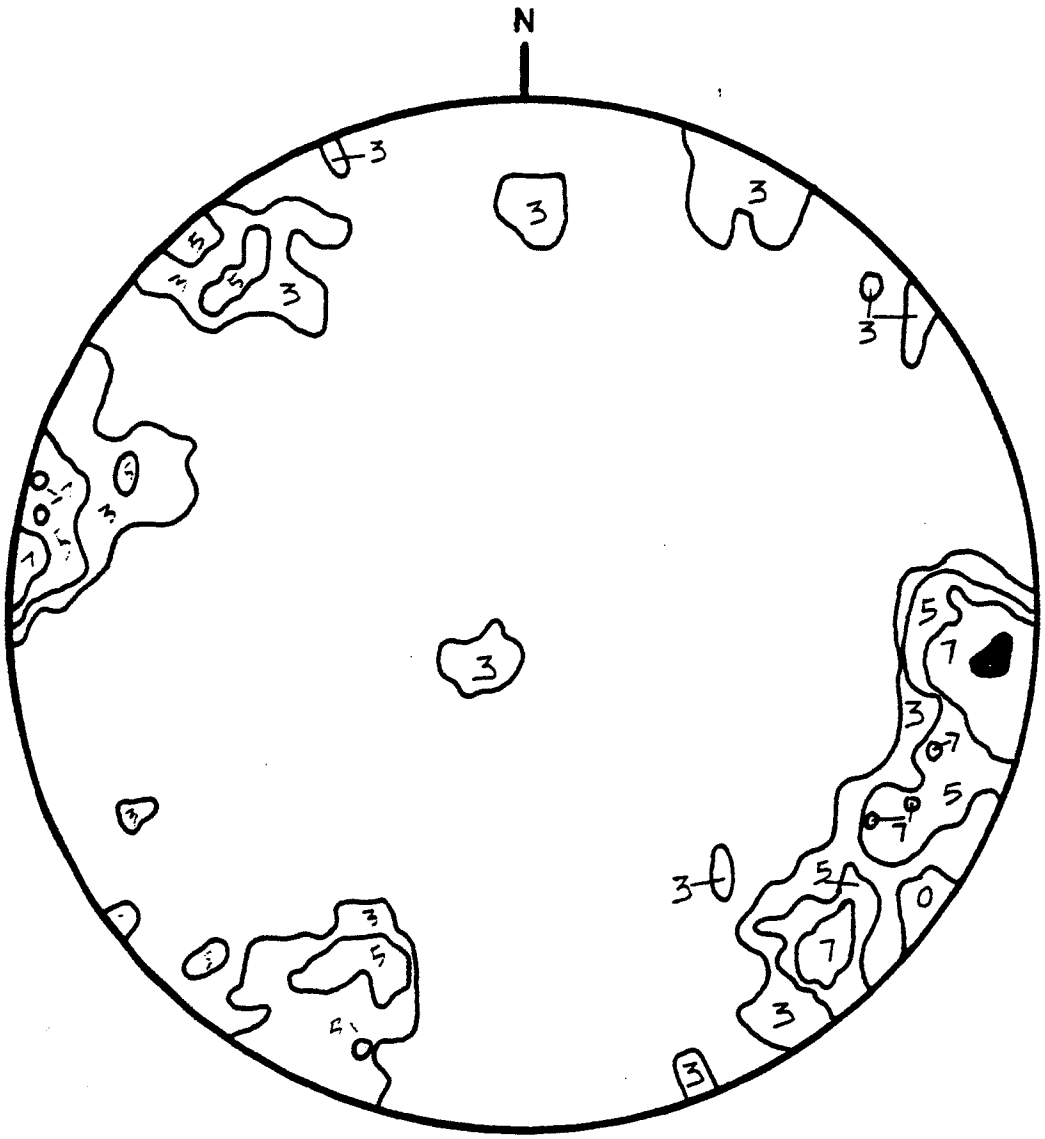
Valders Quarry Silurian DM Site #14 93 obs



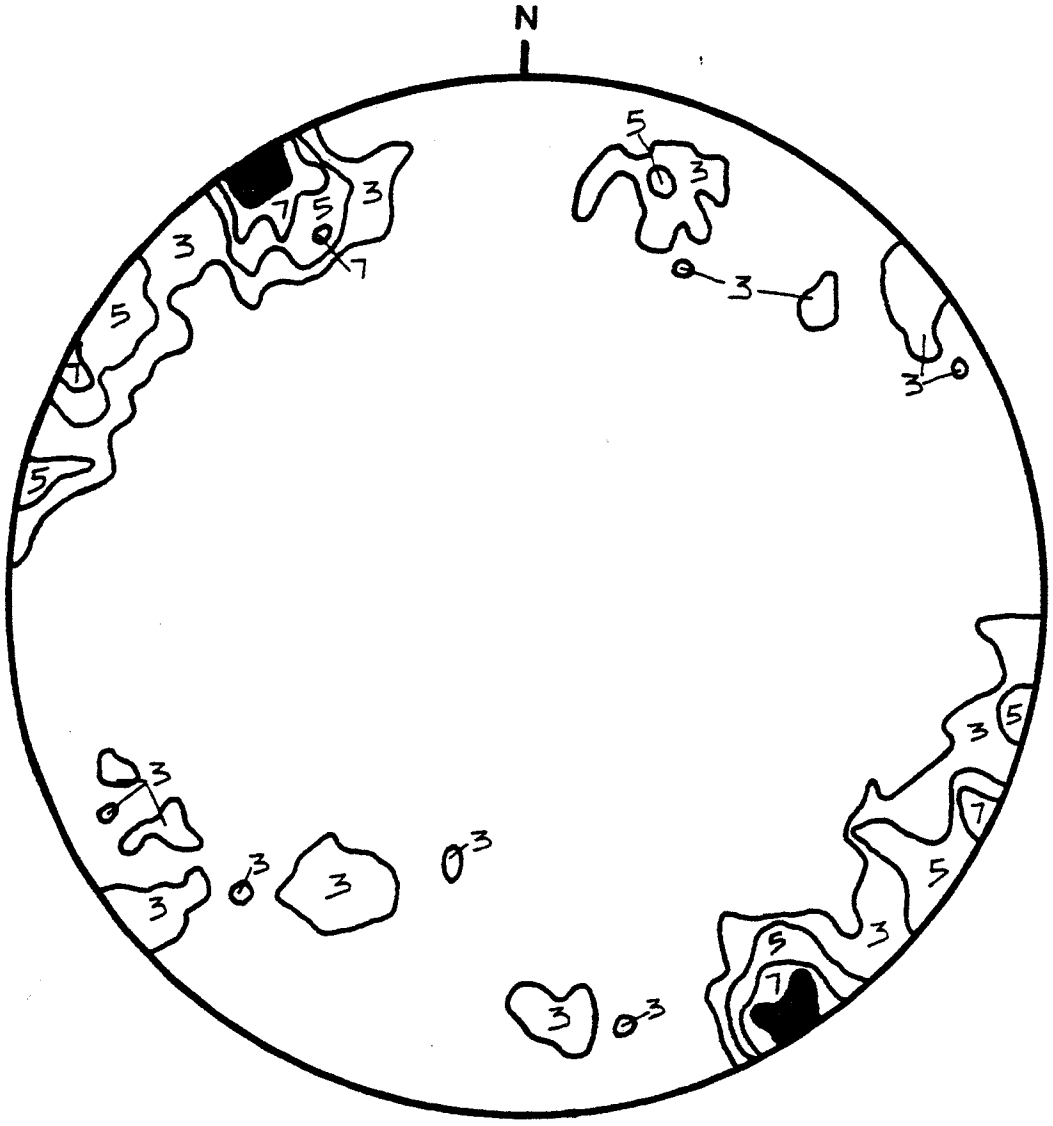
Valders Quarry Valders Till Site #14 226 obs



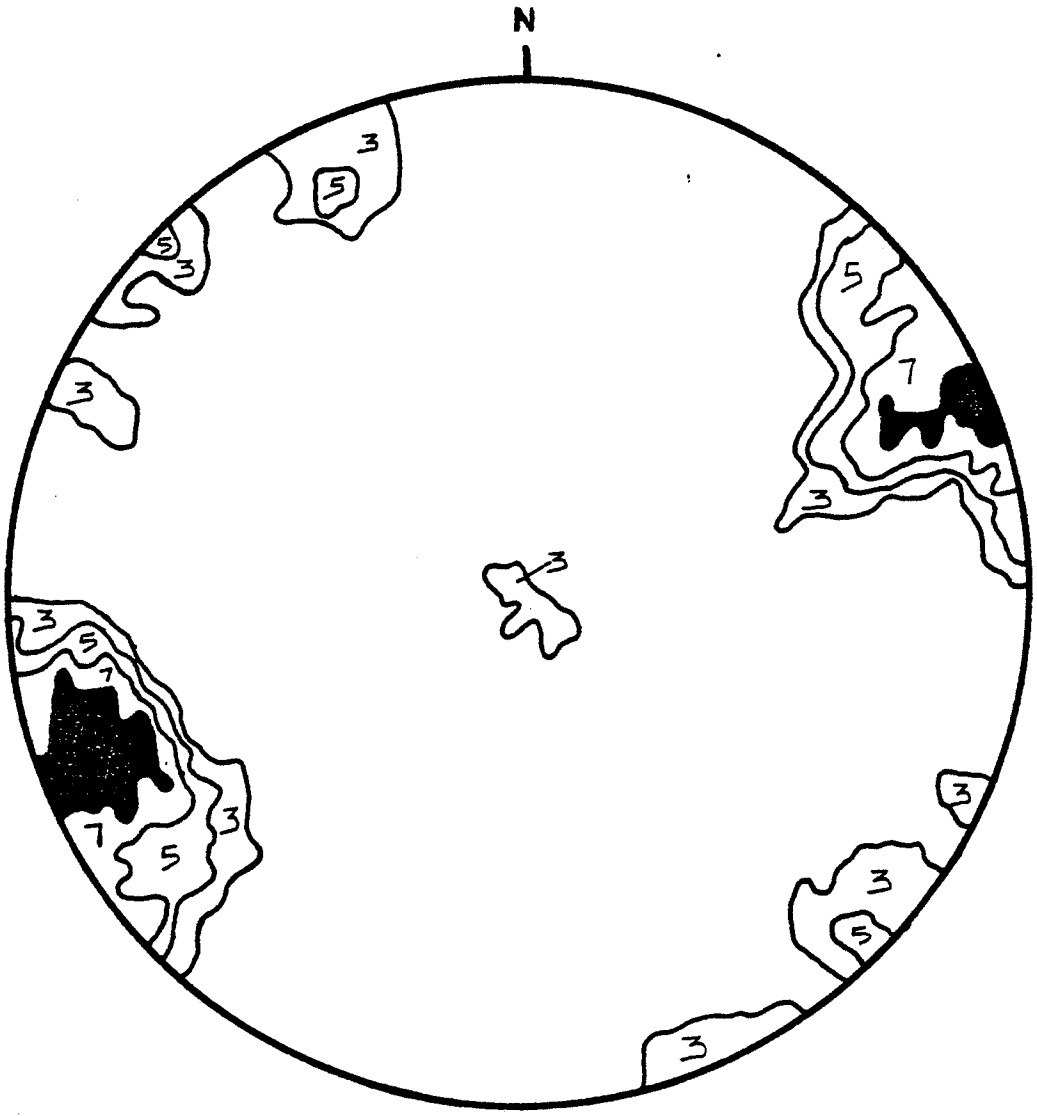
Suburban Manitowoc Haven Till Site #16 113 obs



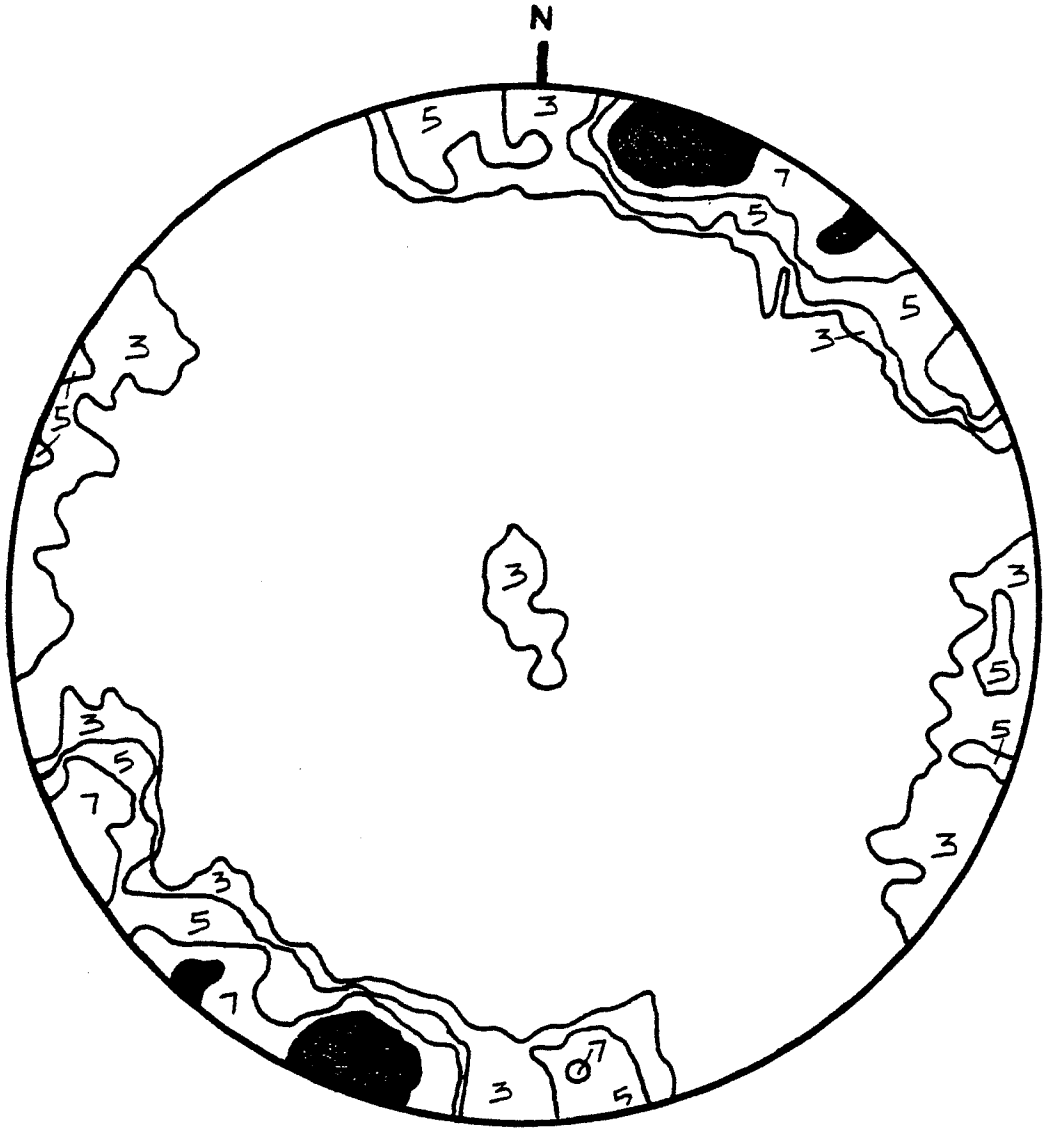
Memorial Drive Wayside Haven Till Site #17
112 obs



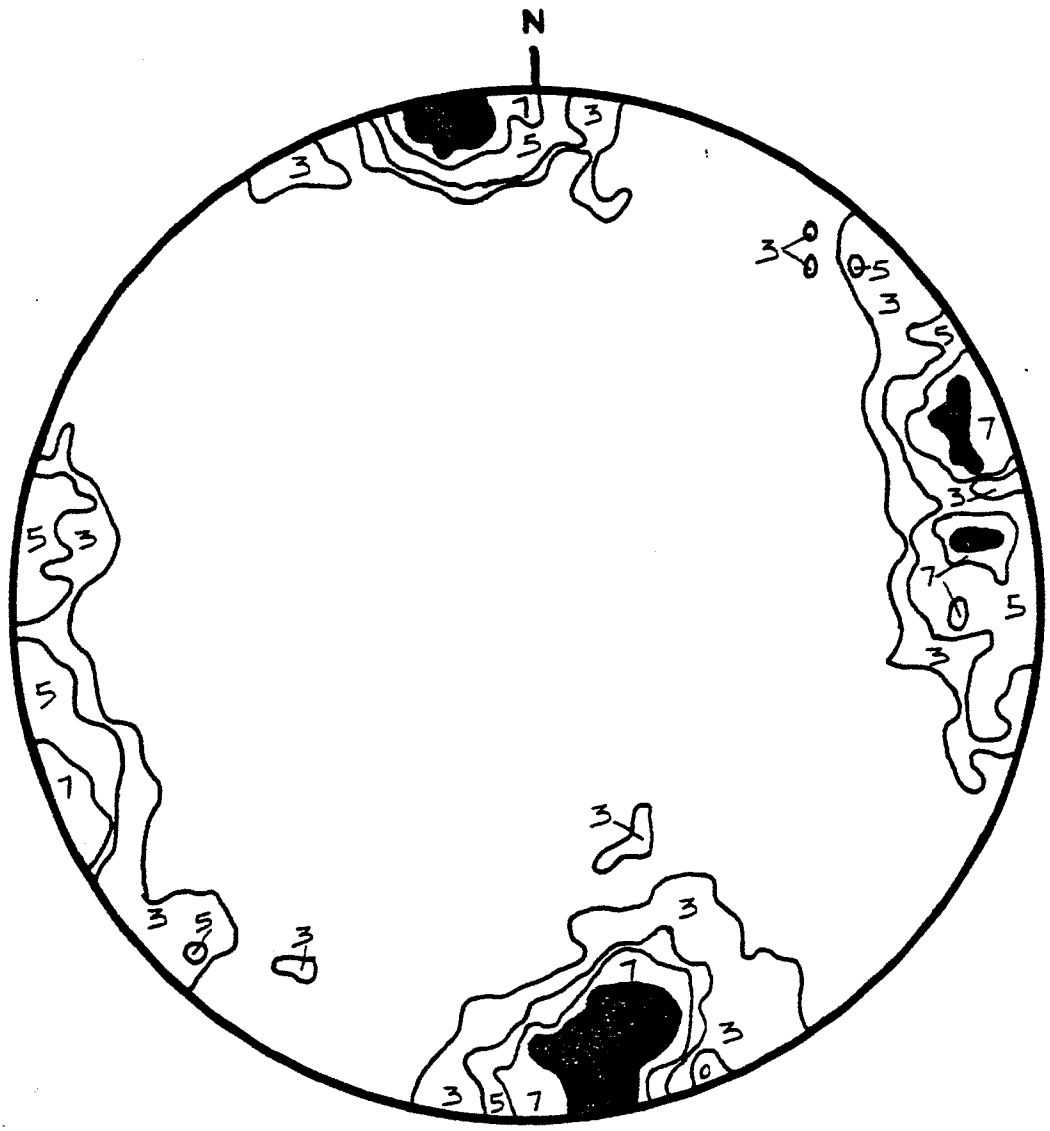
Fricke Quarry Valders Till Site #18 111 obs



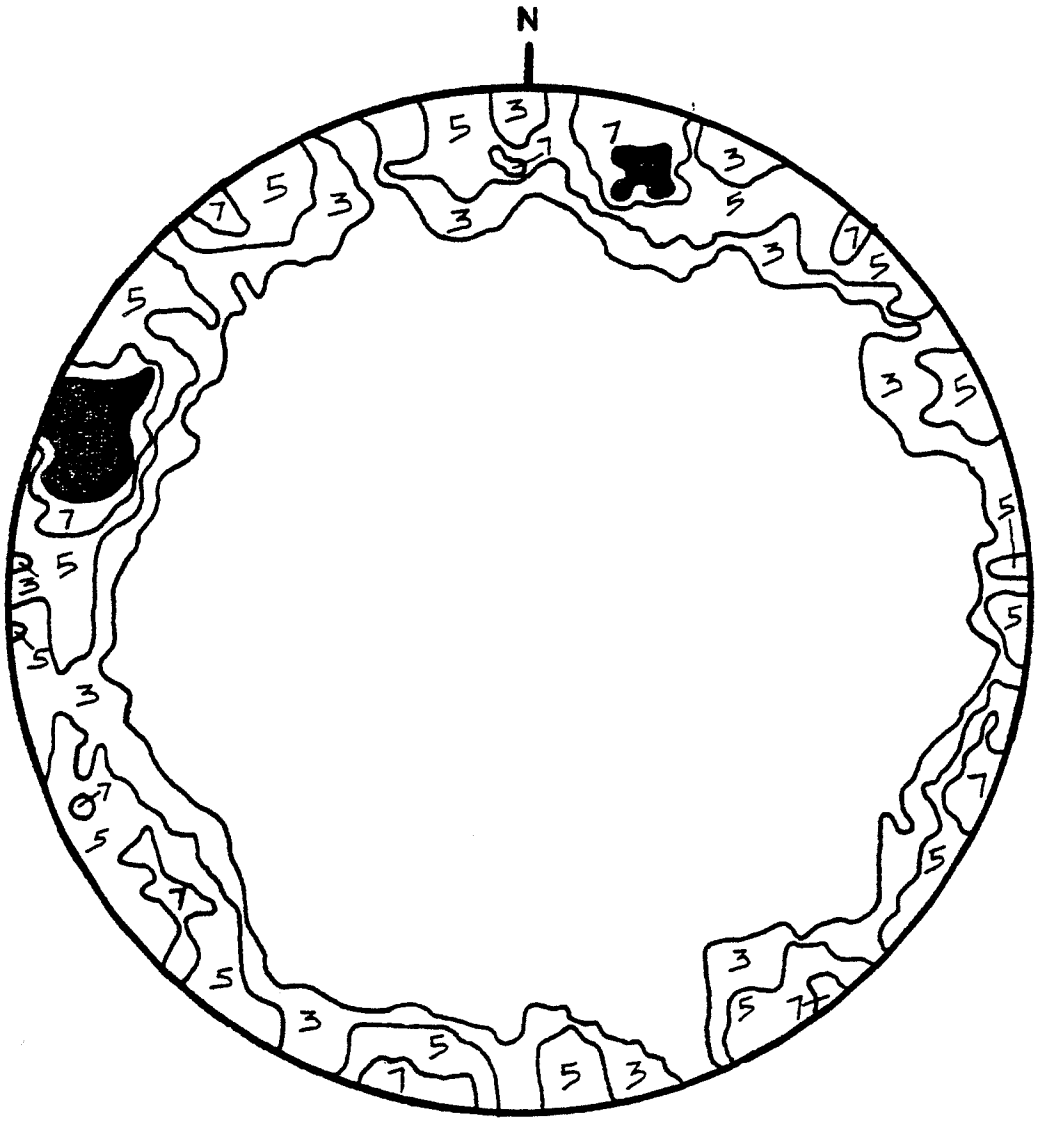
Haven Type Section Valders Till Site #19-1 112 obs



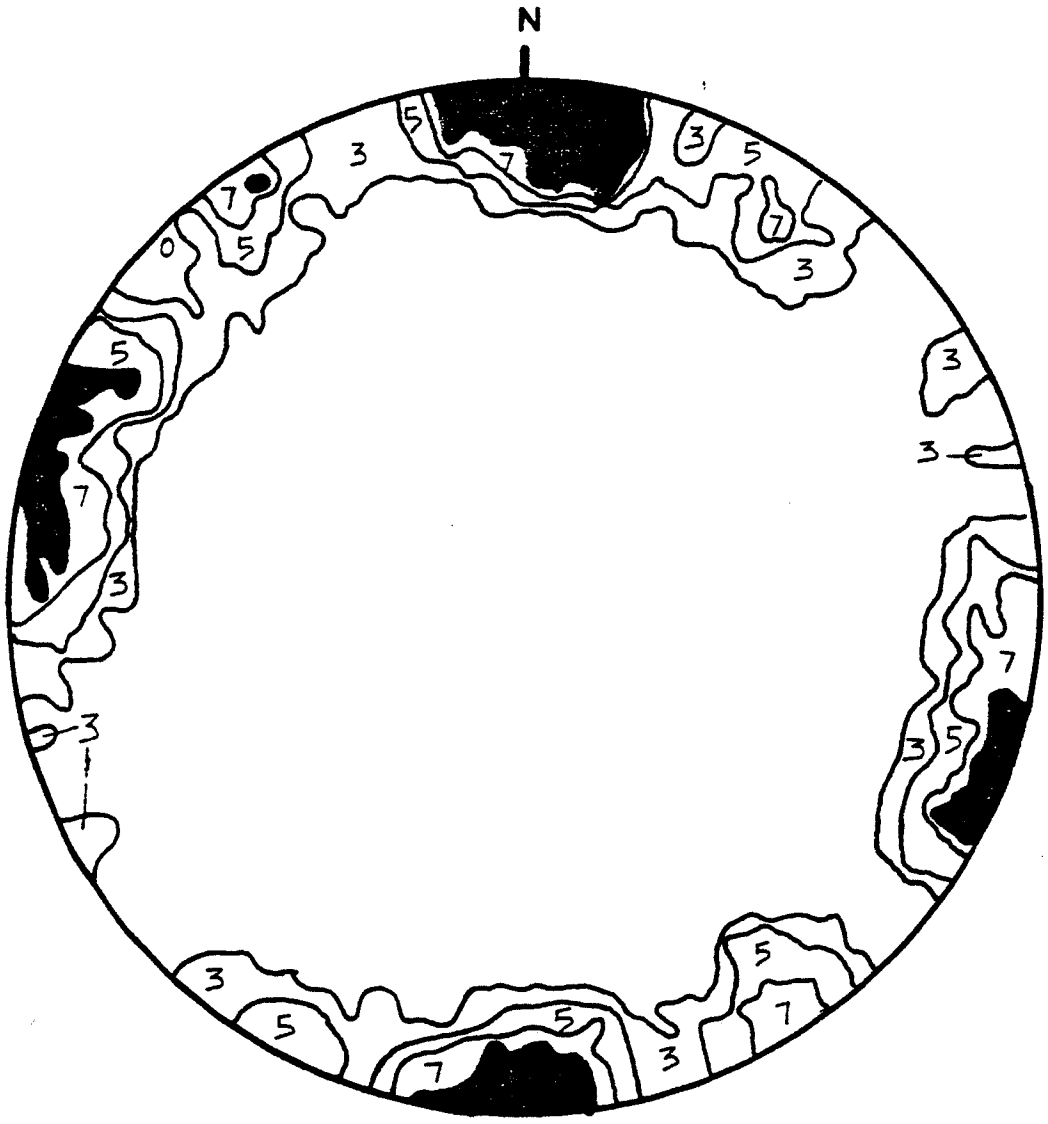
Haven Type Section Valders Till Site 19-2 112 obs



Haven Type Section Valders Till North Wall
Site 20-1 103 obs

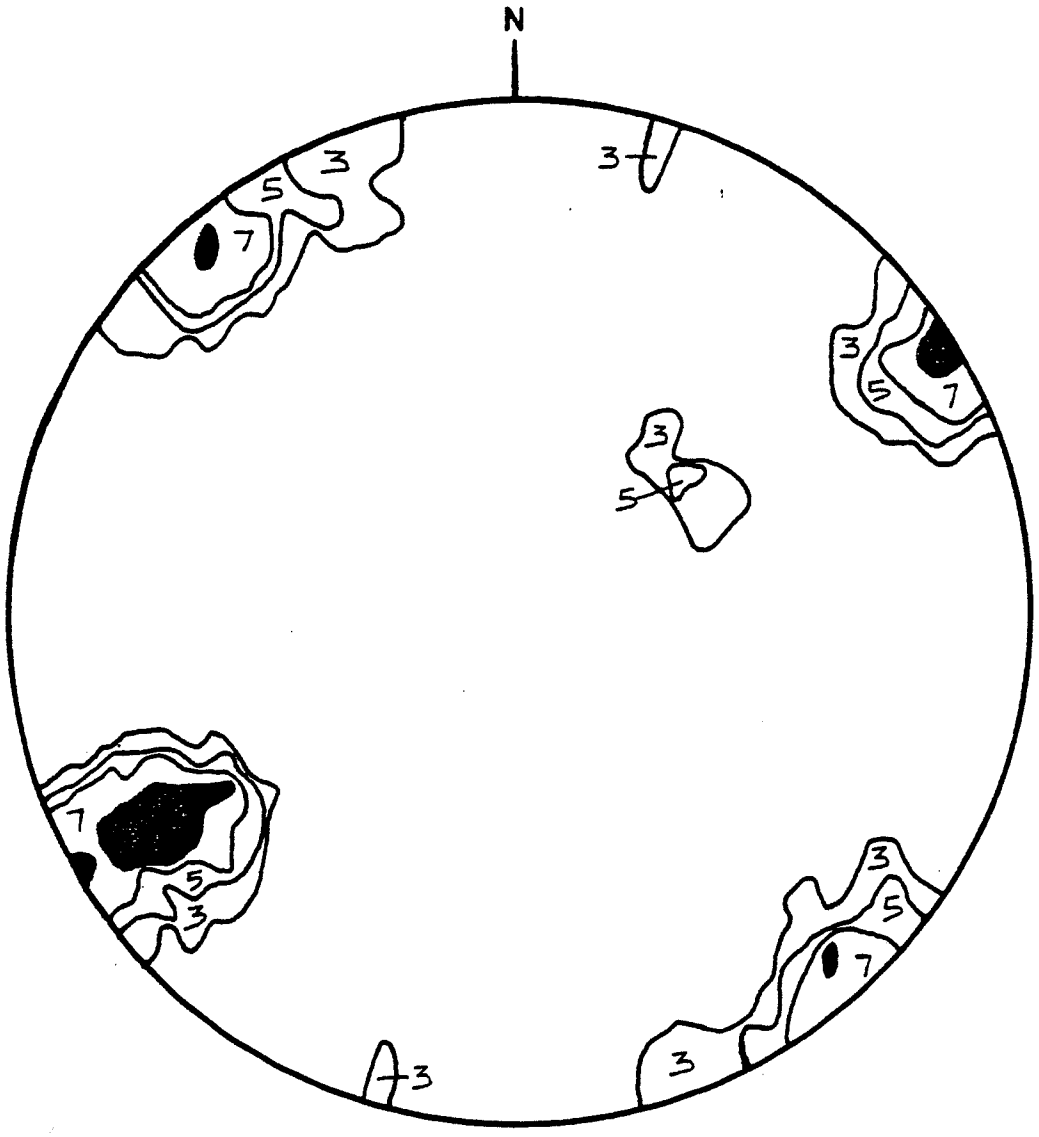


Haven Type Section Haven Till Site #20-2 119 obs

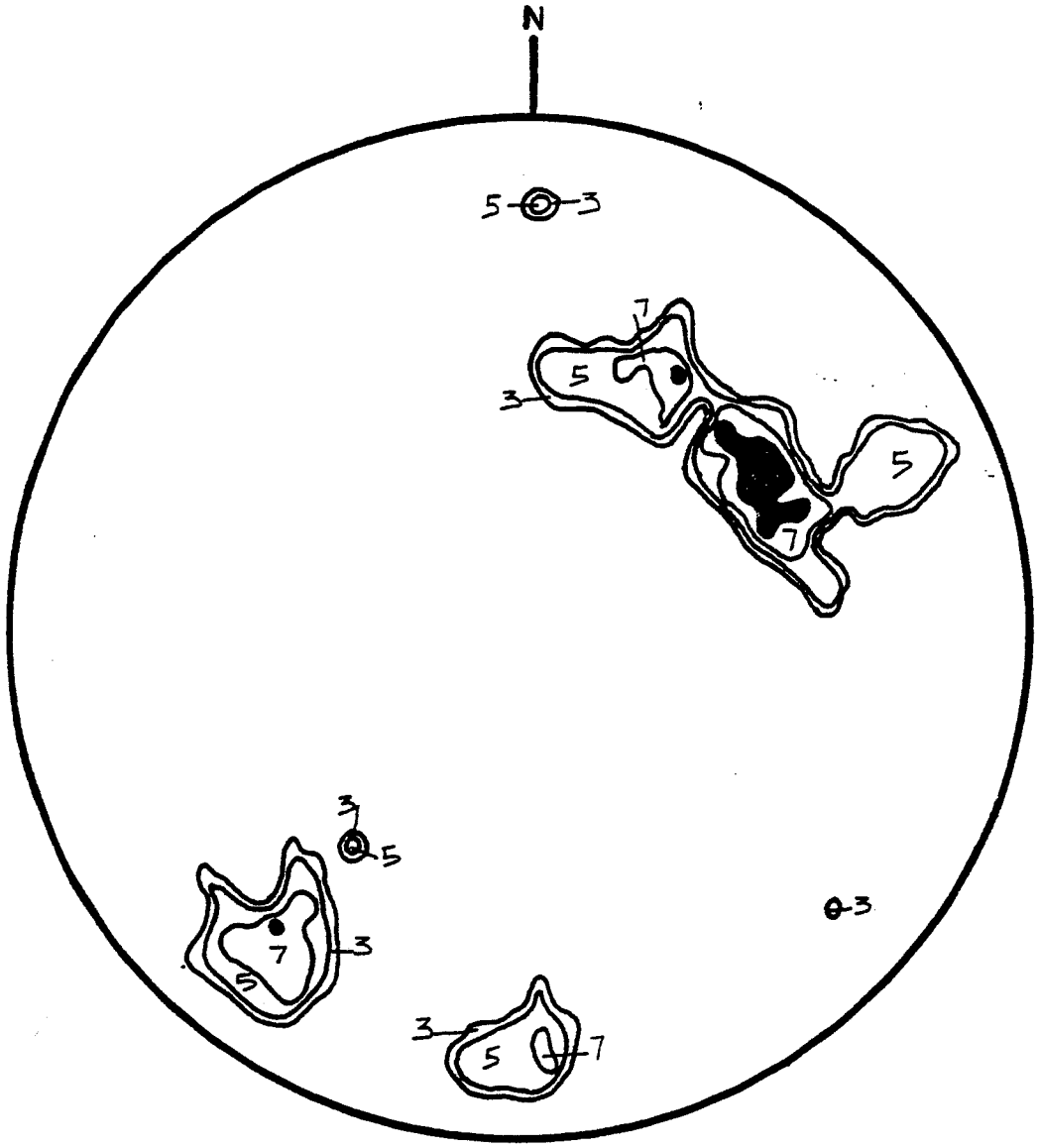


Haven Type Section Valders Till - West Wall

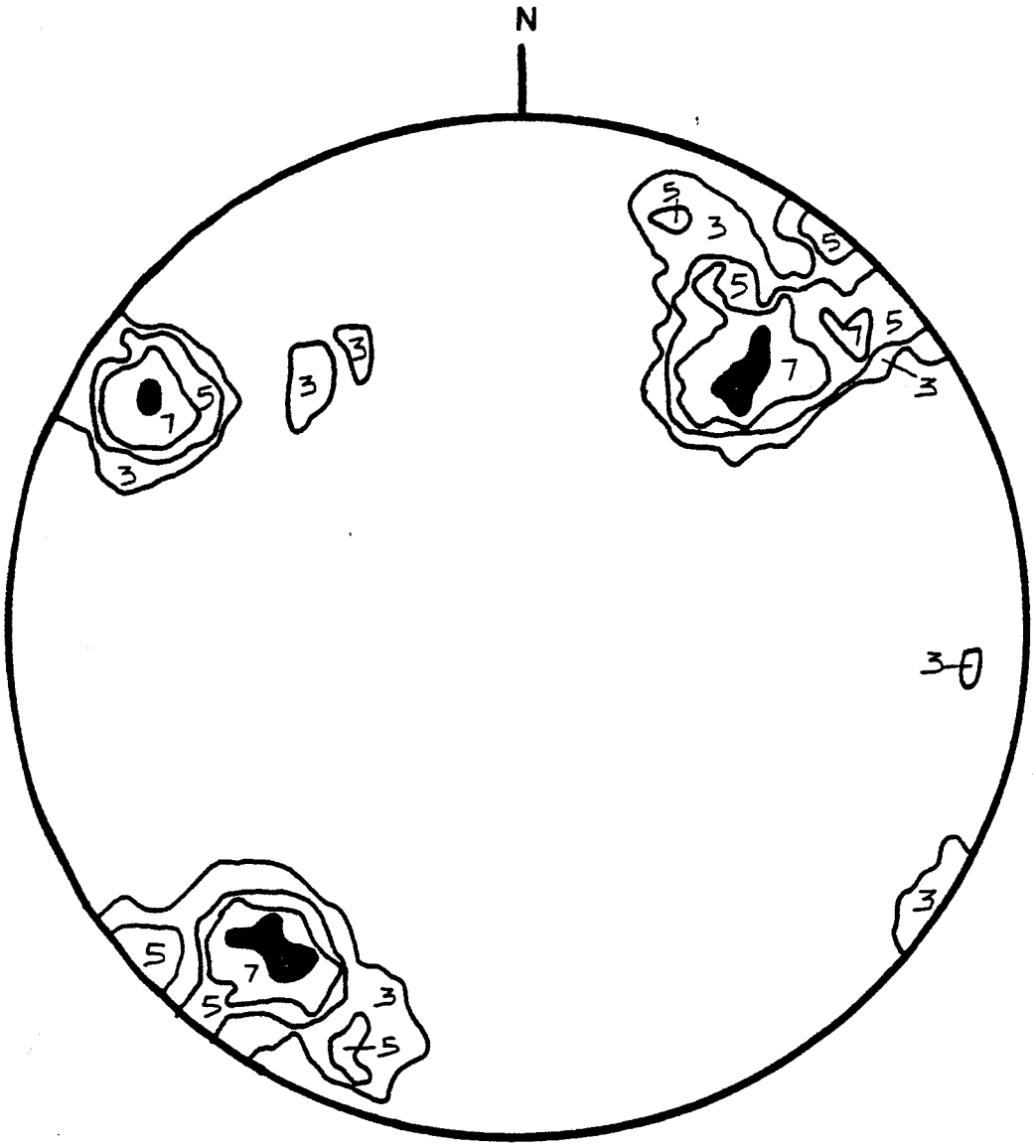
Site #20-3 104 obs



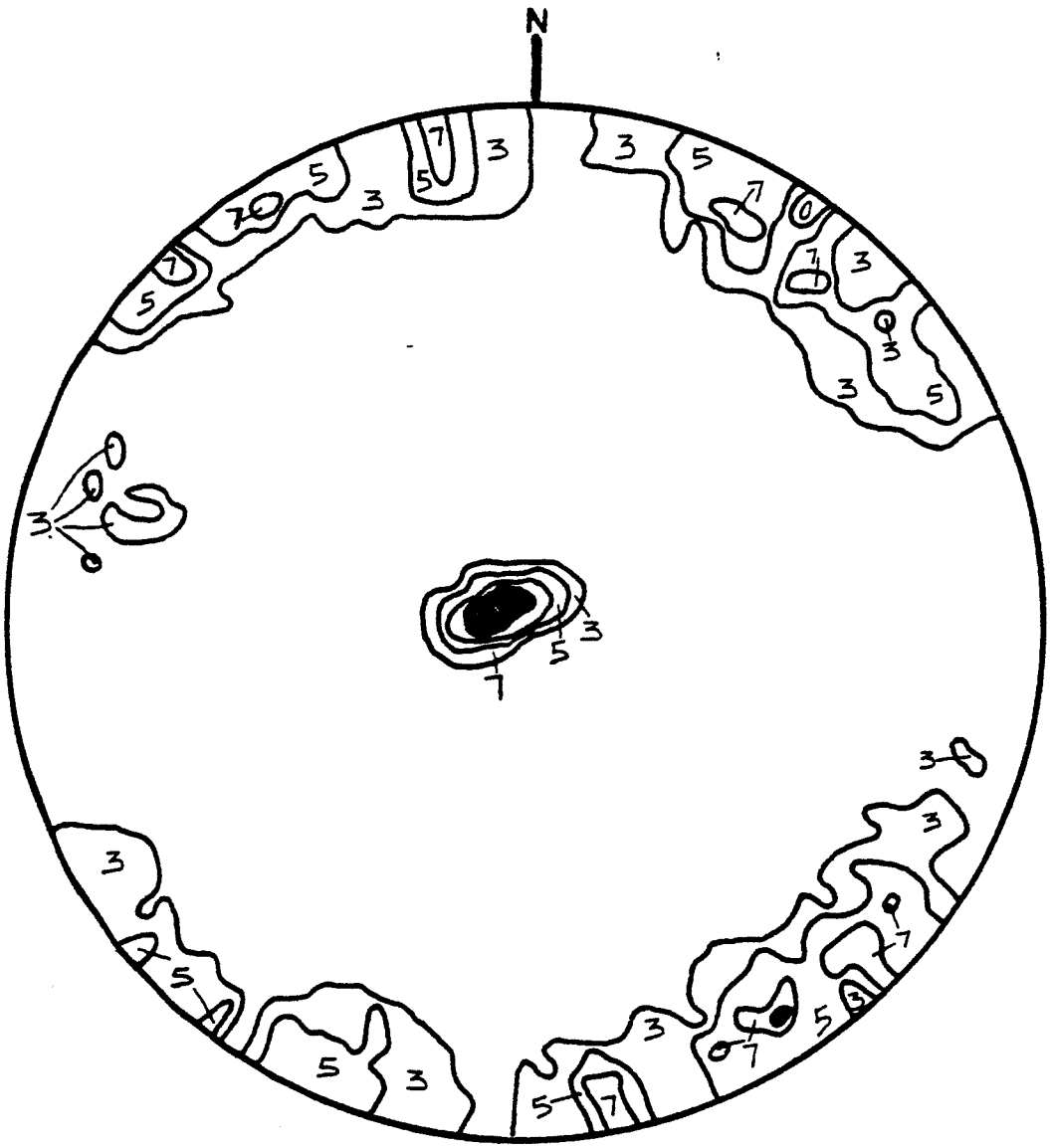
St. Francis New Berlin Till Site #24 112 obs



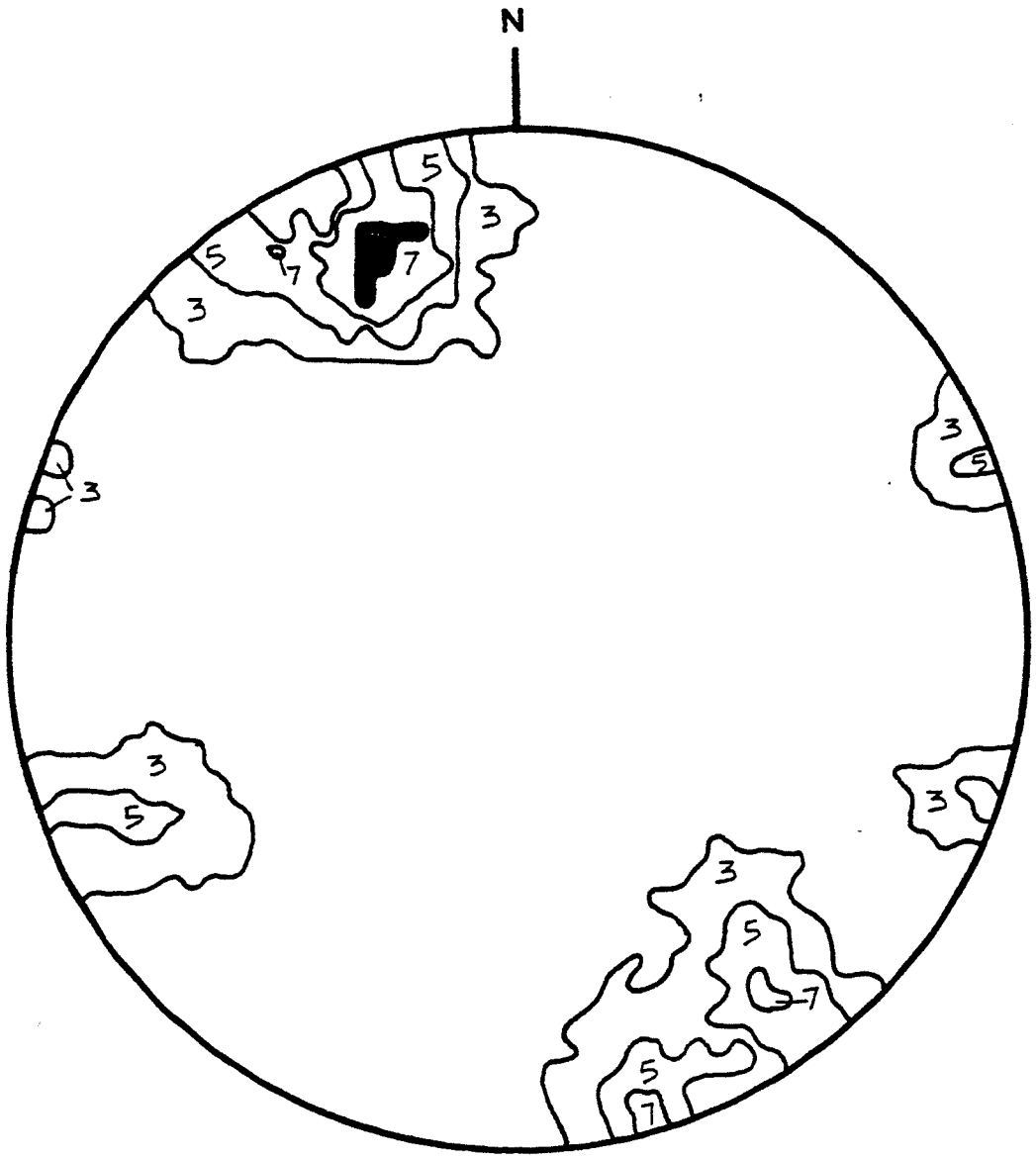
Pebble Fabric Camp Amnicon Douglas Till
Site # 31 36 obs



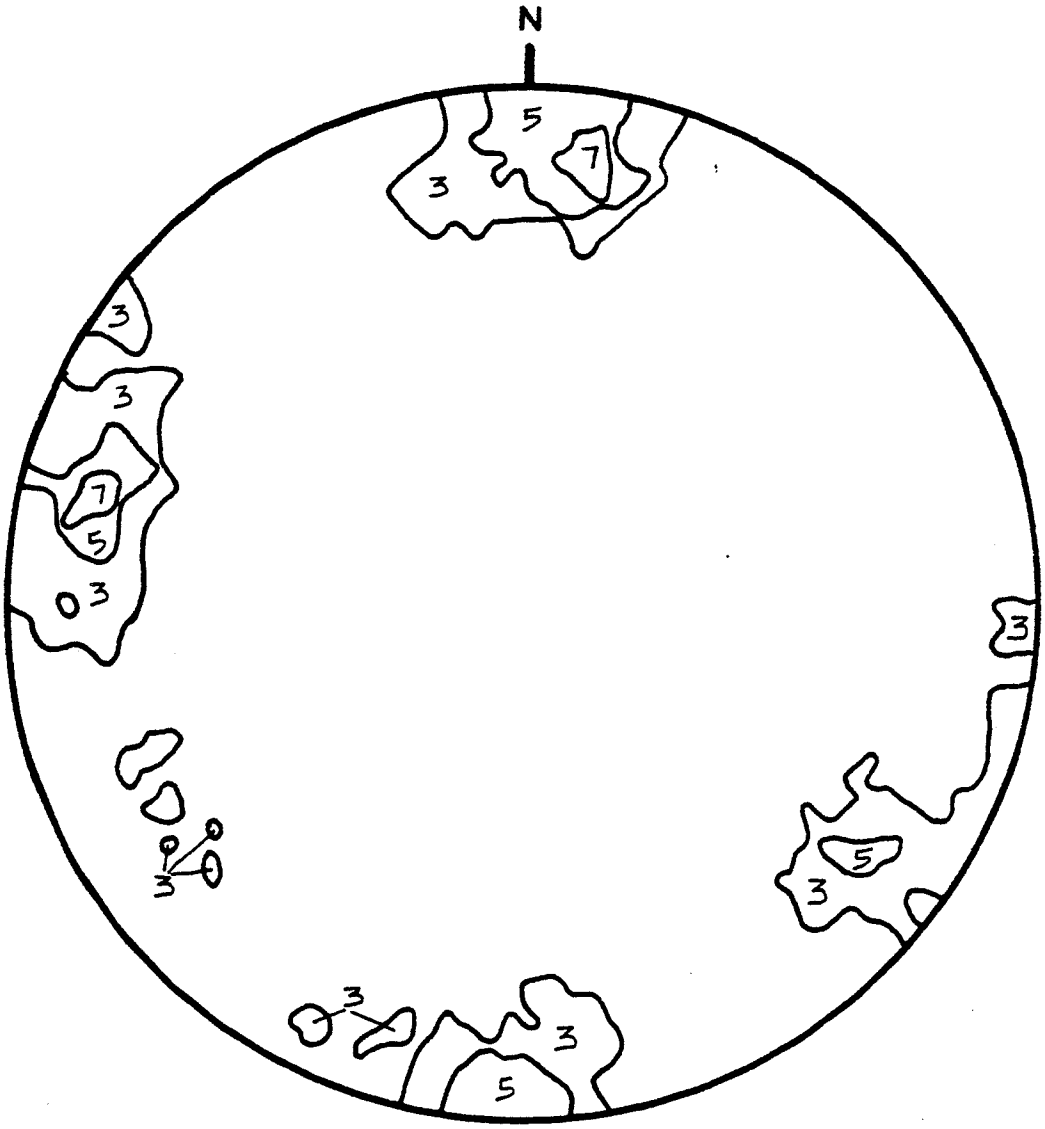
Port Washington Ozaukee Till Site #21 112 obs



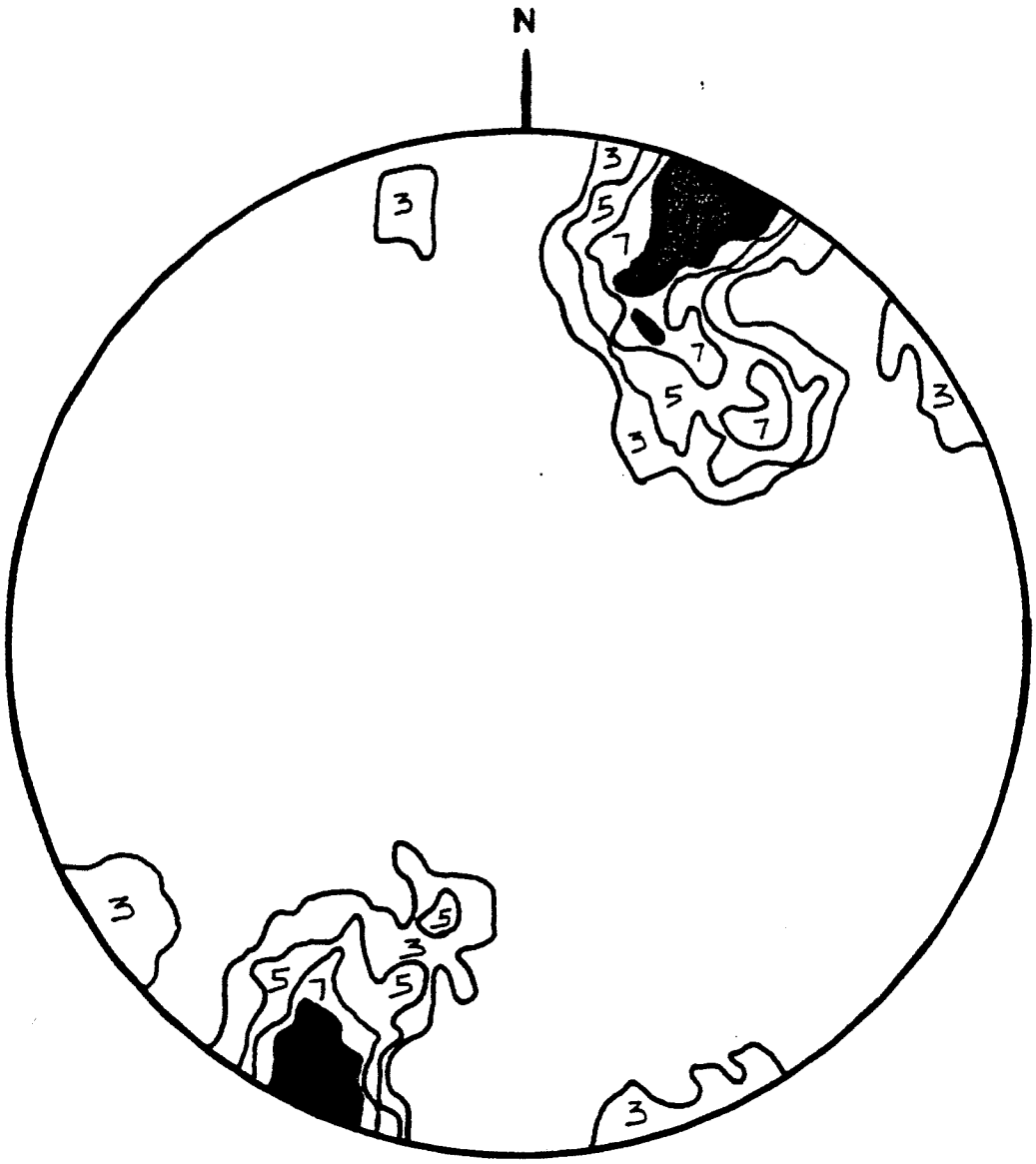
Notre Dame Ozaukee Till Site #22 111 obs



St. Francis Oak Creek Till (2A) Sites #23 and #24
224 obs

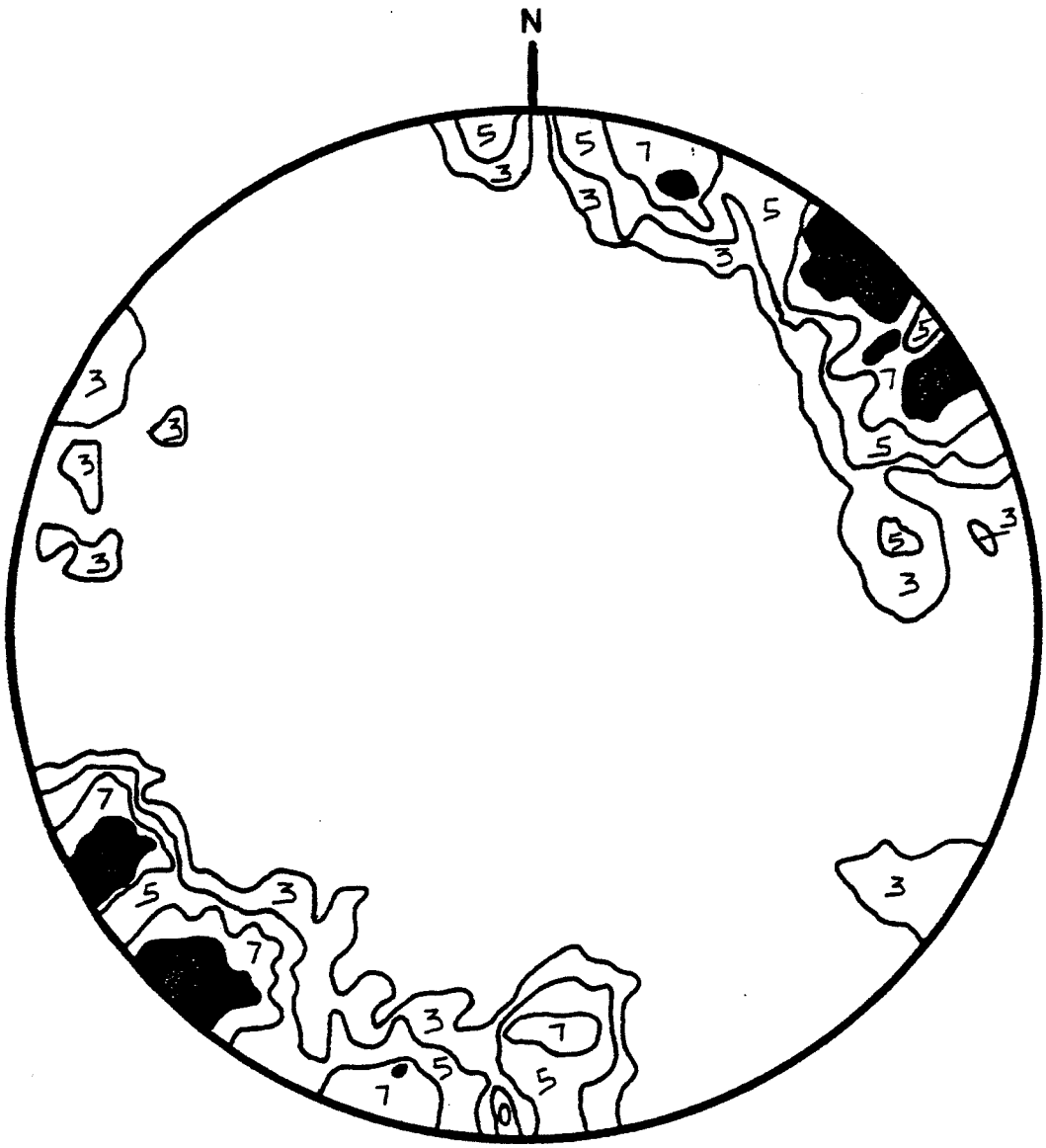


St. Francis Oak Creek Till (2B) Site #26 114 obs

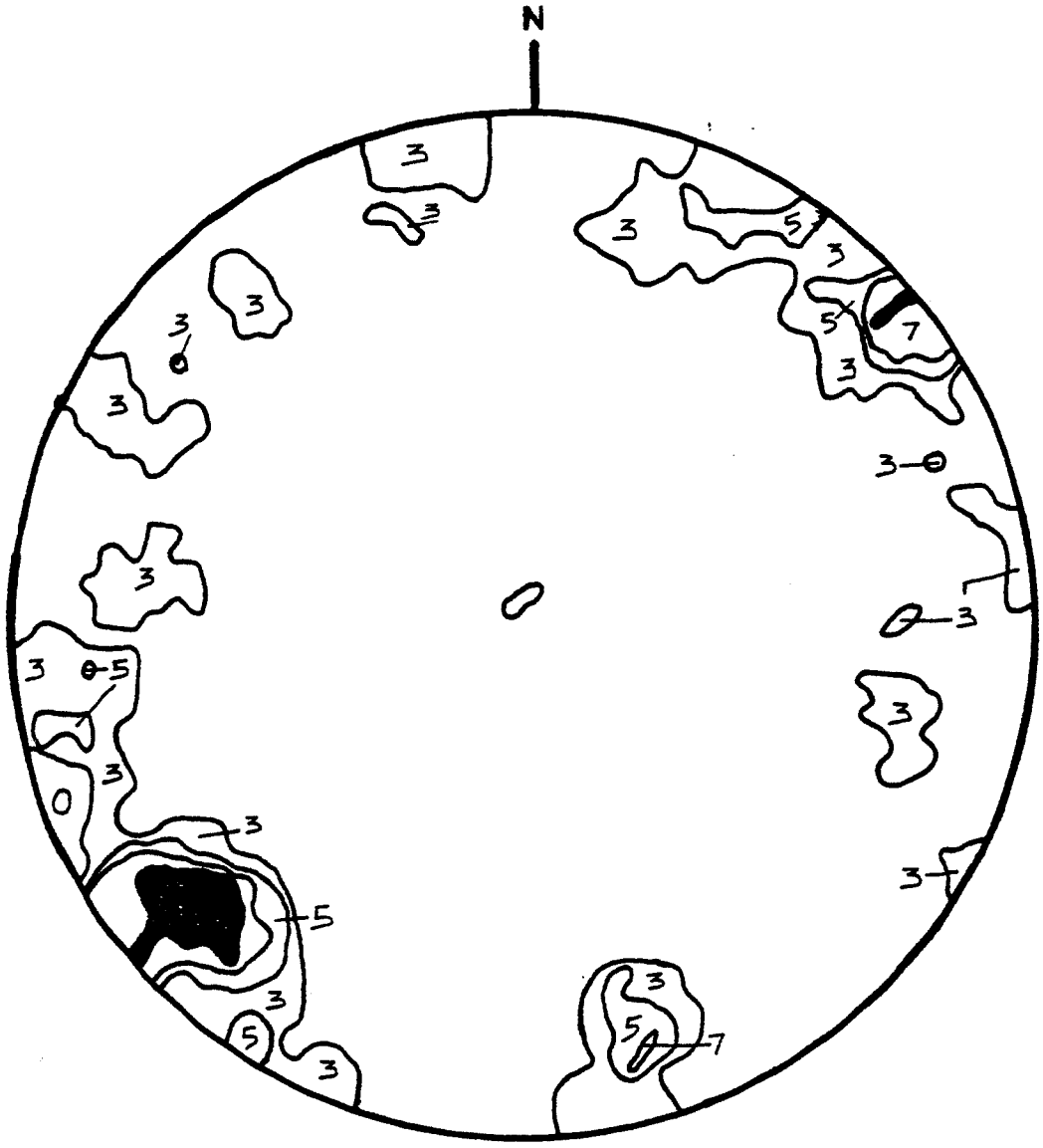


St. Francis Oak Creek Till (2C) Site #27

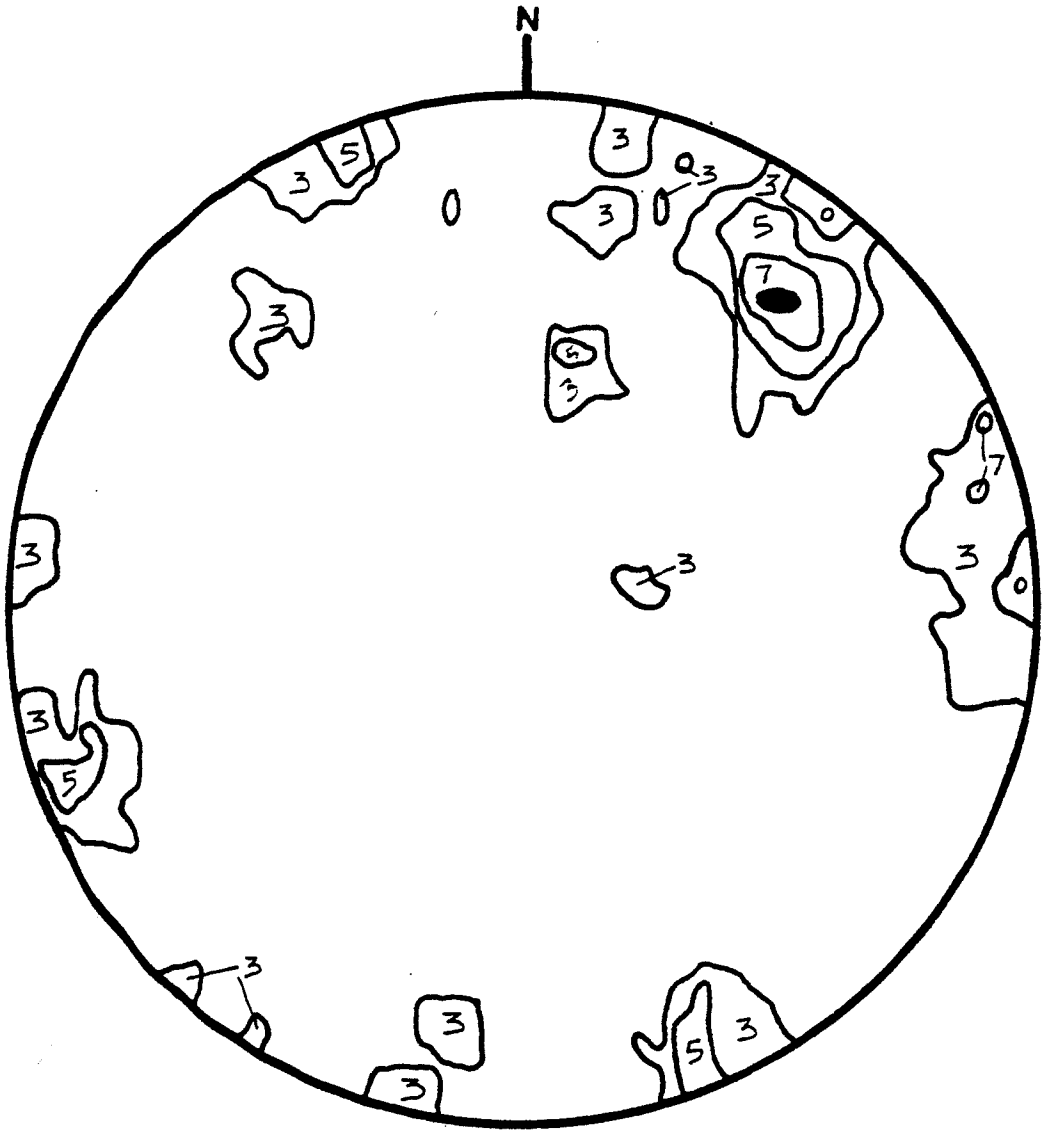
110 obs



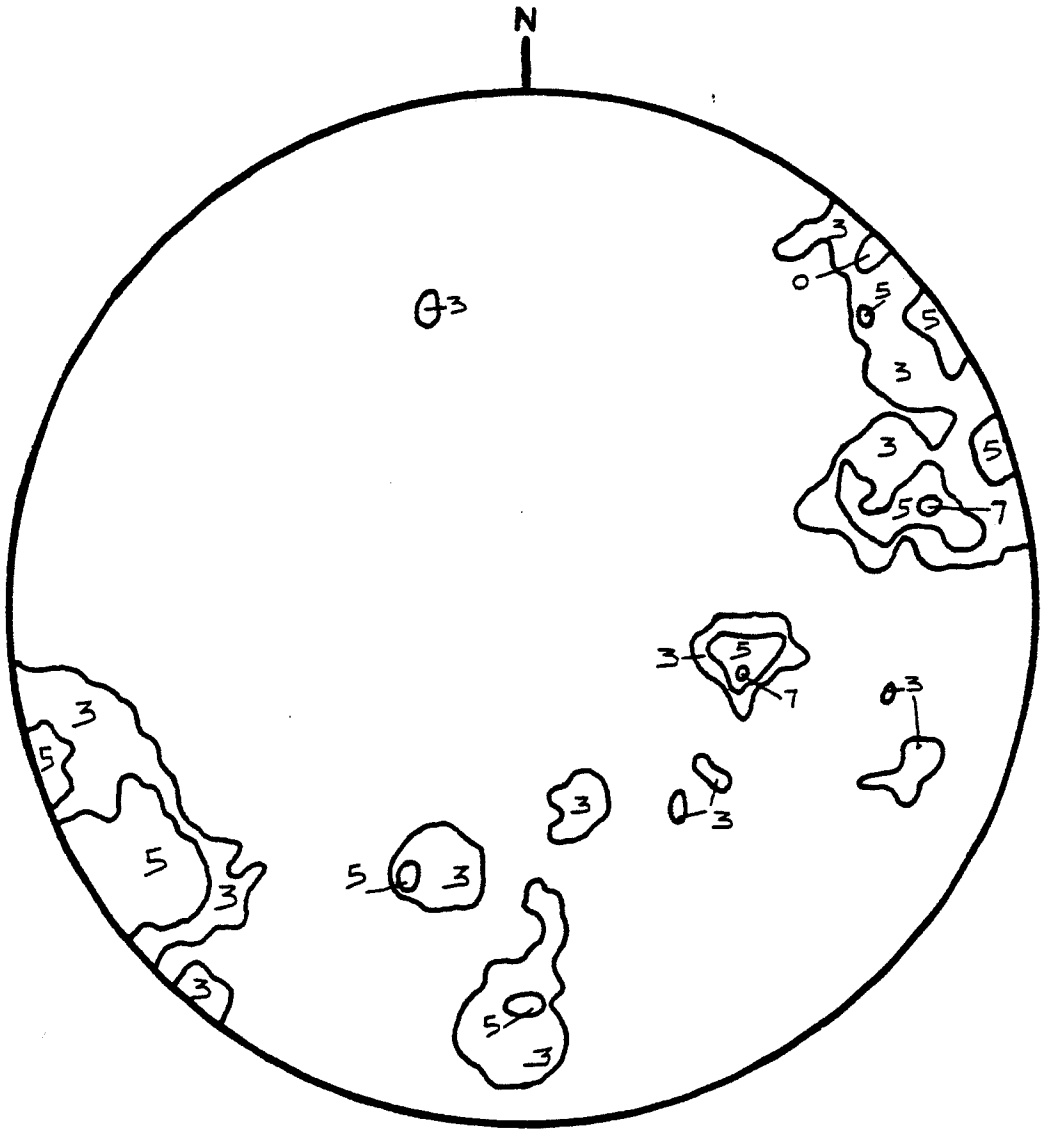
St. Francis Post Oak Creek (2A)
Lacustrine Rhythymites Site #28
111 obs



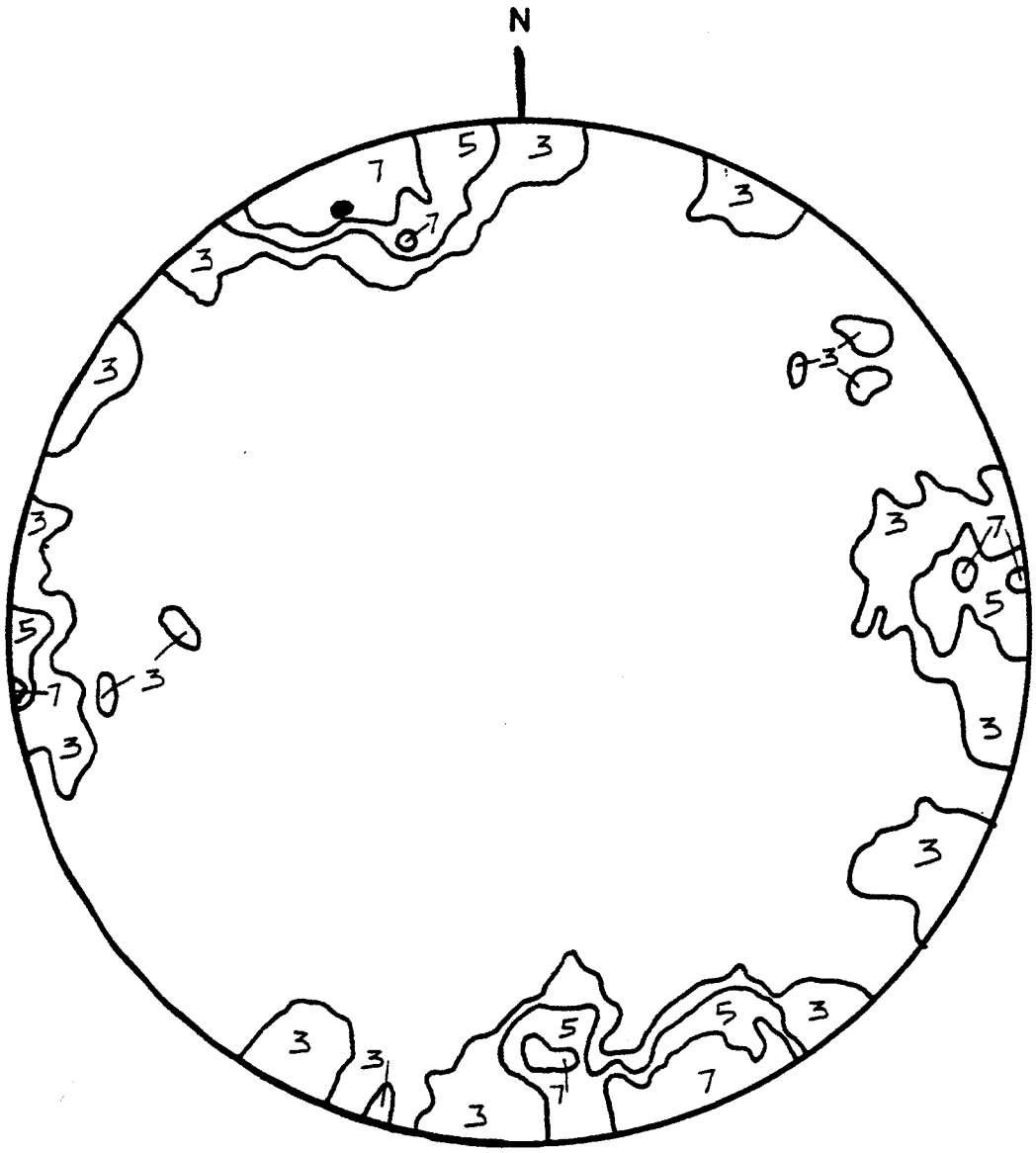
Bender Park Oak Creek Till (2B) Site #29 113 obs



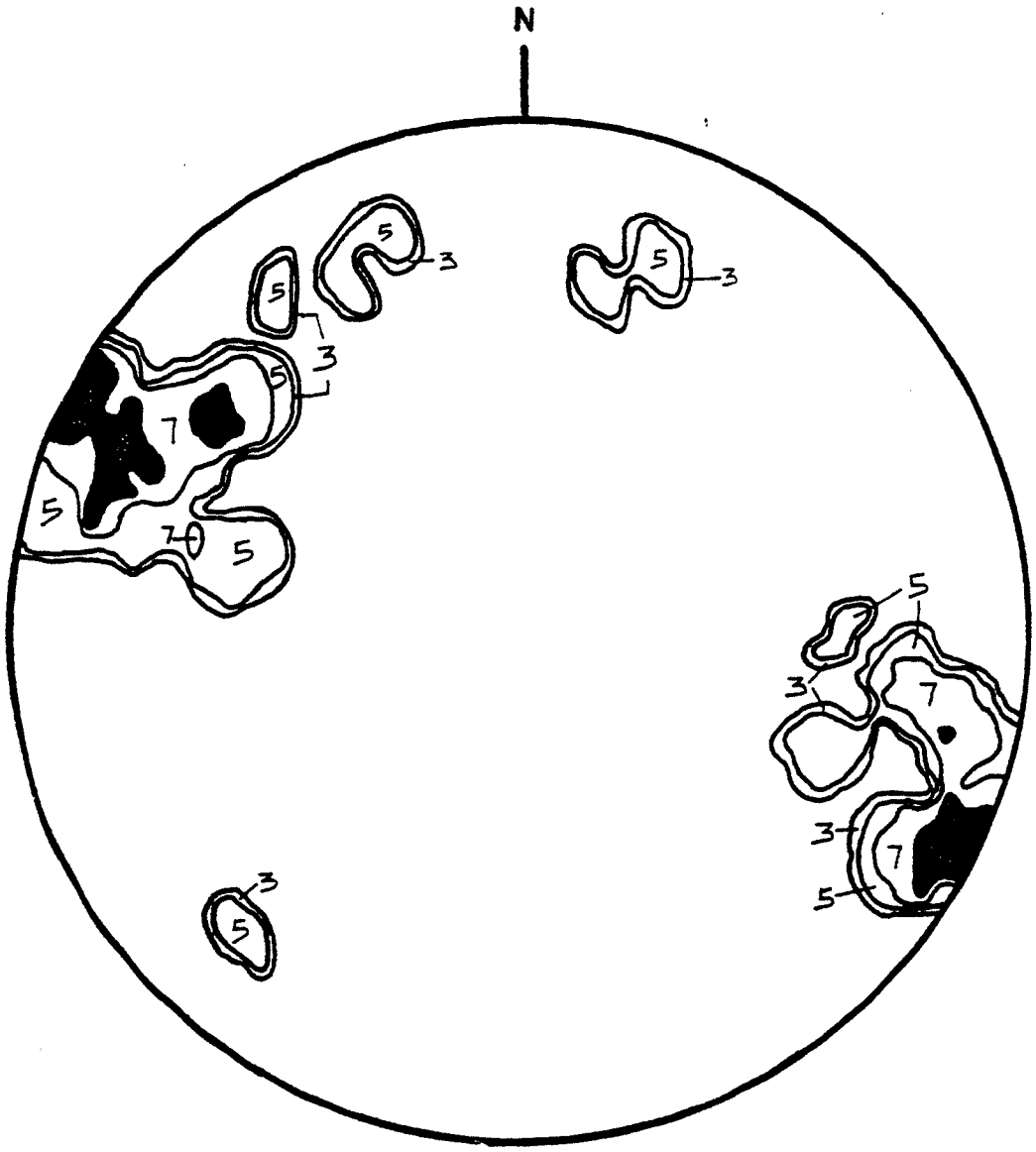
Camp Annicon Douglas Till (Type Section)
Site #31 114 obs



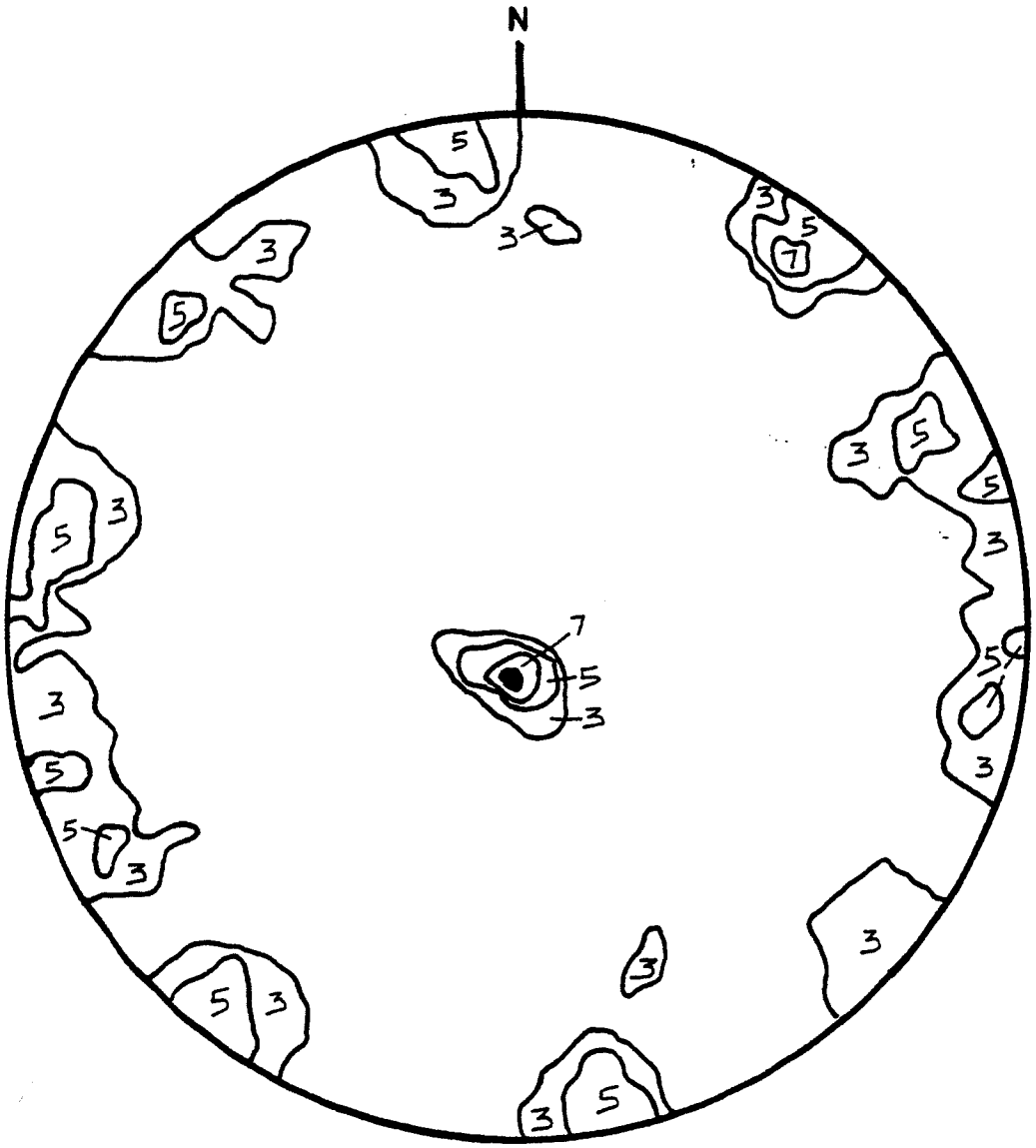
Corps Site Douglas Till Site #32 116 obs



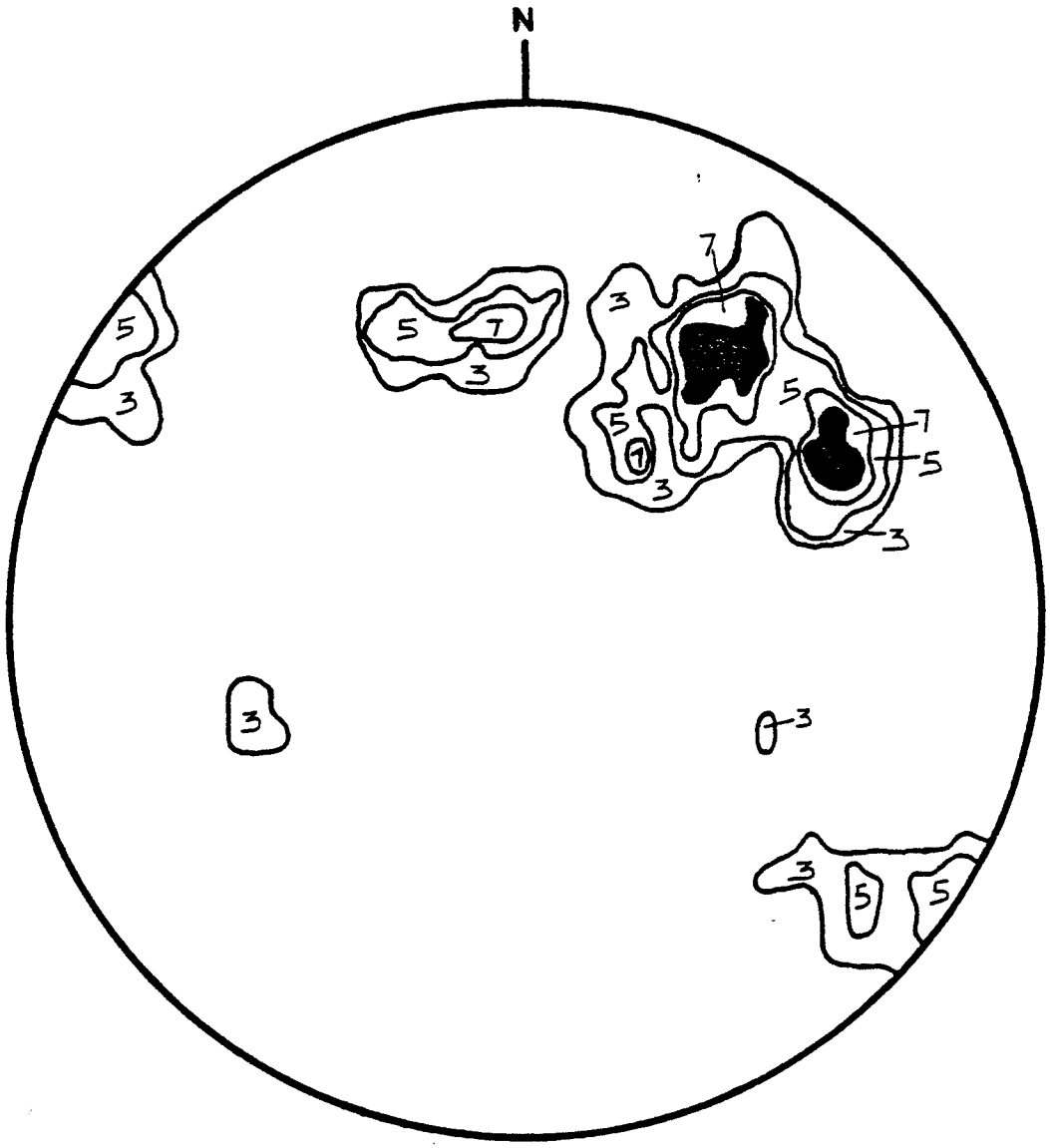
Pearson Creek Douglas Till Site #33
112 obs



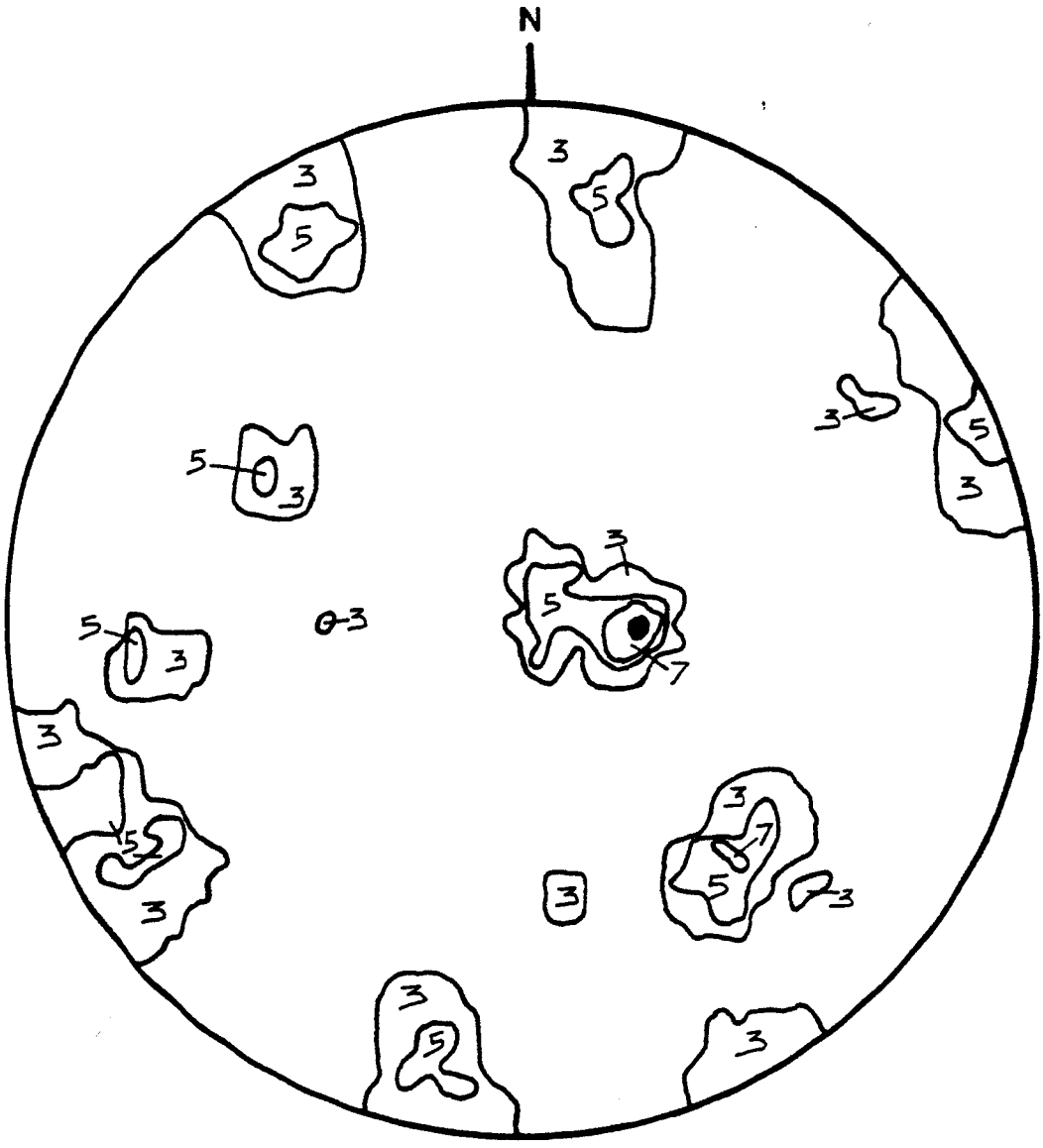
Pebble Fabric Pearson Creek Douglas Till Site #33
36 obs



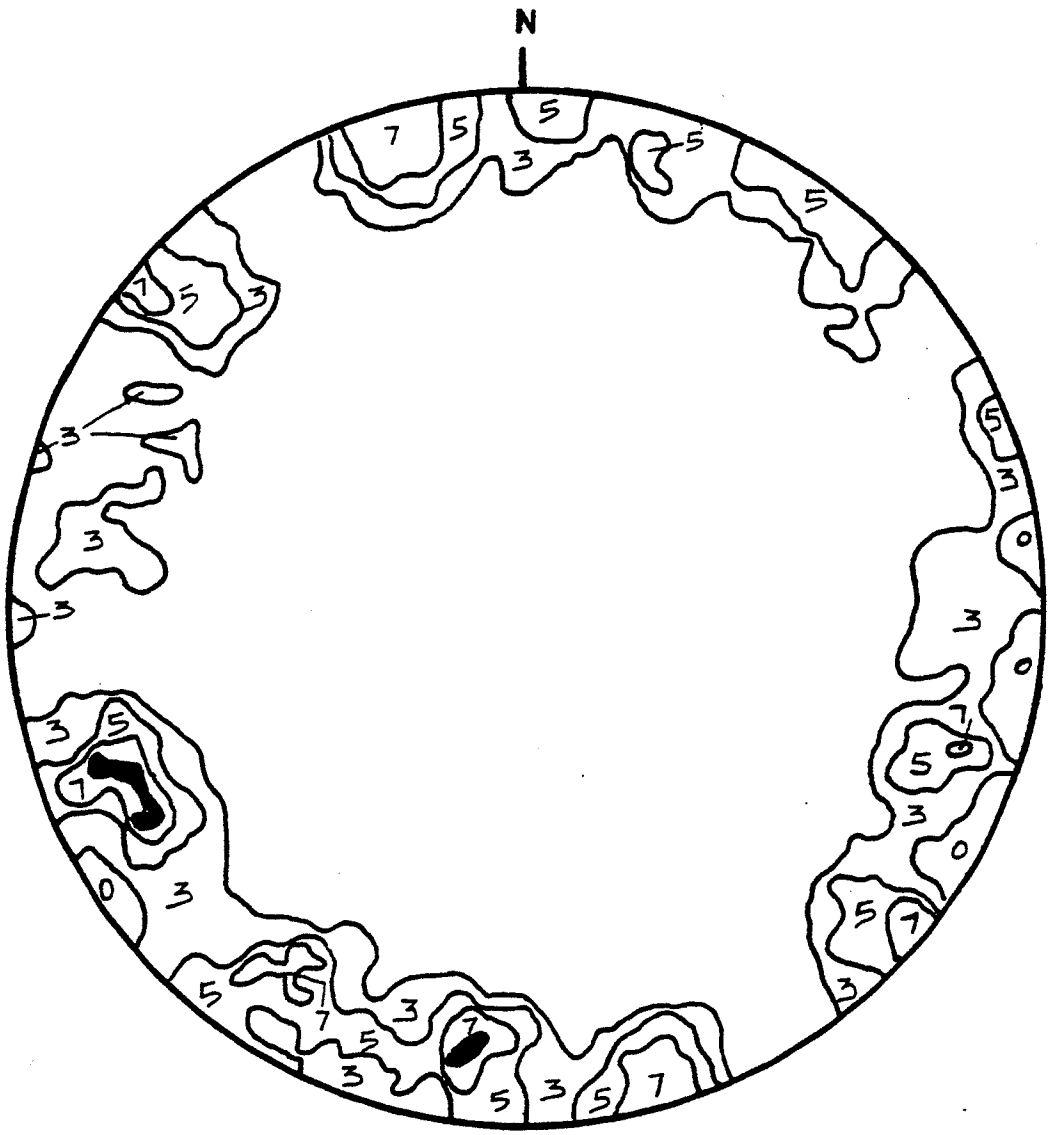
Amnicon River Hanson Creek Till Site #34 104 obs



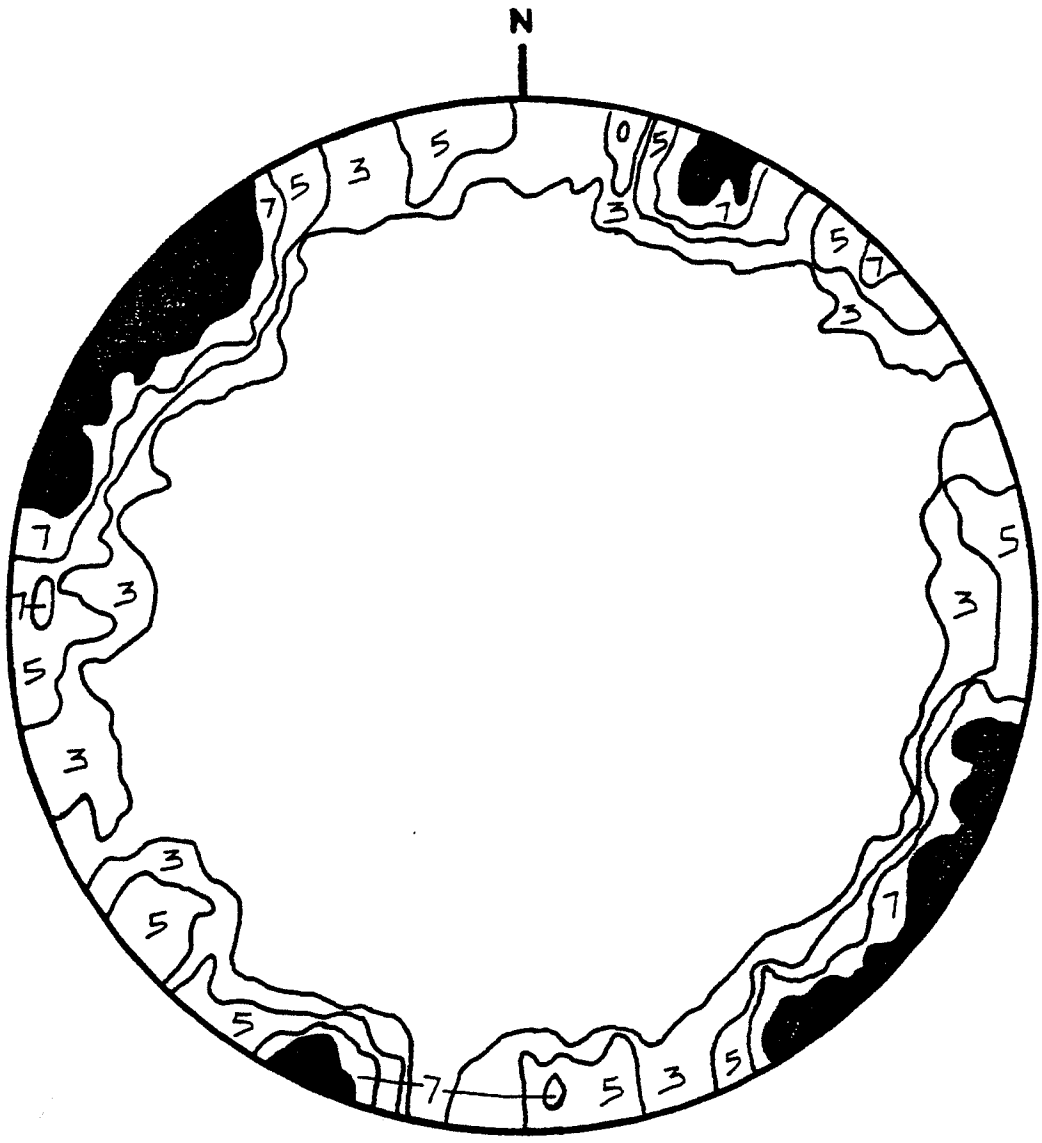
Pebble Fabric Amnicon River Hanson Creek Till
Site #34 50 obs



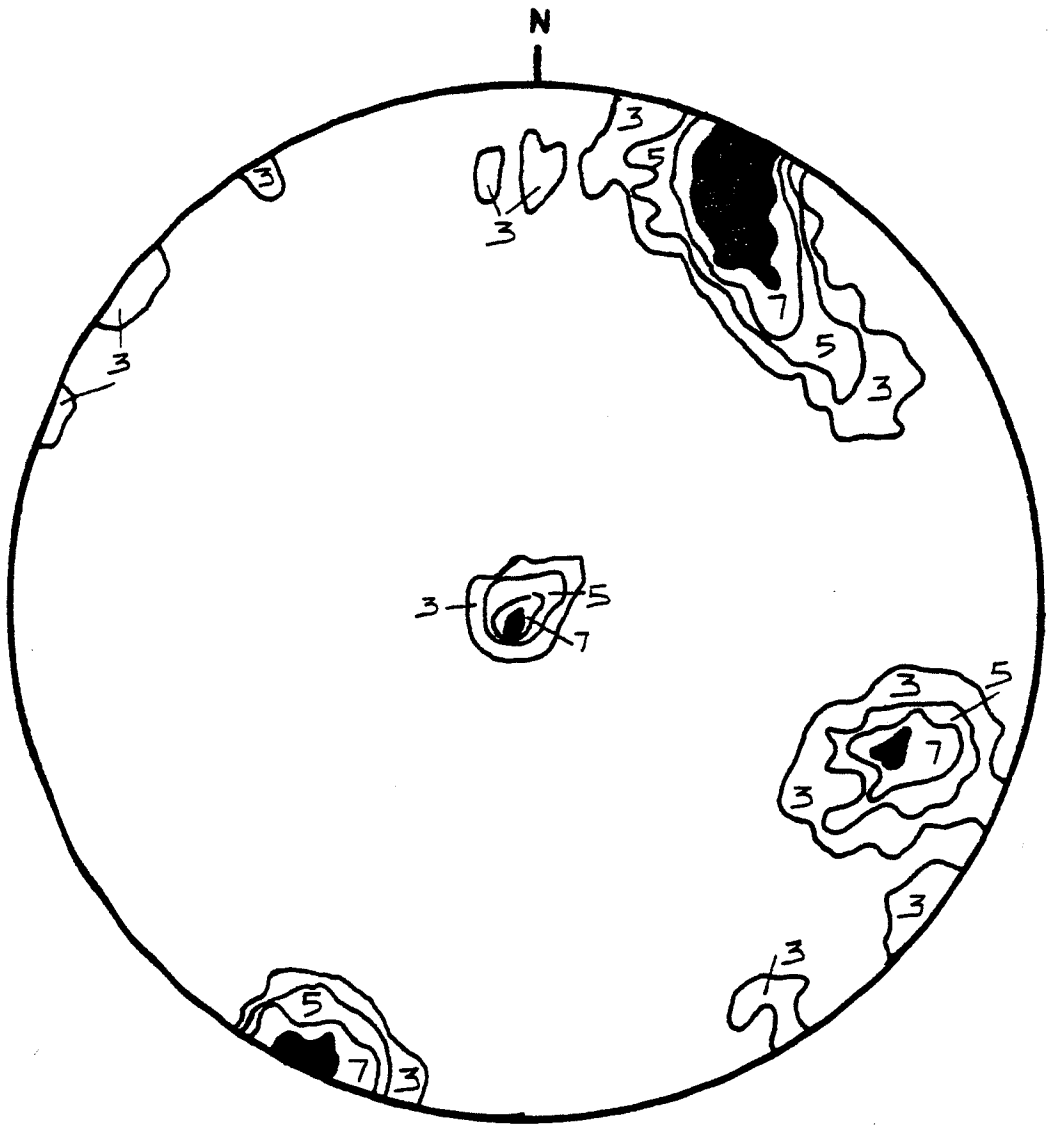
OSP-2 Hanson Creek Till Site #35 93 obs



Outagamie Landfill Lacustrine Sediment Site #36-1
104 obs



Outagamie Landfill Middle Inlet Till Site 36-2
95 obs



Koenen Farm Middle Inlet Till Site #37 104 obs

Appendix 6: Joint statistics and average till characteristics for each site.

Entry	Comments
File #	identification of joint data set
Site #	site identifier
Location	site location
Material	stratigraphic unit
# of Clusters	# of joint sets
# of Observations	# of joint measurements
Exposure Orientation	
trend	dip direction of exposure orientation
plunge	dip of exposure
height	exposure height
width	exposure width
Flow	direction of ice flow
Thickness	thickness of till unit
Depth	depth to top of joint measurements
% gravel	mean gravel content (>2mm)
% sand	mean sand content (>0.0625mm)
% silt	mean silt content (>0.002mm)
% clay	mean clay content (<0.002mm)

Mean Spacing	trimean joint spacing of all joints in the exposure
Max Length	maximum apparent joint length at the exposure
Poisson Cutoff	equal to (1-Confidence Level)
Cluster Number	joint set identification
Joint length	mean joint length of that set (from apparent joint length data)
Joint Spacing	mean joint spacing of that set
# of points	# of points included in the set
trend	trend of pole to mean joint set orientation
plunge	plunge of pole to mean joint set orientation
K	Arnold's K statistic, a measure of the dispersion around the mean orientation. Larger values are clustered more tightly around the mean direction. Included only for sets identified with PATCH.
A	radius of the cone of 95% confidence around mean joint orientation. There is a 95% probabilty that the mean joint orientation lies within A degrees of the orientation given. Included only for sets identified using PATCH.
Arnolds Distribution	1 if joint set has an Arnold distribution. 0 if joint set does not have an Arnold distribution. -1 if dispersion (K) was less than 6; distribution was not tested blank if estimated from POINT
Angle to Ice Flow	angle in degrees between joint azimuth and ice flow direction
Angle to Exposure	angle in degrees between joint azimuth and exposure orientation.

File #	Site #	location	material	# of clusters	# of observations
1	1	MIDDLETON	DOLOMITE	2	41
1	1	MIDDLETON	DOLOMITE	2	41
2	11	TWO RIVERS	LAC SILT	2	48
2	11	TWO RIVERS	LAC SILT	2	48
2	11	TWO RIVERS	LAC SILT	2	48
2	11	TWO RIVERS	LAC SILT	2	48
3	15	VALDERS	VALDERS TILL	2	226
3	15	VALDERS	VALDERS TILL	2	226
3	15	VALDERS	VALDERS TILL	2	226
5	22	NOTRE DAME	OZ TILL	4	111
5	22	NOTRE DAME	OZ TILL	4	111
5	22	NOTRE DAME	OZ TILL	4	111
5	22	NOTRE DAME	OZ TILL	4	111
5	22	NOTRE DAME	OZ TILL	4	111
6	9	HWY BB	OZ TILL	4	111
6	9	HWY BB	PRE TR LAC	3	110
6	9	HWY BB	PRE TR LAC	3	110
6	9	HWY BB	PRE TR LAC	3	110
6	9	HWY BB	PRE TR LAC	3	110
10	13	MANITOWOC	HAVEN TILL	3	96
10	13	MANITOWOC	HAVEN TILL	3	96
10	13	MANITOWOC	HAVEN TILL	3	96
10	13	MANITOWOC	HAVEN TILL	3	96
10	13	MANITOWOC	HAVEN TILL	3	96
10	13	MANITOWOC	HAVEN TILL	3	96
10	13	MANITOWOC	HAVEN TILL	3	96
11	19-1	HAVEN	VALDERS TILL	3	112
11	19-1	HAVEN	VALDERS TILL	3	112
11	19-1	HAVEN	VALDERS TILL	3	112
11	19-1	HAVEN	VALDERS TILL	3	112
11	19-1	HAVEN	VALDERS TILL	3	112
11	19-1	HAVEN	VALDERS TILL	3	112
11	19-1	HAVEN	VALDERS TILL	3	112
12	18	FRICKE	VALDERS TILL	4	111
12	18	FRICKE	VALDERS TILL	4	111
12	18	FRICKE	VALDERS TILL	4	111
12	18	FRICKE	VALDERS TILL	4	111
13	2	DOOR	DOLOMITE	2	130
13	2	DOOR	DOLOMITE	2	130
13	2	DOOR	DOLOMITE	2	130
14	3	DOOR	GLENMORE TIL	5	130

File #	Site #	location	material	# of clusters	# of observations
14	3	DOOR	GLENMORE TIL	5	130
14	3	DOOR	GLENMORE TIL	5	125
14	3	DOOR	GLENMORE TIL	5	125
14	3	DOOR	GLENMORE TIL	5	125
14	3	DOOR	GLENMORE TIL	5	125
16	5	SANDY BAY	HAVEN TILL	3	108
16	5	SANDY BAY	HAVEN TILL	3	108
16	5	SANDY BAY	HAVEN TILL	3	108
16	5	SANDY BAY	HAVEN TILL	3	108
16	5	SANDY BAY	HAVEN TILL	3	108
18	14	VALDERS	DOLOMITE	3	93
18	14	VALDERS	DOLOMITE	3	93
18	14	VALDERS	DOLOMITE	3	93
18	14	VALDERS	DOLOMITE	3	93
18	14	VALDERS	DOLOMITE	3	93
18	14	VALDERS	DOLOMITE	3	93
18	14	VALDERS	DOLOMITE	3	93
20	10	TWO CREEKS	PRE-TR LAC	3	112
20	10	TWO CREEKS	PRE-TR LAC	3	112
20	10	TWO CREEKS	PRE-TR LAC	3	112
20	10	TWO CREEKS	PRE-TR LAC	3	112
21	17	MEMORIAL	HAVEN TILL	3	112
21	17	MEMORIAL	HAVEN TILL	3	112
21	17	MEMORIAL	HAVEN TILL	3	112
21	17	MEMORIAL	HAVEN TILL	3	112
21	17	MEMORIAL	HAVEN TILL	3	112
21	17	MEMORIAL	HAVEN TILL	3	112
22	21	PORT WASH	OZ TILL	2	112
22	21	PORT WASH	OZ TILL	2	112
22	21	PORT WASH	OZ TILL	2	112
22	21	PORT WASH	OZ TILL	2	112
22	21	PORT WASH	OZ TILL	2	112
22	21	PORT WASH	OZ TILL	2	112
22	21	PORT WASH	OZ TILL	2	112
22	21	PORT WASH	OZ TILL	2	112
22	21	PORT WASH	OZ TILL	2	112
23	16	SUB MANIT	HAVEN?	2	113
23	16	SUB MANIT	HAVEN?	2	113
23	16	SUB MANIT	HAVEN?	2	113
23	16	SUB MANIT	HAVEN?.	2	113
23	16	SUB MANIT	HAVEN?	2	113

File #	Site #	location	material	# of clusters	# of observations
24	19.2	HAVEN	VALDERS TILL	4	112
24	19.2	HAVEN	VALDERS TILL	4	112
24	19.2	HAVEN	VALDERS TILL	4	112
24	19.2	HAVEN	VALDERS TILL	4	112
26	24	ST FRAN	NEW BERLIN	3	112
26	24	ST FRAN	NEW BERLIN	3	112
26	24	ST FRAN	NEW BERLIN	3	112
28	26	ST FRAN	2B	3	112
28	26	ST FRAN	2B	3	112
28	26	ST FRAN	2B	3	112
28	26	ST FRAN	2B	3	112
28	26	ST FRAN	2B	3	112
28	26	ST FRAN	2B	3	112
29	27	ST FRAN	2C	1	110
29	27	ST FRAN	2C	1	110
29	27	ST FRAN	2C	1	110
30	28	ST FRAN	PRE-2B LAC	4	111
30	28	ST FRAN	PRE-2B LAC	4	111
30	28	ST FRAN	PRE-2B LAC	4	111
30	28	ST FRAN	PRE-2B LAC	4	111
30	28	ST FRAN	PRE-2B LAC	4	111
30	28	ST FRAN	PRE-2B LAC	4	111
30	28	ST FRAN	PRE-2B LAC	4	111
30	28	ST FRAN	PRE-2B LAC	4	111
30	28	ST FRAN	PRE-2B LAC	4	111
31	31	CAMP AMNICON	DOUGLAS TILL	4	114
31	31	CAMP AMNICON	DOUGLAS TILL	4	114
31	31	CAMP AMNICON	DOUGLAS TILL	4	114
31	31	CAMP AMNICON	DOUGLAS TILL	4	114
31	31	CAMP AMNICON	DOUGLAS TILL	4	114
31	31	CAMP AMNICON	DOUGLAS TILL	4	114
31	31	CAMP AMNICON	DOUGLAS TILL	4	114
31	31	CAMP AMNICON	DOUGLAS TILL	4	114
32	32	CORPS SITE	DOUGLAS TILL	4	116
32	32	CORPS SITE	DOUGLAS TILL	4	116
32	32	CORPS SITE	DOUGLAS TILL	4	116
32	32	CORPS SITE	DOUGLAS TILL	4	116
32	32	CORPS SITE	DOUGLAS TILL	4	116
32	32	CORPS SITE	DOUGLAS TILL	4	116
33	35	OSP-2	HANSON CREEK	5	93
33	35	OSP-2	HANSON CREEK	5	93

File #	Site #	location	material	# of clusters	# of observations
33	35	OSP-2	HANSON CREEK	5	93
33	35	OSP-2	HANSON CREEK	5	93
33	35	OSP-2	HANSON CREEK	5	93
33	35	OSP-2	HANSON CREEK	5	93
33	35	OSP-2	HANSON CREEK	5	93
35	29	BENDER PARK	2B	4	113
35	29	BENDER PARK	2B	4	113
35	29	BENDER PARK	2B	4	113
35	29	BENDER PARK	2B	4	113
35	29	BENDER PARK	2B	4	113
36	33	PEARSON CR	DOUGLAS TILL	3	112
36	33	PEARSON CR	DOUGLAS TILL	3	112
36	33	PEARSON CR	DOUGLAS TILL	3	112
36	33	PEARSON CR	DOUGLAS TILL	3	112
36	33	PEARSON CR	DOUGLAS TILL	3	112
36	33	PEARSON CR	DOUGLAS TILL	3	112
36	33	PEARSON CR	DOUGLAS TILL	3	112
36	33	PEARSON CR	DOUGLAS TILL	3	112
37	34	AMNICON	HANSON CREEK	6	104
37	34	AMNICON	HANSON CREEK	6	104
37	34	AMNICON	HANSON CREEK	6	104
37	34	AMNICON	HANSON CREEK	6	104
37	34	AMNICON	HANSON CREEK	6	104
37	34	AMNICON	HANSON CREEK	6	104
100	20.1	HAVEN	VALDERS-N	3	103
100	20.1	HAVEN	VALDERS-N	3	103
100	20.1	HAVEN	VALDERS-N	3	103
101	20.2	HAVEN	HAVEN-W	5	119
101	20.2	HAVEN	HAVEN-W	5	119
101	20.2	HAVEN	HAVEN-W	5	119
101	20.2	HAVEN	HAVEN-W	5	119
101	20.2	HAVEN	HAVEN-W	5	119
101	20.2	HAVEN	HAVEN-W	5	119
101	20.2	HAVEN	HAVEN-W	5	119
102	20.3	HAVEN	VALDERS-W	4	104
102	20.3	HAVEN	VALDERS-W	4	104
102	20.3	HAVEN	VALDERS-W	4	104
102	20.3	HAVEN	VALDERS-W	4	104
105	8	HWY BB	TR TILL	5	122
105	8	HWY BB	TR TILL	5	122
105	8	HWY BB	TR TILL	5	122

File #	Site #	location	material	# of clusters	# of observations
105	8	HWY BB	TR TILL	5	122
105	8	HWY BB	TR TILL	5	122
105	8	HWY BB	TR TILL	5	122
106	4	SANDY BAY	LAC UNIT 1	4	128
106	4	SANDY BAY	LAC UNIT 1	4	128
106	4	SANDY BAY	LAC UNIT 1	4	128
106	4	SANDY BAY	LAC UNIT 1	4	128
107	12	TR PIT	TR TILL	5	171
107	12	TR PIT	TR TILL	5	171
107	12	TR PIT	TR TILL	5	171
107	12	TR PIT	TR TILL	5	171
107	12	TR PIT	TR TILL	5	171
107	12	TR PIT	TR TILL	5	171
107	12	TR PIT	TR TILL	5	171
107	12	TR PIT	TR TILL	5	171
108	(23	&ST FRAN	WADSWORTH	2	224
108	(23	&ST FRAN	WADSWORTH	2	224
108	(23	&ST FRAN	WADSWORTH	2	224
108	(23	&ST FRAN	WADSWORTH	2	224
109	7	SANDY BAY	TR TILL	4	119
109	7	SANDY BAY	TR TILL	4	119
109	7	SANDY BAY	TR TILL	4	119
109	7	SANDY BAY	TR TILL	4	119
109	7	SANDY BAY	TR TILL	4	119
109	7	SANDY BAY	TR TILL	4	119
109	7	SANDY BAY	TR TILL	4	119
110	36.1	OUTAGAMIE	POST-GLACIAL	5	104
110	36.1	OUTAGAMIE	POST-GLACIAL	5	104
110	36.1	OUTAGAMIE	POST-GLACIAL	5	104
110	36.1	OUTAGAMIE	POST-GLACIAL	5	104
110	36.1	OUTAGAMIE	POST-GLACIAL	5	104
111	36.2	OUTAGAMIE	MIDDLE INLET	5	95
111	36.2	OUTAGAMIE	MIDDLE INLET	5	95
111	36.2	OUTAGAMIE	MIDDLE INLET	5	95
111	36.2	OUTAGAMIE	MIDDLE INLET	5	95
111	36.2	OUTAGAMIE	MIDDLE INLET	5	95
112	37	KOENEN FARM	MIDDLE INLET	3	104
112	37	KOENEN FARM	MIDDLE INLET	3	104
112	37	KOENEN FARM	MIDDLE INLET	3	104
112	37	KOENEN FARM	MIDDLE INLET	3	104

File #	Site #	location	Exposure Orientation trend	plunge	height	width
1	1	MIDDLETON	124	0	NA	NA
1	1	MIDDLETON	124	0	NA	NA
2	11	TWO RIVERS	132	0	2	4
2	11	TWO RIVERS	132	0	2	4
2	11	TWO RIVERS	132	0	2	4
2	11	TWO RIVERS	132	0	2	4
3	15	VALDERS	45	0	1.24	1.15
3	15	VALDERS	45	0	1.24	1.15
3	15	VALDERS	45	0	1.24	1.15
5	22	NOTRE DAME	285	16	6	2
5	22	NOTRE DAME	285	16	6	2
5	22	NOTRE DAME	285	16	6	2
5	22	NOTRE DAME	285	16	6	2
5	22	NOTRE DAME	285	16	6	2
6	9	HWY BB	271	36	0.7	
6	9	HWY BB	271	36	0.7	1.3
6	9	HWY BB	271	36	0.7	1.3
6	9	HWY BB	271	36	0.7	1.3
6	9	HWY BB	271	36	0.7	1.3
10	13	MANITOWOC	20	9	1.43	1
10	13	MANITOWOC	20	9	1.43	1
10	13	MANITOWOC	20	9	1.43	1
10	13	MANITOWOC	20	9	1.43	1
10	13	MANITOWOC	20	9	1.43	1
10	13	MANITOWOC	20	9	1.43	1
10	13	MANITOWOC	20	9	1.43	1
11	19-1	HAVEN	306	20	1.2	0.8
11	19-1	HAVEN	306	20	1.2	0.8
11	19-1	HAVEN	306	20	1.2	0.8
11	19-1	HAVEN	306	20	1.2	0.8
11	19-1	HAVEN	306	20	1.2	0.8
11	19-1	HAVEN	306	20	1.2	0.8
11	19-1	HAVEN	306	20	1.2	0.8
12	18	FRICKE	220	40	0.9	2.31
12	18	FRICKE	220	40	0.9	2.31
12	18	FRICKE	220	40	0.9	2.31
12	18	FRICKE	220	40	0.9	2.31
13	2	DOOR	NA	NA	NA	NA
13	2	DOOR	NA	NA	NA	NA
13	2	DOOR	NA	NA	NA	NA
14	3	DOOR	NA	NA	NA	NA

File #	Site #	location	Exposure trend	Orientation plunge	height	width
14	3	DOOR	NA	NA	NA	NA
14	3	DOOR	NA	NA	NA	NA
14	3	DOOR	NA	NA	NA	NA
14	3	DOOR	NA	NA	NA	NA
14	3	DOOR	NA	NA	NA	NA
16	5	SANDY BAY	110	0	1.7	2
16	5	SANDY BAY	110	0	1.7	2
16	5	SANDY BAY	110	0	1.7	2
16	5	SANDY BAY	110	0	1.7	2
16	5	SANDY BAY	110	0	1.7	2
18	14	VALDERS	NA	NA	NA	NA
18	14	VALDERS	NA	NA	NA	NA
18	14	VALDERS	NA	NA	NA	NA
18	14	VALDERS	NA	NA	NA	NA
18	14	VALDERS	NA	NA	NA	NA
18	14	VALDERS	NA	NA	NA	NA
18	14	VALDERS	NA	NA	NA	NA
20	10	TWO CREEKS	110	0	2	4
20	10	TWO CREEKS	110	0	2	4
20	10	TWO CREEKS	110	0	2	4
20	10	TWO CREEKS	110	0	2	4
21	17	MEMORIAL	312	24	1	2.7
21	17	MEMORIAL	312	24	1	2.7
21	17	MEMORIAL	312	24	1	2.7
21	17	MEMORIAL	312	24	1	2.7
21	17	MEMORIAL	312	24	1	2.7
21	17	MEMORIAL	312	24	1	2.7
22	21	PORT WASH	301	20	1	25
22	21	PORT WASH	301	20	1	25
22	21	PORT WASH	301	20	1	25
22	21	PORT WASH	301	20	1	25
22	21	PORT WASH	301	20	1	25
22	21	PORT WASH	301	20	1	25
22	21	PORT WASH	301	20	1	25
22	21	PORT WASH	301	20	1	25
22	21	PORT WASH	301	20	1	25
23	16	SUB MANIT	307	23	1	1.5
23	16	SUB MANIT	307	23	1	1.5
23	16	SUB MANIT	307	23	1	1.5
23	16	SUB MANIT	307	23	1	1.5
23	16	SUB MANIT	307	23	1	1.5

File #	Site #	location	Exposure Orientation trend	plunge	height	width
24	19.2	HAVEN	304	28	1.4	1.5
24	19.2	HAVEN	304	28	1.4	1.5
24	19.2	HAVEN	304	28	1.4	1.5
24	19.2	HAVEN	304	28	1.4	1.5
26	24	ST FRAN	242	32	0.86	2
26	24	ST FRAN	242	32	0.86	2
26	24	ST FRAN	242	32	0.86	2
28	26	ST FRAN	262	17	1	4.2
28	26	ST FRAN	262	17	1	4.2
28	26	ST FRAN	262	17	1	4.2
28	26	ST FRAN	262	17	1	4.2
28	26	ST FRAN	262	17	1	4.2
28	26	ST FRAN	262	17	1	4.2
29	27	ST FRAN	201	40	2.25	1.3
29	27	ST FRAN	201	40	2.25	1.3
29	27	ST FRAN	201	40	2.25	1.3
30	28	ST FRAN	319	18	2.7	2.5
30	28	ST FRAN	319	18	2.7	2.5
30	28	ST FRAN	319	18	2.7	2.5
30	28	ST FRAN	319	18	2.7	2.5
30	28	ST FRAN	319	18	2.7	2.5
30	28	ST FRAN	319	18	2.7	2.5
30	28	ST FRAN	319	18	2.7	2.5
30	28	ST FRAN	319	18	2.7	2.5
30	28	ST FRAN	319	18	2.7	2.5
31	31	CAMP AMNICON	150	34	150	34
31	31	CAMP AMNICON	150	34	150	34
31	31	CAMP AMNICON	150	34	150	34
31	31	CAMP AMNICON	150	34	150	34
31	31	CAMP AMNICON	150	34	150	34
31	31	CAMP AMNICON	150	34	150	34
31	31	CAMP AMNICON	150	34	150	34
31	31	CAMP AMNICON	150	34	150	34
32	32	CORPS SITE	141	25	1.93	1.31
32	32	CORPS SITE	141	25	1.93	1.31
32	32	CORPS SITE	141	25	1.93	1.31
32	32	CORPS SITE	141	25	1.93	1.31
32	32	CORPS SITE	141	25	1.93	1.31
32	32	CORPS SITE	141	25	1.93	1.31
33	35	OSP-2	320	45	0.8	1.5
33	35	OSP-2	320	45	0.8	1.5

File #	Site #	location	Exposure Orientation trend	plunge	height	width
33	35	OSP-2	320	45	0.8	1.5
33	35	OSP-2	320	45	0.8	1.5
33	35	OSP-2	320	45	0.8	1.5
33	35	OSP-2	320	45	0.8	1.5
33	35	OSP-2	320	45	0.8	1.5
35	29	BENDER PARK	279	47	2.7	1.2
35	29	BENDER PARK	279	47	2.7	1.2
35	29	BENDER PARK	279	47	2.7	1.2
35	29	BENDER PARK	279	47	2.7	1.2
35	29	BENDER PARK	279	47	2.7	1.2
36	33	PEARSON CR	175	12	2	7.4
36	33	PEARSON CR	175	12	2	7.4
36	33	PEARSON CR	175	12	2	7.4
36	33	PEARSON CR	175	12	2	7.4
36	33	PEARSON CR	175	12	2	7.4
36	33	PEARSON CR	175	12	2	7.4
36	33	PEARSON CR	175	12	2	7.4
36	33	PEARSON CR	175	12	2	7.4
37	34	AMNICON	159	13	1.4	2
37	34	AMNICON	159	13	1.4	2
37	34	AMNICON	159	13	1.4	2
37	34	AMNICON	159	13	1.4	2
37	34	AMNICON	159	13	1.4	2
37	34	AMNICON	159	13	1.4	2
100	20.1	HAVEN	135	90	1	0.5
100	20.1	HAVEN	135	90	1	0.5
100	20.1	HAVEN	135	90	1	0.5
101	20.2	HAVEN	272	39	0.5	2.5
101	20.2	HAVEN	272	39	0.5	2.5
101	20.2	HAVEN	272	39	0.5	2.5
101	20.2	HAVEN	272	39	0.5	2.5
101	20.2	HAVEN	272	39	0.5	2.5
101	20.2	HAVEN	272	39	0.5	2.5
101	20.2	HAVEN	272	39	0.5	2.5
102	20.3	HAVEN	249	8	1.5	1.8
102	20.3	HAVEN	249	8	1.5	1.8
102	20.3	HAVEN	249	8	1.5	1.8
102	20.3	HAVEN	249	8	1.5	1.8
105	8	HWY BB	287	38	1.6	1.2
105	8	HWY BB	287	38	1.6	1.2
105	8	HWY BB	287	38	1.6	1.2

File #	Site #	location	Exposure trend	Orientation plunge	height	width
105	8	HWY BB	287	38	1.6	1.2
105	8	HWY BB	287	38	1.6	1.2
105	8	HWY BB	287	38	1.6	1.2
106	4	SANDY BAY	NA	NA	NA	NA
106	4	SANDY BAY	NA	NA	NA	NA
106	4	SANDY BAY	NA	NA	NA	NA
106	4	SANDY BAY	NA	NA	NA	NA
107	12	TR PIT	NA	NA	NA	NA
107	12	TR PIT	NA	NA	NA	NA
107	12	TR PIT	NA	NA	NA	NA
107	12	TR PIT	NA	NA	NA	NA
107	12	TR PIT	NA	NA	NA	NA
107	12	TR PIT	NA	NA	NA	NA
107	12	TR PIT	NA	NA	NA	NA
107	12	TR PIT	NA	NA	NA	NA
108	(23	&ST FRAN	252	30	1.98	1.8
108	(23	&ST FRAN	252	30	1.98	1.8
108	(23	&ST FRAN	252	30	1.98	1.8
108	(23	&ST FRAN	252	30	1.98	1.8
109	7	SANDY BAY	111	0	1.5	1
109	7	SANDY BAY	111	0	1.5	1
109	7	SANDY BAY	111	0	1.5	1
109	7	SANDY BAY	111	0	1.5	1
109	7	SANDY BAY	111	0	1.5	1
109	7	SANDY BAY	111	0	1.5	1
109	7	SANDY BAY	111	0	1.5	1
110	36.1	OUTAGAMIE	70	0	1	3
110	36.1	OUTAGAMIE	70	0	1	3
110	36.1	OUTAGAMIE	70	0	1	3
110	36.1	OUTAGAMIE	70	0	1	3
110	36.1	OUTAGAMIE	70	0	1	3
111	36.2	OUTAGAMIE	70	0	1	30
111	36.2	OUTAGAMIE	70	0	1	30
111	36.2	OUTAGAMIE	70	0	1	30
111	36.2	OUTAGAMIE	70	0	1	30
111	36.2	OUTAGAMIE	70	0	1	30
112	37	KOENEN FARM	76	31	1	2.3
112	37	KOENEN FARM	76	31	1	2.3
112	37	KOENEN FARM	76	31	1	2.3
112	37	KOENEN FARM	76	31	1	2.3

File #	Site #	location	Flow (degrees)	Thickness (m)	Depth (m)	% gravel
1	1	MIDDLETON				
1	1	MIDDLETON				
2	11	TWO RIVERS				
2	11	TWO RIVERS				
2	11	TWO RIVERS				
2	11	TWO RIVERS				
3	15	VALDERS	93	2.5	1.05	11.18
3	15	VALDERS	93	2.5	1.05	11.18
3	15	VALDERS	93	2.5	1.05	11.18
5	22	NOTRE DAME	79	22	3.3	3.66
5	22	NOTRE DAME	79	22	3.3	3.66
5	22	NOTRE DAME	79	22	3.3	3.66
5	22	NOTRE DAME	79	22	3.3	3.66
5	22	NOTRE DAME	79	22	3.3	3.66
6	9	HWY BB	79	22	3.3	3.66
6	9	HWY BB	63	6	4.5	0
6	9	HWY BB	63	6	4.5	0
6	9	HWY BB	63	6	4.5	0
6	9	HWY BB	63	6	4.5	0
10	13	MANITOWOC	21.83	2.22	1.73	1.47
10	13	MANITOWOC	21.83	2.22	1.73	1.47
10	13	MANITOWOC	21.83	2.22	1.73	1.47
10	13	MANITOWOC	21.83	2.22	1.73	1.47
10	13	MANITOWOC	21.83	2.22	1.73	1.47
10	13	MANITOWOC	21.83	2.22	1.73	1.47
10	13	MANITOWOC	21.83	2.22	1.73	1.47
11	19-1	HAVEN	72	1.41	1.93	3.23
11	19-1	HAVEN	72	1.41	1.93	3.23
11	19-1	HAVEN	72	1.41	1.93	3.23
11	19-1	HAVEN	72	1.41	1.93	3.23
11	19-1	HAVEN	72	1.41	1.93	3.23
11	19-1	HAVEN	72	1.41	1.93	3.23
11	19-1	HAVEN	72	1.41	1.93	3.23
12	18	FRICKE	13	3	1.17	1.66
12	18	FRICKE	13	3	1.17	1.66
12	18	FRICKE	13	3	1.17	1.66
12	18	FRICKE	13	3	1.17	1.66
13	2	DOOR				
13	2	DOOR				
13	2	DOOR				
14	3	DOOR		3	2.33	8.33

File #	Site #	location	Flow (degrees)	Thickness (m)	Depth (m)	% gravel
14	3	DOOR		3	2.33	8.33
14	3	DOOR	29.9	3	2.33	8.33
14	3	DOOR	29.9	3	2.33	8.33
14	3	DOOR	29.9	3	2.33	8.33
14	3	DOOR	29.9	3	2.33	8.33
16	5	SANDY BAY				
16	5	SANDY BAY				
16	5	SANDY BAY				
16	5	SANDY BAY				
16	5	SANDY BAY				
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
20	10	TWO CREEKS		2.8	3.1	0.45
20	10	TWO CREEKS		2.8	3.1	0.45
20	10	TWO CREEKS		2.8	3.1	0.45
20	10	TWO CREEKS		2.8	3.1	0.45
21	17	MEMORIAL	7	1.7	4.46	2.14
21	17	MEMORIAL	7	1.7	4.46	2.14
21	17	MEMORIAL	7	1.7	4.46	2.14
21	17	MEMORIAL	7	1.7	4.46	2.14
21	17	MEMORIAL	7	1.7	4.46	2.14
21	17	MEMORIAL	7	1.7	4.46	2.14
22	21	PORT WASH	53.5	24	3.42	3.84
22	21	PORT WASH	53.5	24	3.42	3.84
22	21	PORT WASH	53.5	24	3.42	3.84
22	21	PORT WASH	53.5	24	3.42	3.84
22	21	PORT WASH	53.5	24	3.42	3.84
22	21	PORT WASH	53.5	24	3.42	3.84
22	21	PORT WASH	53.5	24	3.42	3.84
22	21	PORT WASH	53.5	24	3.42	3.84
22	21	PORT WASH	53.5	24	3.42	3.84
23	16	SUB MANIT				
23	16	SUB MANIT				
23	16	SUB MANIT				
23	16	SUB MANIT				
23	16	SUB MANIT				

File #	Site #	location	Flow (degrees)	Thickness (m)	Depth (m)	% gravel
24	19.2	HAVEN	72	1.2	0.8	2.49
24	19.2	HAVEN	72	1.2	0.8	2.49
24	19.2	HAVEN	72	1.2	0.8	2.49
24	19.2	HAVEN	72	1.2	0.8	2.49
26	24	ST FRAN		2	21.5	10.14
26	24	ST FRAN		2	21.5	10.14
26	24	ST FRAN		2	21.5	10.14
28	26	ST FRAN	34	9	5.2	2.66
28	26	ST FRAN	34	9	5.2	2.66
28	26	ST FRAN	34	9	5.2	2.66
28	26	ST FRAN	34	9	5.2	2.66
28	26	ST FRAN	34	9	5.2	2.66
28	26	ST FRAN	34	9	5.2	2.66
29	27	ST FRAN	59.86	1.15	2.61	4.41
29	27	ST FRAN	59.86	1.15	2.61	4.41
29	27	ST FRAN	59.86	1.15	2.61	4.41
30	28	ST FRAN		3	2.5	0.28
30	28	ST FRAN		3	2.5	0.28
30	28	ST FRAN		3	2.5	0.28
30	28	ST FRAN		3	2.5	0.28
30	28	ST FRAN		3	2.5	0.28
30	28	ST FRAN		3	2.5	0.28
30	28	ST FRAN		3	2.5	0.28
30	28	ST FRAN		3	2.5	0.28
30	28	ST FRAN		3	2.5	0.28
31	31	CAMP AMNICON	36	5.4	3	1.8
31	31	CAMP AMNICON	36	5.4	3	1.8
31	31	CAMP AMNICON	36	5.4	3	1.8
31	31	CAMP AMNICON	36	5.4	3	1.8
31	31	CAMP AMNICON	36	5.4	3	1.8
31	31	CAMP AMNICON	36	5.4	3	1.8
31	31	CAMP AMNICON	36	5.4	3	1.8
31	31	CAMP AMNICON	36	5.4	3	1.8
32	32	CORPS SITE	40		1	1.46
32	32	CORPS SITE	40		1	1.46
32	32	CORPS SITE	40		1	1.46
32	32	CORPS SITE	40		1	1.46
32	32	CORPS SITE	40		1	1.46
32	32	CORPS SITE	40		1	1.46
33	35	OSP-2	30		2.5	0.62
33	35	OSP-2	30		2.5	0.62

File #	Site #	location	Flow (degrees)	Thickness (m)	Depth (m)	% gravel
33	35	OSP-2	30		2.5	0.62
33	35	OSP-2	30		2.5	0.62
33	35	OSP-2	30		2.5	0.62
33	35	OSP-2	30		2.5	0.62
33	35	OSP-2	30		2.5	0.62
35	29	BENDER PARK	74.4	29	3.15	1.33
35	29	BENDER PARK	74.4	29	3.15	1.33
35	29	BENDER PARK	74.4	29	3.15	1.33
35	29	BENDER PARK	74.4	29	3.15	1.33
35	29	BENDER PARK	74.4	29	3.15	1.33
36	33	PEARSON CR	27		1.5	5.64
36	33	PEARSON CR	27		1.5	5.64
36	33	PEARSON CR	27		1.5	5.64
36	33	PEARSON CR	27		1.5	5.64
36	33	PEARSON CR	27		1.5	5.64
36	33	PEARSON CR	27		1.5	5.64
36	33	PEARSON CR	27		1.5	5.64
36	33	PEARSON CR	27		1.5	5.64
37	34	AMNICON	32		5.37	0.3
37	34	AMNICON	32		5.37	0.3
37	34	AMNICON	32		5.37	0.3
37	34	AMNICON	32		5.37	0.3
37	34	AMNICON	32		5.37	0.3
37	34	AMNICON	32		5.37	0.3
100	20.1	HAVEN	72	1	1.3	3.69
100	20.1	HAVEN	72	1	1.3	3.69
100	20.1	HAVEN	72	1	1.3	3.69
101	20.2	HAVEN	72	2	3	1.36
101	20.2	HAVEN	72	2	3	1.36
101	20.2	HAVEN	72	2	3	1.36
101	20.2	HAVEN	72	2	3	1.36
101	20.2	HAVEN	72	2	3	1.36
101	20.2	HAVEN	72	2	3	1.36
101	20.2	HAVEN	72	2	3	1.36
102	20.3	HAVEN	72	1.88	1.3	3.91
102	20.3	HAVEN	72	1.88	1.3	3.91
102	20.3	HAVEN	72	1.88	1.3	3.91
102	20.3	HAVEN	72	1.88	1.3	3.91
105	8	HWY BB	63	1.5	2.35	3.48
105	8	HWY BB	63	1.5	2.35	3.48
105	8	HWY BB	63	1.5	2.35	3.48

File #	Site #	location	Flow (degrees)	Thickness (m)	Depth (m)	% gravel
105	8	HWY BB	63	1.5	2.35	3.48
105	8	HWY BB	63	1.5	2.35	3.48
105	8	HWY BB	63	1.5	2.35	3.48
106	4	SANDY BAY	52	5	10	0
106	4	SANDY BAY	52	5	10	0
106	4	SANDY BAY	52	5	10	0
106	4	SANDY BAY	52	5	10	0
107	12	TR PIT	86	3.5	3	11.29
107	12	TR PIT	86	3.5	3	11.29
107	12	TR PIT	86	3.5	3	11.29
107	12	TR PIT	86	3.5	3	11.29
107	12	TR PIT	86	3.5	3	11.29
107	12	TR PIT	86	3.5	3	11.29
107	12	TR PIT	86	3.5	3	11.29
107	12	TR PIT	86	3.5	3	11.29
108	(23	&ST FRAN		2	20.1	4.325
108	(23	&ST FRAN		2	20.1	4.325
108	(23	&ST FRAN		2	20.1	4.325
108	(23	&ST FRAN		2	20.1	4.325
109	7	SANDY BAY		3.3	1	1.99
109	7	SANDY BAY		3.3	1	1.99
109	7	SANDY BAY		3.3	1	1.99
109	7	SANDY BAY		3.3	1	1.99
109	7	SANDY BAY		3.3	1	1.99
109	7	SANDY BAY		3.3	1	1.99
109	7	SANDY BAY		3.3	1	1.99
110	36.1	OUTAGAMIE		0.8	1.37	0.31
110	36.1	OUTAGAMIE		0.8	1.37	0.31
110	36.1	OUTAGAMIE		0.8	1.37	0.31
110	36.1	OUTAGAMIE		0.8	1.37	0.31
110	36.1	OUTAGAMIE		0.8	1.37	0.31
111	36.2	OUTAGAMIE	12.7	1.4	2.6	2.84
111	36.2	OUTAGAMIE	12.7	1.4	2.6	2.84
111	36.2	OUTAGAMIE	12.7	1.4	2.6	2.84
111	36.2	OUTAGAMIE	12.7	1.4	2.6	2.84
111	36.2	OUTAGAMIE	12.7	1.4	2.6	2.84
112	37	KOENEN FARM			2.5	3.9
112	37	KOENEN FARM			2.5	3.9
112	37	KOENEN FARM			2.5	3.9
112	37	KOENEN FARM			2.5	3.9

File #	Site #	location	% sand	% silt	% clay	Mean Spacing (m)
1	1	MIDDLETON				
1	1	MIDDLETON				
2	11	TWO RIVERS				
2	11	TWO RIVERS				
2	11	TWO RIVERS				
2	11	TWO RIVERS				
3	15	VALDERS	28.57	48.8	22.63	2.64
3	15	VALDERS	28.57	48.8	22.63	2.64
3	15	VALDERS	28.57	48.8	22.63	2.64
5	22	NOTRE DAME	17.77	55.68	26.55	13.9
5	22	NOTRE DAME	17.77	55.68	26.55	13.9
5	22	NOTRE DAME	17.77	55.68	26.55	13.9
5	22	NOTRE DAME	17.77	55.68	26.55	13.9
5	22	NOTRE DAME	17.77	55.68	26.55	13.9
6	9	HWY BB	17.77	55.68	26.55	13.9
6	9	HWY BB	0.73	59.87	39.4	4.63
6	9	HWY BB	0.73	59.87	39.4	4.63
6	9	HWY BB	0.73	59.87	39.4	4.63
6	9	HWY BB	0.73	59.87	39.4	4.63
10	13	MANITOWOC	11.12	49.03	39.84	8
10	13	MANITOWOC	11.12	49.03	39.84	8
10	13	MANITOWOC	11.12	49.03	39.84	8
10	13	MANITOWOC	11.12	49.03	39.84	8
10	13	MANITOWOC	11.12	49.03	39.84	8
10	13	MANITOWOC	11.12	49.03	39.84	8
10	13	MANITOWOC	11.12	49.03	39.84	8
11	19-1	HAVEN	27.2	57.23	15.57	2.5
11	19-1	HAVEN	27.2	57.23	15.57	2.5
11	19-1	HAVEN	27.2	57.23	15.57	2.5
11	19-1	HAVEN	27.2	57.23	15.57	2.5
11	19-1	HAVEN	27.2	57.23	15.57	2.5
11	19-1	HAVEN	27.2	57.23	15.57	2.5
11	19-1	HAVEN	27.2	57.23	15.57	2.5
12	18	FRICKE	5.96	53.12	41.92	2.73
12	18	FRICKE	5.96	53.12	41.92	2.73
12	18	FRICKE	5.96	53.12	41.92	2.73
12	18	FRICKE	5.96	53.12	41.92	2.73
13	2	DOOR				
13	2	DOOR				
13	2	DOOR				
14	3	DOOR	37.3	33.82	28.89	15.38

File #	Site #	location	% sand	% silt	% clay	Mean Spacing (m)
14	3	DOOR	37.3	33.82	28.89	15.38
14	3	DOOR	37.3	33.82	28.89	15.38
14	3	DOOR	37.3	33.82	28.89	15.38
14	3	DOOR	37.3	33.82	28.89	15.38
14	3	DOOR	37.3	33.82	28.89	15.38
16	5	SANDY BAY				
16	5	SANDY BAY				
16	5	SANDY BAY				
16	5	SANDY BAY				
16	5	SANDY BAY				
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
20	10	TWO CREEKS	2.99	47.12	49.88	4.25
20	10	TWO CREEKS	2.99	47.12	49.88	4.25
20	10	TWO CREEKS	2.99	47.12	49.88	4.25
20	10	TWO CREEKS	2.99	47.12	49.88	4.25
21	17	MEMORIAL	12.47	43.99	43.54	3.38
21	17	MEMORIAL	12.47	43.99	43.54	3.38
21	17	MEMORIAL	12.47	43.99	43.54	3.38
21	17	MEMORIAL	12.47	43.99	43.54	3.38
21	17	MEMORIAL	12.47	43.99	43.54	3.38
21	17	MEMORIAL	12.47	43.99	43.54	3.38
22	21	PORT WASH	32.42	44.94	22.64	13.9
22	21	PORT WASH	32.42	44.94	22.64	13.9
22	21	PORT WASH	32.42	44.94	22.64	13.9
22	21	PORT WASH	32.42	44.94	22.64	13.9
22	21	PORT WASH	32.42	44.94	22.64	13.9
22	21	PORT WASH	32.42	44.94	22.64	13.9
22	21	PORT WASH	32.42	44.94	22.64	13.9
22	21	PORT WASH	32.42	44.94	22.64	13.9
22	21	PORT WASH	32.42	44.94	22.64	13.9
23	16	SUB MANIT				
23	16	SUB MANIT				
23	16	SUB MANIT				
23	16	SUB MANIT				
23	16	SUB MANIT				

File #	Site #	location	% sand	% silt	% clay	Mean Spacing (m)
24	19.2	HAVEN	26.52	55.24	18.24	3.13
24	19.2	HAVEN	26.52	55.24	18.24	3.13
24	19.2	HAVEN	26.52	55.24	18.24	3.13
24	19.2	HAVEN	26.52	55.24	18.24	3.13
26	24	ST FRAN	23.11	45.81	31.09	2.78
26	24	ST FRAN	23.11	45.81	31.09	2.78
26	24	ST FRAN	23.11	45.81	31.09	2.78
28	26	ST FRAN	7.07	58.6	34.34	8.81
28	26	ST FRAN	7.07	58.6	34.34	8.81
28	26	ST FRAN	7.07	58.6	34.34	8.81
28	26	ST FRAN	7.07	58.6	34.34	8.81
28	26	ST FRAN	7.07	58.6	34.34	8.81
28	26	ST FRAN	7.07	58.6	34.34	8.81
29	27	ST FRAN	17.07	58.48	24.46	3.18
29	27	ST FRAN	17.07	58.48	24.46	3.18
29	27	ST FRAN	17.07	58.48	24.46	3.18
30	28	ST FRAN	7.28	63.22	29.38	5.3
30	28	ST FRAN	7.28	63.22	29.38	5.3
30	28	ST FRAN	7.28	63.22	29.38	5.3
30	28	ST FRAN	7.28	63.22	29.38	5.3
30	28	ST FRAN	7.28	63.22	29.38	5.3
30	28	ST FRAN	7.28	63.22	29.38	5.3
30	28	ST FRAN	7.28	63.22	29.38	5.3
30	28	ST FRAN	7.28	63.22	29.38	5.3
30	28	ST FRAN	7.28	63.22	29.38	5.3
31	31	CAMP AMNICON	4.5	15.41	80.07	5.5
31	31	CAMP AMNICON	4.5	15.41	80.07	5.5
31	31	CAMP AMNICON	4.5	15.41	80.07	5.5
31	31	CAMP AMNICON	4.5	15.41	80.07	5.5
31	31	CAMP AMNICON	4.5	15.41	80.07	5.5
31	31	CAMP AMNICON	4.5	15.41	80.07	5.5
31	31	CAMP AMNICON	4.5	15.41	80.07	5.5
31	31	CAMP AMNICON	4.5	15.41	80.07	5.5
32	32	CORPS SITE	14.22	25.07	60.71	3.56
32	32	CORPS SITE	14.22	25.07	60.71	3.56
32	32	CORPS SITE	14.22	25.07	60.71	3.56
32	32	CORPS SITE	14.22	25.07	60.71	3.56
32	32	CORPS SITE	14.22	25.07	60.71	3.56
32	32	CORPS SITE	14.22	25.07	60.71	3.56
33	35	OSP-2	11.24	33.12	55.63	8.43
33	35	OSP-2	11.24	33.12	55.63	8.43

File #	Site #	location	% sand	% silt	% clay	Mean Spacing (m)
33	35	OSP-2	11.24	33.12	55.63	8.43
33	35	OSP-2	11.24	33.12	55.63	8.43
33	35	OSP-2	11.24	33.12	55.63	8.43
33	35	OSP-2	11.24	33.12	55.63	8.43
33	35	OSP-2	11.24	33.12	55.63	8.43
35	29	BENDER PARK	12.93	59.41	27.63	5.04
35	29	BENDER PARK	12.93	59.41	27.63	5.04
35	29	BENDER PARK	12.93	59.41	27.63	5.04
35	29	BENDER PARK	12.93	59.41	27.63	5.04
35	29	BENDER PARK	12.93	59.41	27.63	5.04
36	33	PEARSON CR	10.45	24.97	64.37	8.58
36	33	PEARSON CR	10.45	24.97	64.37	8.58
36	33	PEARSON CR	10.45	24.97	64.37	8.58
36	33	PEARSON CR	10.45	24.97	64.37	8.58
36	33	PEARSON CR	10.45	24.97	64.37	8.58
36	33	PEARSON CR	10.45	24.97	64.37	8.58
36	33	PEARSON CR	10.45	24.97	64.37	8.58
36	33	PEARSON CR	10.45	24.97	64.37	8.58
37	34	AMNICON	5.8	20.4	73.8	8.43
37	34	AMNICON	5.8	20.4	73.8	8.43
37	34	AMNICON	5.8	20.4	73.8	8.43
37	34	AMNICON	5.8	20.4	73.8	8.43
37	34	AMNICON	5.8	20.4	73.8	8.43
37	34	AMNICON	5.8	20.4	73.8	8.43
100	20.1	HAVEN	21.86	47.94	30.21	7.62
100	20.1	HAVEN	21.86	47.94	30.21	7.62
100	20.1	HAVEN	21.86	47.94	30.21	7.62
101	20.2	HAVEN	10.76	52.21	37.43	4.62
101	20.2	HAVEN	10.76	52.21	37.43	4.62
101	20.2	HAVEN	10.76	52.21	37.43	4.62
101	20.2	HAVEN	10.76	52.21	37.43	4.62
101	20.2	HAVEN	10.76	52.21	37.43	4.62
101	20.2	HAVEN	10.76	52.21	37.43	4.62
101	20.2	HAVEN	10.76	52.21	37.43	4.62
102	20.3	HAVEN	27.32	50.75	21.93	4.33
102	20.3	HAVEN	27.32	50.75	21.93	4.33
102	20.3	HAVEN	27.32	50.75	21.93	4.33
102	20.3	HAVEN	27.32	50.75	21.93	4.33
105	8	HWY BB	20.34	50.87	28.78	1.98
105	8	HWY BB	20.34	50.87	28.78	1.98
105	8	HWY BB	20.34	50.87	28.78	1.98

File #	Site #	location	% sand	% silt	% clay	Mean Spacing (m)
105	8	HWY BB	20.34	50.87	28.78	1.98
105	8	HWY BB	20.34	50.87	28.78	1.98
105	8	HWY BB	20.34	50.87	28.78	1.98
106	4	SANDY BAY	1.13	40.31	58.55	12.63
106	4	SANDY BAY	1.13	40.31	58.55	12.63
106	4	SANDY BAY	1.13	40.31	58.55	12.63
106	4	SANDY BAY	1.13	40.31	58.55	12.63
107	12	TR PIT	35.26	42.47	22.27	4.23
107	12	TR PIT	35.26	42.47	22.27	4.23
107	12	TR PIT	35.26	42.47	22.27	4.23
107	12	TR PIT	35.26	42.47	22.27	4.23
107	12	TR PIT	35.26	42.47	22.27	4.23
107	12	TR PIT	35.26	42.47	22.27	4.23
107	12	TR PIT	35.26	42.47	22.27	4.23
107	12	TR PIT	35.26	42.47	22.27	4.23
108	(23	&ST FRAN	23.545	44.01	32.43	6.35
108	(23	&ST FRAN	23.545	44.01	32.43	6.35
108	(23	&ST FRAN	23.545	44.01	32.43	6.35
108	(23	&ST FRAN	23.545	44.01	32.43	6.35
109	7	SANDY BAY	19.04	53.89	27.07	3.88
109	7	SANDY BAY	19.04	53.89	27.07	3.88
109	7	SANDY BAY	19.04	53.89	27.07	3.88
109	7	SANDY BAY	19.04	53.89	27.07	3.88
109	7	SANDY BAY	19.04	53.89	27.07	3.88
109	7	SANDY BAY	19.04	53.89	27.07	3.88
109	7	SANDY BAY	19.04	53.89	27.07	3.88
110	36.1	OUTAGAMIE	9.33	59.68	30.99	5.5
110	36.1	OUTAGAMIE	9.33	59.68	30.99	5.5
110	36.1	OUTAGAMIE	9.33	59.68	30.99	5.5
110	36.1	OUTAGAMIE	9.33	59.68	30.99	5.5
110	36.1	OUTAGAMIE	9.33	59.68	30.99	5.5
111	36.2	OUTAGAMIE	18.54	55.33	26.13	10.4
111	36.2	OUTAGAMIE	18.54	55.33	26.13	10.4
111	36.2	OUTAGAMIE	18.54	55.33	26.13	10.4
111	36.2	OUTAGAMIE	18.54	55.33	26.13	10.4
111	36.2	OUTAGAMIE	18.54	55.33	26.13	10.4
112	37	KOENEN FARM	24.44	50.29	25.28	5.16
112	37	KOENEN FARM	24.44	50.29	25.28	5.16
112	37	KOENEN FARM	24.44	50.29	25.28	5.16
112	37	KOENEN FARM	24.44	50.29	25.28	5.16

File #	Site #	location	Max Length (m)	Poisson Cutoff	Cluster Number	Joint Length
1	1	MIDDLETON		1.00%	2	
1	1	MIDDLETON		1.00%	1	
2	11	TWO RIVERS		1.00%	1	
2	11	TWO RIVERS		1.00%	2	
2	11	TWO RIVERS				
2	11	TWO RIVERS				
3	15	VALDERS	15	1.00%	1	2
3	15	VALDERS	15	1.00%	2	12
3	15	VALDERS	15			
5	22	NOTRE DAME	90	1.00%	3	
5	22	NOTRE DAME	90	1.00%	4	90
5	22	NOTRE DAME	90	1.00%	5	
5	22	NOTRE DAME	90	1.00%	1	
5	22	NOTRE DAME	90	1.00%	2	
6	9	HWY BB	90			
6	9	HWY BB	45	1.00%	3	
6	9	HWY BB	45	1.00%	1	
6	9	HWY BB	45	1.00%	4	
6	9	HWY BB	45			
10	13	MANITOWOC	100	1.00%	3	42
10	13	MANITOWOC	100	1.00%	2	
10	13	MANITOWOC	100	1.00%	1	42.5
10	13	MANITOWOC	100			
10	13	MANITOWOC	100			
10	13	MANITOWOC	100			
10	13	MANITOWOC	100			
11	19-1	HAVEN	50	1.00%	2	
11	19-1	HAVEN	50	1.00%	4	
11	19-1	HAVEN	50	1.00%	1	
11	19-1	HAVEN	50			
11	19-1	HAVEN	50			
11	19-1	HAVEN	50			
11	19-1	HAVEN	50			
12	18	FRICKE	12	1.00%	3	12
12	18	FRICKE	12	1.00%	4	7
12	18	FRICKE	12	1.00%	1	3.5
12	18	FRICKE	12	1.00%	2	
13	2	DOOR		1.00%	1	
13	2	DOOR		1.00%	2	
13	2	DOOR				
14	3	DOOR	51	1.00%	4	14.4

File #	Site #	location	Max Length (m)	Poisson Cutoff	Cluster Number	Joint Length
14	3	DOOR	51			
14	3	DOOR	51	1.00%	5	
14	3	DOOR	51	1.00%	2	13.1
14	3	DOOR	51	1.00%	1	11.1
14	3	DOOR	51	1.00%	3	12.5
16	5	SANDY BAY				
16	5	SANDY BAY		1.00%	2	
16	5	SANDY BAY		1.00%	4	
16	5	SANDY BAY		1.00%	3	
16	5	SANDY BAY				
18	14	VALDERS		1.00%	2	
18	14	VALDERS		1.00%	3	
18	14	VALDERS		1.00%	1	
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
18	14	VALDERS				
20	10	TWO CREEKS	60	0.50%		
20	10	TWO CREEKS	60			
20	10	TWO CREEKS	60	0.50%		
20	10	TWO CREEKS	60	0.50%		
21	17	MEMORIAL	26	1.00%	1	
21	17	MEMORIAL	26	1.00%	1	
21	17	MEMORIAL	26	1.00%	1	
21	17	MEMORIAL	26	1.00%	1	
21	17	MEMORIAL	26	1.00%	1	
21	17	MEMORIAL	26	1.00%	1	
22	21	PORT WASH	90	1.00%	1	103
22	21	PORT WASH	90			
22	21	PORT WASH	90	1.00%	1	180
22	21	PORT WASH	90	1.00%	1	
22	21	PORT WASH	90	1.00%	1	
22	21	PORT WASH	90	1.00%	1	
22	21	PORT WASH	90	1.00%	1	
22	21	PORT WASH	90	1.00%	1	
22	21	PORT WASH	90	1.00%	1	
23	16	SUB MANIT		1.00%	2	
23	16	SUB MANIT		1.00%	3	
23	16	SUB MANIT				
23	16	SUB MANIT				
23	16	SUB MANIT				

File #	Site #	location	Max Length (m)	Poisson Cutoff	Cluster Number	Joint Length
24	19.2	HAVEN	51	0.50%	1	
24	19.2	HAVEN	51	0.50%	2	
24	19.2	HAVEN	51	0.50%	3	
24	19.2	HAVEN	51	0.50%	4	
26	24	ST FRAN	28	1.00%	1	17
26	24	ST FRAN	28	1.00%	3	
26	24	ST FRAN	28	1.00%	2	
28	26	ST FRAN	79	1.00%	1	
28	26	ST FRAN	79	1.00%	3	
28	26	ST FRAN	79			
28	26	ST FRAN	79	1.00%	2	30
28	26	ST FRAN	79			
28	26	ST FRAN	79			
29	27	ST FRAN	73	1.00%	1	
29	27	ST FRAN	73			
29	27	ST FRAN	73			
30	28	ST FRAN	20	1.00%	1	
30	28	ST FRAN	20	1.00%	2	
30	28	ST FRAN	20			
30	28	ST FRAN	20			
30	28	ST FRAN	20			
30	28	ST FRAN	20			
30	28	ST FRAN	20			
30	28	ST FRAN	20			
30	28	ST FRAN	20			
31	31	CAMP AMNICON	200	1.00%	4	
31	31	CAMP AMNICON	200	1.00%	3	
31	31	CAMP AMNICON	200	1.00%	1	
31	31	CAMP AMNICON	200	1.00%	2	
31	31	CAMP AMNICON	200			
31	31	CAMP AMNICON	200			
31	31	CAMP AMNICON	200			
31	31	CAMP AMNICON	200			
32	32	CORPS SITE	100	1.00%	2	
32	32	CORPS SITE	100	1.00%	3	
32	32	CORPS SITE	100	1.00%	1	
32	32	CORPS SITE	100			
32	32	CORPS SITE	100			
32	32	CORPS SITE	100		6	
33	35	OSP-2	65	1.00%	1	
33	35	OSP-2	65	1.00%	2	

File #	Site #	location	Max Length (m)	Poisson Cutoff	Cluster Number	Joint Length
33	35	OSP-2	65		3	
33	35	OSP-2	65		4	
33	35	OSP-2	65		5	
33	35	OSP-2	65			
33	35	OSP-2	65			
35	29	BENDER PARK	50	1.00%	1	20.5
35	29	BENDER PARK	50	1.00%	3	
35	29	BENDER PARK	50	1.00%	4	
35	29	BENDER PARK	50	1.00%	2	
35	29	BENDER PARK	50			
36	33	PEARSON CR	150	1.00%	1	41
36	33	PEARSON CR	150	1.00%	2	
36	33	PEARSON CR	150		3	
36	33	PEARSON CR	150			
36	33	PEARSON CR	150			
36	33	PEARSON CR	150			
36	33	PEARSON CR	150			
36	33	PEARSON CR	150			
37	34	AMNICON	200	1.00%	2	
37	34	AMNICON	200	1.00%	1	63
37	34	AMNICON	200	1.00%	3	72
37	34	AMNICON	200			43
37	34	AMNICON	200	1.00%	5	
37	34	AMNICON	200	1.00%	4	
100	20.1	HAVEN	55	1.00%	2	
100	20.1	HAVEN	55	1.00%	1	32
100	20.1	HAVEN	55			
101	20.2	HAVEN				
101	20.2	HAVEN				
101	20.2	HAVEN				
101	20.2	HAVEN				
101	20.2	HAVEN				
101	20.2	HAVEN				
101	20.2	HAVEN				
102	20.3	HAVEN	40	0.10%	1	
102	20.3	HAVEN	40	0.10%	2	
102	20.3	HAVEN	40			
102	20.3	HAVEN	40			
105	8	HWY BB	5	0.50%	4	
105	8	HWY BB	5	0.50%	2	
105	8	HWY BB	5			

File #	Site #	location	Max Length (m)	Poisson Cutoff	Cluster Number	Joint Length
105	8	HWY BB	5			
105	8	HWY BB	5	0.50%	3	
105	8	HWY BB	5			
106	4	SANDY BAY	58	1.00%	4	12
106	4	SANDY BAY	58	1.00%	1	12.3
106	4	SANDY BAY	58	1.00%	2	15.1
106	4	SANDY BAY	58	1.00%	3	10
107	12	TR PIT				
107	12	TR PIT				
107	12	TR PIT		1.00%	3	
107	12	TR PIT		1.00%	4	
107	12	TR PIT		1.00%	1	
107	12	TR PIT				
107	12	TR PIT				
107	12	TR PIT				
108	(23	&ST FRAN	28			
108	(23	&ST FRAN	28			
108	(23	&ST FRAN	28	1.00%	3	32
108	(23	&ST FRAN	28	1.00%	1	
109	7	SANDY BAY	83			
109	7	SANDY BAY	83			
109	7	SANDY BAY	83			
109	7	SANDY BAY	83	0.10%	2	
109	7	SANDY BAY	83			
109	7	SANDY BAY	83			
109	7	SANDY BAY	83			
110	36.1	OUTAGAMIE	20	1.00%	1	9.09
110	36.1	OUTAGAMIE	20	1.00%	2	7.44
110	36.1	OUTAGAMIE	20			
110	36.1	OUTAGAMIE	20			
110	36.1	OUTAGAMIE	20			
111	36.2	OUTAGAMIE	150	1.00%	3	
111	36.2	OUTAGAMIE	150	1.00%	1	
111	36.2	OUTAGAMIE	150	1.00%	2	
111	36.2	OUTAGAMIE	150	1.00%	4	
111	36.2	OUTAGAMIE	150			
112	37	KOENEN FARM	67	1.00%	2	
112	37	KOENEN FARM	67	1.00%	3	
112	37	KOENEN FARM	67	1.00%	1	
112	37	KOENEN FARM	67			

File #	Site #	location	Joint Spacing	# of points	trend	plunge	K
1	1	MIDDLETON	NA	9	240.2	5.49	98.72
1	1	MIDDLETON	NA	7	170.1	9.01	279.1
2	11	TWO RIVERS	NA	7	323	6	40.86
2	11	TWO RIVERS	NA	22	90.75	81	40.67
2	11	TWO RIVERS	NA		NA	NA	
2	11	TWO RIVERS	NA		NA	NA	
3	15	VALDERS	2.1		55	0	
3	15	VALDERS	2		100	0	
3	15	VALDERS	NA		NA	NA	
5	22	NOTRE DAME	NA	5	192.3	5.22	197.4
5	22	NOTRE DAME	21.15	7	349.8	2.76	223.4
5	22	NOTRE DAME	4.73	23	285.8	82.78	123.1
5	22	NOTRE DAME	15.1	19	42.92	4.9	40.58
5	22	NOTRE DAME	NA	16	133.7	6.47	29.21
6	9	HWY BB					
6	9	HWY BB	4.1	7	249.5	26.77	358.0
6	9	HWY BB	NA	24	14.36	82.78	1.28
6	9	HWY BB	4.1	5	261.2	55.7	457.1
6	9	HWY BB	NA		NA	NA	
10	13	MANITOWOC	6.1	4	136.7	24.58	299.3
10	13	MANITOWOC	14.97	14	227.9	15.06	52.42
10	13	MANITOWOC	7.12	7	131.1	4.02	223.8
10	13	MANITOWOC	NA		NA	NA	
10	13	MANITOWOC	NA		NA	NA	
10	13	MANITOWOC	NA		NA	NA	
10	13	MANITOWOC	NA		NA	NA	
11	19-1	HAVEN		4	134.2	14.26	288.5
11	19-1	HAVEN	2.75	6	335.1	5.52	196.2
11	19-1	HAVEN	2.97	46	242.6	1.36	37.2
11	19-1	HAVEN					
11	19-1	HAVEN					
11	19-1	HAVEN	NA		NA	NA	
11	19-1	HAVEN	NA		NA	NA	
12	18	FRICKE	2.35	4	229.0	5.27	239.3
12	18	FRICKE	4.5		295	0	
12	18	FRICKE	3.8		330	0	
12	18	FRICKE	3.8	34	319.9	0.16	15.98
13	2	DOOR	NA	41	235.9	0.83	16.12
13	2	DOOR	NA	50	346.4	0.83	1.33
13	2	DOOR	NA		NA	NA	
14	3	DOOR	NA	6	349.3	3.01	206.4

File #	Site #	location	Joint Spacing	# of points	trend	plunge	K
14	3	DOOR					
14	3	DOOR	NA	9	12.58	31.33	92.59
14	3	DOOR	25.5	26	81.05	1.03	13.41
14	3	DOOR	NA	4	33.77	3.76	282.6
14	3	DOOR	NA	5	304.5	5.21	229.6
16	5	SANDY BAY					
16	5	SANDY BAY	3.25	16	259.2	7.5	46.11
16	5	SANDY BAY	1.57	17	34.89	81.38	168.2
16	5	SANDY BAY	5.7	6	328.1	3.84	315.8
16	5	SANDY BAY	NA		NA	NA	
18	14	VALDERS	7.7	7	153	6	157.1
18	14	VALDERS	NA	6	348.8	5.68	271.3
18	14	VALDERS	9	31	73.84	3.26	45.04
18	14	VALDERS	NA		NA	NA	
18	14	VALDERS	NA		NA	NA	
18	14	VALDERS	NA		NA	NA	
18	14	VALDERS	NA		NA	NA	
20	10	TWO CREEKS	2.9	6	356	5	519.4
20	10	TWO CREEKS					
20	10	TWO CREEKS	21	15	276.0	0.75	46.13
20	10	TWO CREEKS	5	6	35.49	15.92	168.9
21	17	MEMORIAL	4.2		90	5	
21	17	MEMORIAL	4.2	5	330.0	5.02	143.4
21	17	MEMORIAL	3.1	4	219.4	5.13	37.26
21	17	MEMORIAL	NA		NA	NA	
21	17	MEMORIAL	NA		NA	NA	
21	17	MEMORIAL	NA		NA	NA	
22	21	PORT WASH	13.3	46	37.44	5.23	24.19
22	21	PORT WASH					
22	21	PORT WASH	9.83	8	303.6	7.63	420.4
22	21	PORT WASH	NA		NA	NA	
22	21	PORT WASH	NA		NA	NA	
22	21	PORT WASH	NA		NA	NA	
22	21	PORT WASH	NA		NA	NA	
22	21	PORT WASH	NA		NA	NA	
22	21	PORT WASH	NA		NA	NA	
23	16	SUB MANIT	4.1	4	129.2	23.78	879.5
23	16	SUB MANIT	NA	34	256.5	47.36	22.28
23	16	SUB MANIT					
23	16	SUB MANIT	NA		NA	NA	
23	16	SUB MANIT	NA		NA	NA	

File #	Site #	location	Joint Spacing	# of points	trend	plunge	K
24	19.2	HAVEN	3		100	2	
24	19.2	HAVEN	5.57		240	5	
24	19.2	HAVEN	3.05		220	0	
24	19.2	HAVEN	3.33		200	0	
26	24	ST FRAN	1.92	29	240.2	6.69	54.58
26	24	ST FRAN	2.25	4	62.6	42.14	309.4
26	24	ST FRAN	6.83	22	320.7	0.88	47.61
28	26	ST FRAN	12.5	54	1.37	5.7	81.28
28	26	ST FRAN	5.7	11	280.9	6.71	79.25
28	26	ST FRAN					
28	26	ST FRAN	8.17	5	129.5	7.23	193.4
28	26	ST FRAN	NA		NA	NA	
28	26	ST FRAN	NA		NA	NA	
29	27	ST FRAN	4.8	79	24.92	4.94	11.68
29	27	ST FRAN	NA		NA	NA	
29	27	ST FRAN	NA		NA	NA	
30	28	ST FRAN	4.1		15	5	
30	28	ST FRAN	NA		40	1	
30	28	ST FRAN	5.67		60	1	
30	28	ST FRAN	NA		175	10	
30	28	ST FRAN	NA		NA	NA	
30	28	ST FRAN	NA		NA	NA	
30	28	ST FRAN	NA		NA	NA	
30	28	ST FRAN	NA		NA	NA	
30	28	ST FRAN	NA		NA	NA	
31	31	CAMP AMNICON	2.5	4	10.93	34.03	543.5
31	31	CAMP AMNICON	NA		40	10	
31	31	CAMP AMNICON	NA		85	5	
31	31	CAMP AMNICON	7	4	155	3.25	1063.
31	31	CAMP AMNICON	NA		NA	NA	
31	31	CAMP AMNICON	NA		NA	NA	
31	31	CAMP AMNICON	NA		NA	NA	
31	31	CAMP AMNICON	NA		NA	NA	
32	32	CORPS SITE	NA	4	182.7	6.75	580.4
32	32	CORPS SITE	NA	4	79.59	22.71	105.6
32	32	CORPS SITE	6.5	20	239.3	1.43	41.71
32	32	CORPS SITE					
32	32	CORPS SITE					
32	32	CORPS SITE	NA	4	102.9	42.55	599.8
33	35	OSP-2	25.15	5	191.3	5.81	242.4
33	35	OSP-2	4	5	247.8	2.61	335.9

File #	Site #	location	Joint Spacing	# of points	trend	plunge	K
33	35	OSP-2	3.17	5	331	4.8	524.0
33	35	OSP-2	3.25	6	135.3	25.13	177.1
33	35	OSP-2	6.7	20	82.78	75.07	42.34
33	35	OSP-2	NA		NA	NA	
33	35	OSP-2	NA		NA	NA	
35	29	BENDER PARK	3.95	30	229.8	3.3	29.32
35	29	BENDER PARK	NA		15	5	
35	29	BENDER PARK	7.12		255	5	
35	29	BENDER PARK	4.17	18	171.2	2.44	20.78
35	29	BENDER PARK	NA		NA	NA	
36	33	PEARSON CR	9.07	11	79.97	6.02	49.29
36	33	PEARSON CR	7.73	25	158.0	2.09	23.25
36	33	PEARSON CR	5.5	10	109.4	71.02	143.8
36	33	PEARSON CR	NA		NA	NA	
36	33	PEARSON CR	NA		NA	NA	
36	33	PEARSON CR	NA		NA	NA	
36	33	PEARSON CR	NA		NA	NA	
36	33	PEARSON CR	NA		NA	NA	
37	34	AMNICON		5	214.8	1.4	1824.
37	34	AMNICON	5.75	4	131.5	2	1752.
37	34	AMNICON	7.17		282	0	
37	34	AMNICON	5.83		245	0	
37	34	AMNICON	NA	8	181.9	77.19	251.8
37	34	AMNICON	NA	5	350.2	1.6	1172.
100	20.1	HAVEN			85	5	
100	20.1	HAVEN	5.33	36	169.6	5.18	34.92
100	20.1	HAVEN			60	0	
101	20.2	HAVEN	3.87		290	5	
101	20.2	HAVEN	NA		230	10	
101	20.2	HAVEN	5		15	10	
101	20.2	HAVEN	12.25		145	0	
101	20.2	HAVEN	NA		355	5	
101	20.2	HAVEN	NA		NA	NA	
101	20.2	HAVEN	NA		NA	NA	
102	20.3	HAVEN	5.47	21	11.58	5.9	23.85
102	20.3	HAVEN	3.25		286	5.75	7.86
102	20.3	HAVEN	NA		35	10	
102	20.3	HAVEN	4		325	5	
105	8	HWY BB	NA	6	258.3	87.82	208.0
105	8	HWY BB	2.55	6	211.8	6.69	239.6
105	8	HWY BB	NA		110	5	

File #	Site #	location	Joint Spacing	# of points	trend	plunge	K
105	8	HWY BB	1.97		135	5	
105	8	HWY BB	2.1	11	261.1	5.45	55.16
105	8	HWY BB	NA		NA	NA	
106	4	SANDY BAY	4.85	9	10.33	86.4	250.6
106	4	SANDY BAY	9.62	31	9.78	3.26	30.85
106	4	SANDY BAY	27.9	14	94	0.93	144.3
106	4	SANDY BAY	29	6	231.8	6.86	188.4
107	12	TR PIT	3.17		145	5	
107	12	TR PIT	3.7		125	5	
107	12	TR PIT	5.2	10	248.7	4.41	255.1
107	12	TR PIT	3	7	243.2	76.65	453.3
107	12	TR PIT	4	17	213.3	4.68	53.33
107	12	TR PIT	NA		NA	NA	
107	12	TR PIT	NA		NA	NA	
107	12	TR PIT	NA		NA	NA	
108	(23	&ST FRAN					
108	(23	&ST FRAN					
108	(23	&ST FRAN	8.62	72	344.4	5.65	1.75
108	(23	&ST FRAN	3.6	21	244.5	6.27	71.21
109	7	SANDY BAY	4.9		230	5	
109	7	SANDY BAY	7		195	5	
109	7	SANDY BAY	3		330	0	
109	7	SANDY BAY	4.5	6	270.8	6.34	290.6
109	7	SANDY BAY	NA		NA	NA	
109	7	SANDY BAY	NA		NA	NA	
109	7	SANDY BAY	NA		NA	NA	
110	36.1	OUTAGAMIE	6.17	26	116.0	2.18	21.12
110	36.1	OUTAGAMIE	14		245	5	
110	36.1	OUTAGAMIE	5		210	3	
110	36.1	OUTAGAMIE	NA		185	5	
110	36.1	OUTAGAMIE	NA		107	18	
111	36.2	OUTAGAMIE	7	54	304.1	1.91	6.66
111	36.2	OUTAGAMIE	11.13	6	27.98	4.03	124.9
111	36.2	OUTAGAMIE	NA	4	73.52	5.79	121.1
111	36.2	OUTAGAMIE	NA	6	229.4	4.69	188.5
111	36.2	OUTAGAMIE			175	0	
112	37	KOENEN FARM	5.45	13	114.9	11.12	66.27
112	37	KOENEN FARM	NA	10	172.8	88.38	217.7
112	37	KOENEN FARM	6.37	34	38.42	9.9	12.99
112	37	KOENEN FARM	NA		NA	NA	

File #	Site #	location	A	Arnolds Distribution	Angle to Ice Flow	Angle to Exposure
1	1	MIDDLETON	5.5	1	NA	116.10
1	1	MIDDLETON	3.9	1	NA	46.84
2	11	TWO RIVERS	10.21	1	NA	167.49
2	11	TWO RIVERS	4.98	0	NA	83.25
2	11	TWO RIVERS			NA	NA
2	11	TWO RIVERS			NA	NA
3	15	VALDERS			52	140.25
3	15	VALDERS			-83	91.36
3	15	VALDERS			NA	NA
5	22	NOTRE DAME	6.09	1	23.38	91.07
5	22	NOTRE DAME	4.36	1	0.86	65.09
5	22	NOTRE DAME	2.79	1	-63.16	66.78
5	22	NOTRE DAME	5.42	0	53.92	115.14
5	22	NOTRE DAME	7.05	1	-35.25	143.74
6	9	HWY BB			NA	114.05
6	9	HWY BB	3.45	1	-83.46	20.45
6	9	HWY BB	-1	-1	41.36	55.97
6	9	HWY BB	4	0	-71.74	20.79
6	9	HWY BB			NA	NA
10	13	MANITOWOC	6.13	0	24.95	109.85
10	13	MANITOWOC	5.7	1	-63.91	143.33
10	13	MANITOWOC	4.36	0	19.32	110.15
10	13	MANITOWOC			NA	NA
10	13	MANITOWOC			NA	NA
10	13	MANITOWOC			NA	NA
10	13	MANITOWOC			NA	NA
11	19-1	HAVEN	6.25	1	-27.76	144.79
11	19-1	HAVEN	5.24	0	-6.83	31.83
11	19-1	HAVEN	3.49	0	80.62	64.59
11	19-1	HAVEN			NA	68.59
11	19-1	HAVEN			NA	19.86
11	19-1	HAVEN			NA	NA
11	19-1	HAVEN			NA	NA
12	18	FRICKE	6.86	1	-53.99	35.67
12	18	FRICKE			12	20.16
12	18	FRICKE			47	128.66
12	18	FRICKE	6.25	1	36.94	97.49
13	2	DOOR	5.63	0	NA	NA
13	2	DOOR	-1	-1	NA	NA
13	2	DOOR			NA	NA
14	3	DOOR	5.11	0	NA	NA

File #	Site #	location	A	Arnolds Distribution	Angle to Ice Flow	Angle to Exposure
14	3	DOOR			NA	NA
14	3	DOOR	5.68	0	72.68	NA
14	3	DOOR	7.9	0	-38.85	NA
14	3	DOOR	6.31	1	-86.13	NA
14	3	DOOR	5.65	1	4.69	NA
16	5	SANDY BAY			NA	75.77
16	5	SANDY BAY	5.61	1	NA	148.47
16	5	SANDY BAY	2.84	1	NA	87.79
16	5	SANDY BAY	4.14	1	NA	141.67
16	5	SANDY BAY			NA	NA
18	14	VALDERS	5.2	0	NA	NA
18	14	VALDERS	4.46	1	NA	NA
18	14	VALDERS	3.91	1	NA	NA
18	14	VALDERS			NA	NA
18	14	VALDERS			NA	NA
18	14	VALDERS			NA	NA
18	14	VALDERS			NA	NA
20	10	TWO CREEKS	3.22	1	NA	113.90
20	10	TWO CREEKS			NA	100.50
20	10	TWO CREEKS	5.83	0	NA	166.04
20	10	TWO CREEKS	5.65	1	NA	75.12
21	17	MEMORIAL			-7	143.88
21	17	MEMORIAL	7.15	1	53.02	25.71
21	17	MEMORIAL	8.95	0	-57.53	90.22
21	17	MEMORIAL			NA	NA
21	17	MEMORIAL			NA	NA
21	17	MEMORIAL			NA	NA
22	21	PORT WASH	4.32	1	73.94	94.23
22	21	PORT WASH			NA	19.28
22	21	PORT WASH	2.89	1	-19.87	12.63
22	21	PORT WASH			NA	NA
22	21	PORT WASH			NA	NA
22	21	PORT WASH			NA	NA
22	21	PORT WASH			NA	NA
22	21	PORT WASH			NA	NA
22	21	PORT WASH			NA	NA
23	16	SUB MANIT	3.58	0	NA	133.17
23	16	SUB MANIT	5.29	0	NA	46.81
23	16	SUB MANIT			NA	123.89
23	16	SUB MANIT			NA	NA
23	16	SUB MANIT			NA	NA

File #	Site #	location	A	Arnolds Distribution	Angle to Ice Flow	Angle to Exposure
24	19.2	HAVEN			-62	90.82
24	19.2	HAVEN			78	NA
24	19.2	HAVEN				
24	19.2	HAVEN				
26	24	ST FRAN	3.69	1	NA	25.36
26	24	ST FRAN	6.03	1	NA	105.86
26	24	ST FRAN	4.6	1	NA	79.98
28	26	ST FRAN	5.31	1	57.37	97.23
28	26	ST FRAN	5.38	1	-23.06	21.17
28	26	ST FRAN			NA	24.42
28	26	ST FRAN	6.15	1	5.59	127.09
28	26	ST FRAN			NA	NA
28	26	ST FRAN			NA	NA
29	27	ST FRAN	4.79	0	55.06	134.92
29	27	ST FRAN			NA	NA
29	27	ST FRAN			NA	NA
30	28	ST FRAN			NA	105.67
30	28	ST FRAN			NA	31.96
30	28	ST FRAN				
30	28	ST FRAN				
30	28	ST FRAN			NA	NA
30	28	ST FRAN			NA	NA
30	28	ST FRAN			NA	NA
30	28	ST FRAN			NA	NA
30	28	ST FRAN			NA	NA
31	31	CAMP AMNICON	4.55	0	64.93	101.90
31	31	CAMP AMNICON			-86	45.33
31	31	CAMP AMNICON			-41	88.00
31	31	CAMP AMNICON	3.25	0	29	31.10
31	31	CAMP AMNICON			NA	NA
31	31	CAMP AMNICON			NA	NA
31	31	CAMP AMNICON			NA	NA
31	31	CAMP AMNICON			NA	NA
32	32	CORPS SITE	4.4	0	52.74	43.84
32	32	CORPS SITE	10.34	0	-50.41	55.72
32	32	CORPS SITE	5.19	1	-70.65	96.95
32	32	CORPS SITE			NA	58.82
32	32	CORPS SITE			NA	18.19
32	32	CORPS SITE	4.33	1	-27.05	35.75
33	35	OSP-2	5.5	0	71.38	111.56
33	35	OSP-2	4.67	1	-52.19	75.63

File #	Site #	location	A	Arnolds Distribution	Angle to Ice Flow	Angle to Exposure
33	35	OSP-2	3.74	0	31	41.34
33	35	OSP-2	5.52	0	15.38	109.74
33	35	OSP-2	5.15	1	-37.22	54.23
33	35	OSP-2			NA	NA
33	35	OSP-2			NA	NA
35	29	BENDER PARK	4.94	0	65.4	60.86
35	29	BENDER PARK			30.6	41.54
35	29	BENDER PARK			-89.4	118.02
35	29	BENDER PARK	7.81	0	6.87	100.16
35	29	BENDER PARK			NA	NA
36	33	PEARSON CR	6.83	0	-37.03	93.64
36	33	PEARSON CR	6.13	0	41.09	19.47
36	33	PEARSON CR	4.25	1	-7.55	70.84
36	33	PEARSON CR			NA	NA
36	33	PEARSON CR			NA	NA
36	33	PEARSON CR			NA	NA
36	33	PEARSON CR			NA	NA
36	33	PEARSON CR			NA	NA
37	34	AMNICON	2	1	-87.2	56.43
37	34	AMNICON	2.53	1	9.5	29.35
37	34	AMNICON			-20	106.66
37	34	AMNICON				
37	34	AMNICON	3.73	0	59.98	65.28
37	34	AMNICON	2.5	0	48.2	161.65
100	20.1	HAVEN			-77	89.06
100	20.1	HAVEN	4.1	1	7.64	84.82
100	20.1	HAVEN				
101	20.2	HAVEN			-52	88.77
101	20.2	HAVEN			68	39.60
101	20.2	HAVEN			33	NA
101	20.2	HAVEN			-17	NA
101	20.2	HAVEN			13	NA
101	20.2	HAVEN			NA	NA
101	20.2	HAVEN			NA	NA
102	20.3	HAVEN	6.67	1	29.58	121.07
102	20.3	HAVEN	7.5	0	-56	23.21
102	20.3	HAVEN				
102	20.3	HAVEN				
105	8	HWY BB	5.09	1	-74.68	50.10
105	8	HWY BB	4.74	1	58.84	74.21
105	8	HWY BB			-43	129.72

File #	Site #	location	A	Arnolds Distribution	Angle to Ice Flow	Angle to Exposure
105	8	HWY BB				
105	8	HWY BB	6.45	1	-71.89	40.16
105	8	HWY BB			NA	NA
106	4	SANDY BAY	3.45	1	48.33	NA
106	4	SANDY BAY	4.73	1	47.78	NA
106	4	SANDY BAY	3.43	1	-48	NA
106	4	SANDY BAY	5.35	1	89.82	NA
107	12	TR PIT			-31	NA
107	12	TR PIT				
107	12	TR PIT	3.19	0	72.7	NA
107	12	TR PIT	3.06	1	67.22	NA
107	12	TR PIT	5.04	1	37.38	NA
107	12	TR PIT			NA	NA
107	12	TR PIT			NA	NA
107	12	TR PIT			NA	NA
108	(23	&ST FRAN			NA	128.18
108	(23	&ST FRAN			NA	84.88
108	(23	&ST FRAN	-1	-1	NA	89.32
108	(23	&ST FRAN	3.86	1	NA	24.75
109	7	SANDY BAY				
109	7	SANDY BAY				
109	7	SANDY BAY			NA	93.35
109	7	SANDY BAY	4.31	0	NA	158.91
109	7	SANDY BAY			NA	NA
109	7	SANDY BAY			NA	NA
109	7	SANDY BAY			NA	NA
110	36.1	OUTAGAMIE	6.29	0	NA	46.06
110	36.1	OUTAGAMIE			NA	130.48
110	36.1	OUTAGAMIE			NA	NA
110	36.1	OUTAGAMIE			NA	NA
110	36.1	OUTAGAMIE			NA	NA
111	36.2	OUTAGAMIE	7.58	-1	21.49	125.79
111	36.2	OUTAGAMIE	6.57	1	-74.72	42.18
111	36.2	OUTAGAMIE	9.65	-1	-29.18	6.77
111	36.2	OUTAGAMIE	5.35	1	-53.22	158.97
111	36.2	OUTAGAMIE				
112	37	KOENEN FARM	5.3	0	NA	41.14
112	37	KOENEN FARM	3.45	1	NA	59.21
112	37	KOENEN FARM	6.94	0	NA	40.73
112	37	KOENEN FARM			NA	NA

Approved: David M. [illegible]

Date: 10/18/84