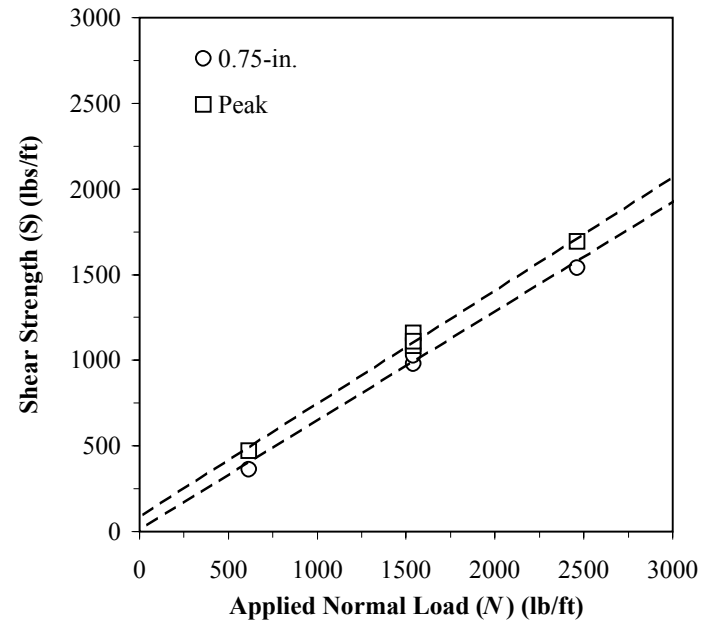
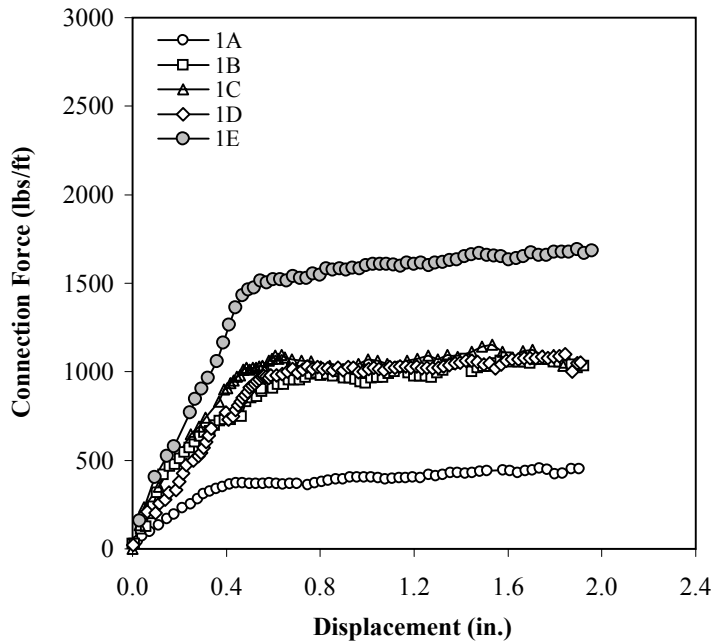


**GEOSTONE RETAINING WALL SYSTEMS, INC.
BLOCK SHEAR TESTING (NCMA TEST METHOD SRWU-2)**

TEST SERIES NO.1: Geostone 4" thick block unit/Geostone 4" thick block units with compacted AASHTO #57 stone (grave)



Test No.	Test Specimen Width (in.)	Test Normal Stress (psi)	Equivalent Normal Load (lb/ft)	Approx. No. of Blocks	Approx. Height (ft)	0.75-in. Strength (lb/ft)	Peak Strength (lb/ft)	Shear Strength Equations (S)
1A	17.8	4.3	616	8	5.0	361	470	$S_{0.75-in.} = 10 + (N) \tan (33^\circ)$ $ST_{peak} = 85 + (N) \tan (33^\circ)$
1B	17.8	10.7	1540	19	12.5	979	1082	
1C	17.8	10.7	1540	19	12.5	1059	1157	
1D	17.8	10.7	1540	19	12.5	1028	1108	
1E	17.8	17.1	2464	30	20.0	1539	1691	

Note:

Dimensions of Geostone Block Unit: 17.75 in. wide by 12 in. long and 4 in. high.

Weight of a Full-Size Geostone Block: 37.5 lbs.

Average Unit Weight of Facing (Block and Gravel): 123.2 pcf

DATE TESTED: 27 May 2004

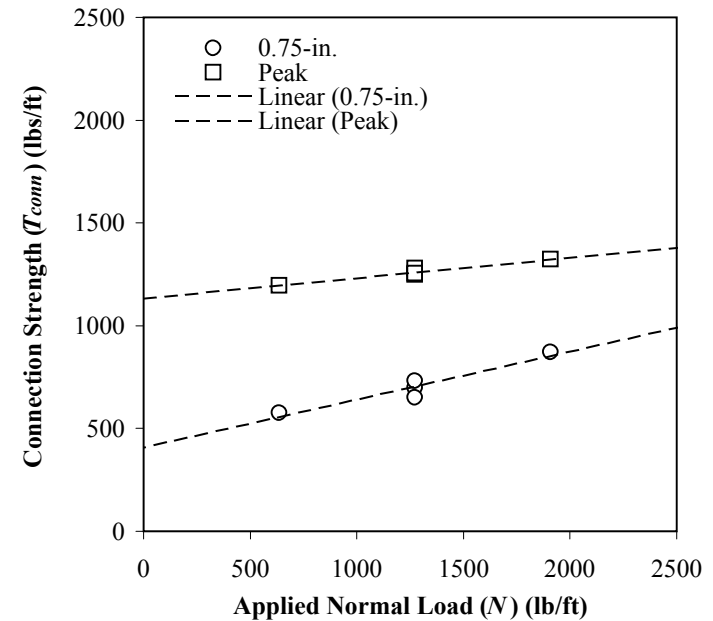
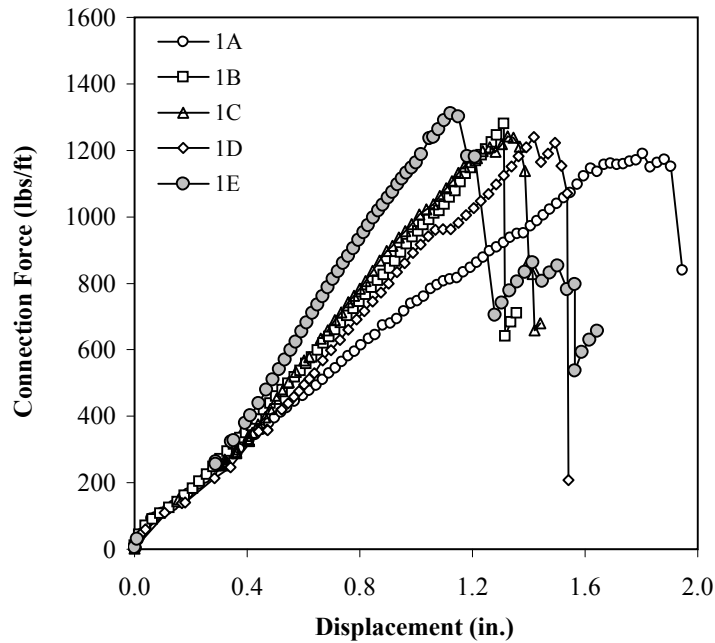


SGI TESTING SERVICES, LLC

FIGURE NO.	C-1
PROJECT NO.	SGI1053
DOCUMENT NO.	
FILE NO.	

**GEOSTONE RETAINING WALL SYSTEMS, INC.
CONNECTION STRENGTH TESTING (ASTM D 6638)**

TEST SERIES NO. 1: Synteen SF20/20 Geogrid in machine direction within Geostone 4" thick block units with compacted AASHTO #57 sto



Test No.	Test Specimen Width (in.)	Test Normal Stress (psi)	Equivalent Normal Load (lb/ft)	Approx. No. of Blocks	Approx. Height (ft)	0.75-in. Strength (lb/ft)	Peak Strength (lb/ft)	Connection Strength Equations (T_{conn})
1A	34.5	4.4	636	15	5.0	575	1197	$T_{0.75-in.} = 410 + (N) \tan (13^\circ)$
1B	34.5	8.8	1272	30	10.0	698	1280	
1C	34.5	8.8	1272	30	10.0	732	1248	$T_{peak} = 1135 + (N) \tan (6^\circ)$
1D	34.5	8.8	1272	30	10.0	651	1253	
1E	34.5	13.3	1908	45	15.0	872	1322	

NOTES:

Dimensions of Geostone Block Unit: 17.75 in. wide by 12 in. long and 4 in. high.
 Weight of a full-size Geostone Block: 37.5 lbs.
 Average Unit Weight of Facing (Block and Gravel): 127.2 pcf
 Failure Mode of Geogrid: abrasion and rupture of the geogrid in each test.

DATE TESTED: 25 to 26 July 2003

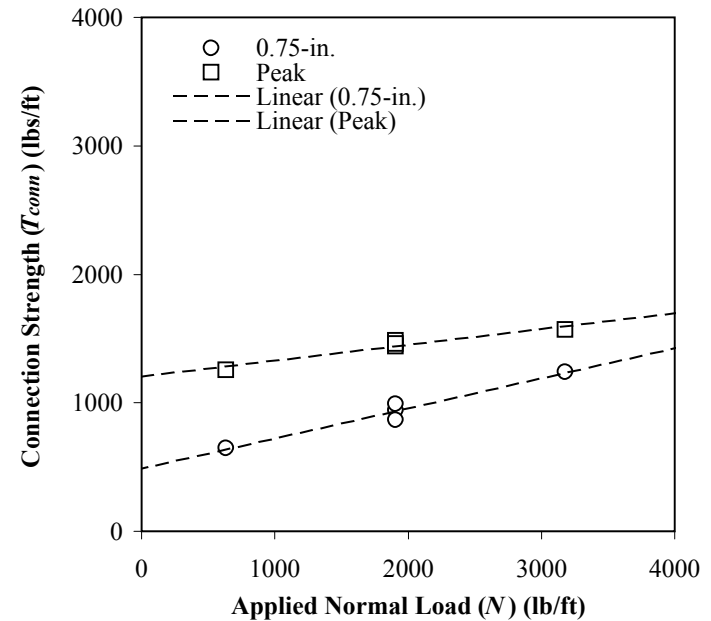
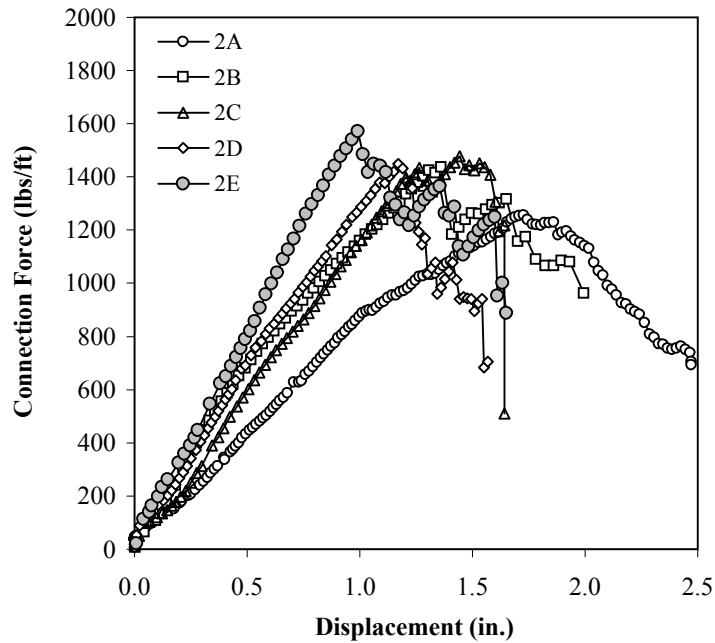


SGI TESTING SERVICES, LLC

FIGURE NO.	C-1
PROJECT NO.	SGI1053
DOCUMENT NO.	SGI1053.07
FILE NO.	

**GEOSTONE RETAINING WALL SYSTEMS, INC.
CONNECTION STRENGTH TESTING (ASTM D 6638)**

TEST SERIES NO. 2: Synteen SF35 Geogrid in machine direction within Geostone 4" thick block units with compacted AASHTO #57 stone



Test No.	Test Specimen Width (in.)	Test Normal Stress (psi)	Equivalent Normal Load (lb/ft)	Approx. No. of Blocks	Approx. Height (ft)	0.75-in. Strength (lb/ft)	Peak Strength (lb/ft)	Connection Strength Equations (T_{conn})
2A	35.3	4.4	636	15	5.0	645	1257	$T_{0.75-in.} = 490 + (N) \tan (13^\circ)$ $T_{peak} = 1205 + (N) \tan (7^\circ)$
2B	35.3	13.3	1908	45	15.0	941	1438	
2C	35.3	13.3	1908	45	15.0	865	1485	
2D	35.3	13.3	1908	45	15.0	991	1459	
2E	35.3	22.1	3180	75	25.0	1241	1571	

NOTES:

Dimensions of Geostone Block Unit: 17.75 in. wide by 12 in. long and 4 in. high.
 Weight of a full-size Geostone Block: 37.5 lbs.
 Average Unit Weight of Facing (Block and Gravel): 127.2 pcf
 Failure Mode of Geogrid: abrasion and rupture of the geogrid ribs in each test.

DATE TESTED: 27 to 28 July 2003

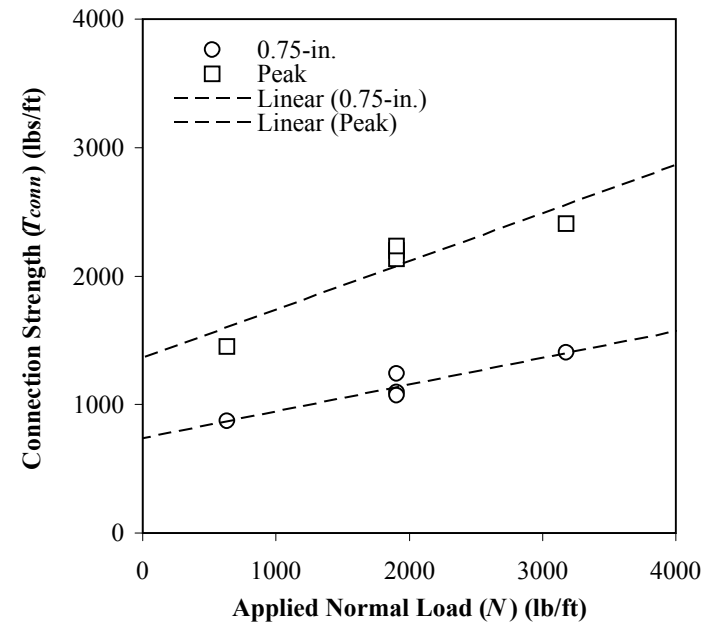
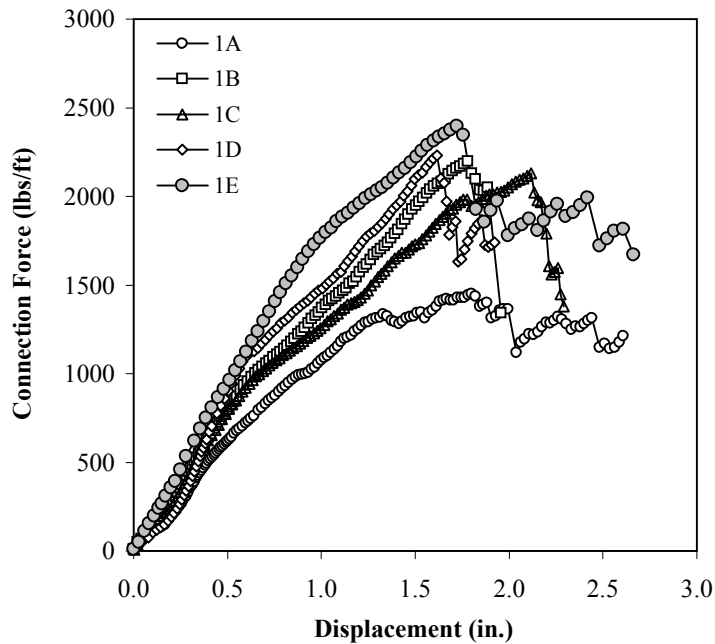


SGI TESTING SERVICES, LLC

FIGURE NO.	C-2
PROJECT NO.	SGI1053
DOCUMENT NO.	SGI1053.07
FILE NO.	

**GEOSTONE RETAINING WALL SYSTEMS, INC.
CONNECTION STRENGTH TESTING (ASTM D 6638)**

TEST SERIES NO. 1: Synteen SF55 Geogrid in machine direction within Geostone 4" thick block units with compacted AASHTO #57 stone



Test No.	Test Specimen Width (in.)	Test Normal Stress (psi)	Equivalent Normal Load (lb/ft)	Approx. No. of Blocks	Approx. Height (ft)	0.75-in. Strength (lb/ft)	Peak Strength (lb/ft)	Connection Strength Equations (T_{conn})
1A	35.3	4.4	636	15	5.0	874	1450	$T_{0.75-in.} = 740 + (N) \tan (12^\circ)$ $T_{peak} = 1365 + (N) \tan (21^\circ)$
1B	35.3	13.3	1908	45	15.0	1098	2198	
1C	35.3	13.3	1908	45	15.0	1069	2131	
1D	35.3	13.3	1908	45	15.0	1243	2230	
1E	35.3	22.1	3180	75	25.0	1403	2404	

NOTES:

Dimensions of Geostone Block Unit: 17.75 in. wide by 12 in. long and 4 in. high.

Weight of a full-size Geostone Block: 37.5 lbs.

Average Unit Weight of Facing (Block and Gravel): 127.2 pcf

Failure Mode: pullout of the geogrid in Test 1A. Abrasion and rupture of the geogrid ribs in 1B through 1E.

DATE TESTED: 17 to 18 February 2004



SGI TESTING SERVICES, LLC

FIGURE NO.	C-1
PROJECT NO.	SGI1053
DOCUMENT NO.	SGI1053.07
FILE NO.	