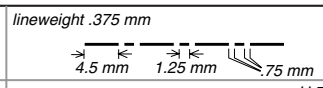
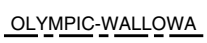
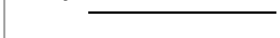
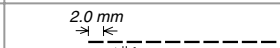
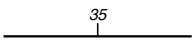
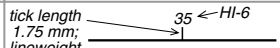
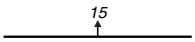
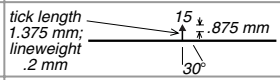
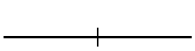
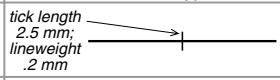
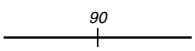
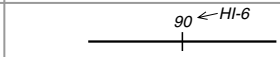
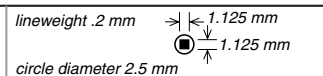
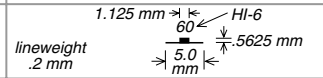
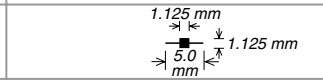
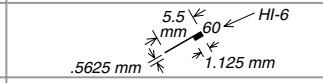
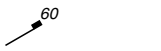
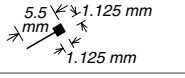
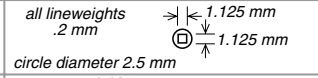
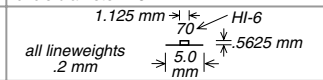
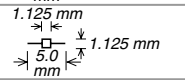
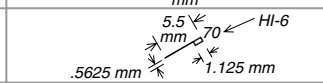
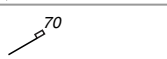
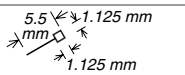
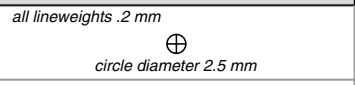
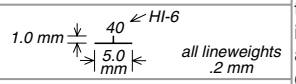
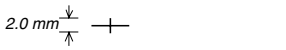
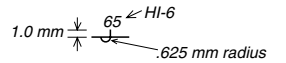
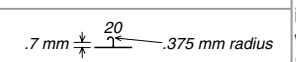
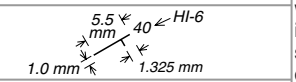
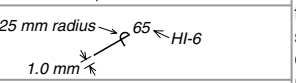
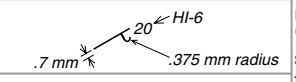
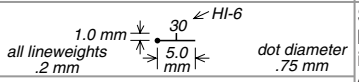
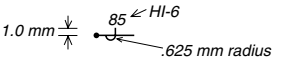
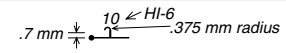
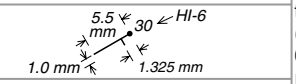
4—LINEAMENTS AND JOINTS

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	4.1—Lineaments			
4.1.1	Lineament			Use to show linear features that have been determined from aerial photographs or remotely sensed imagery but not identified on the ground.
4.1.2	Lineament—Showing name			
	4.2—Joints			
4.2.1	Joint—Identity and existence certain, location accurate			Use to show regional joint patterns or single joints that are mappable beyond outcrop. May also be shown in red or other colors.
4.2.2	Joint—Identity and existence certain, location approximate			
4.2.3	Inclined joint (1st option)—Showing dip value and direction			Place tick where observation was made. Add arrowhead or '90' to tick if necessary for clarity.
4.2.4	Inclined joint (2nd option)—Showing dip value and direction			
4.2.5	Vertical or subvertical joint (1st option)			
4.2.6	Vertical or subvertical joint (2nd option)			
	4.3—Small, minor joints			
4.3.1	Small, minor horizontal joint (1st option)			Use to show small, minor joints that are observed in outcrop but that cannot be traced away from that outcrop. For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding). May also be shown in red or other colors.
4.3.2	Small, minor inclined joint (1st option)—Showing strike and dip			
4.3.3	Small, minor vertical or near-vertical joint (1st option)—Showing strike			
4.3.4	Small, minor inclined (dip direction to right) joint, for multiple observations at one locality (1st option)—Showing strike and dip			
4.3.5	Small, minor inclined (dip direction to left) joint, for multiple observations at one locality (1st option)—Showing strike and dip			
4.3.6	Small, minor vertical or near-vertical joint, for multiple observations at one locality (1st option)—Showing strike			
4.3.7	Small, minor horizontal joint (2nd option)			
4.3.8	Small, minor inclined joint (2nd option)—Showing strike and dip			
4.3.9	Small, minor vertical or near-vertical joint (2nd option)—Showing strike			
4.3.10	Small, minor inclined (dip direction to right) joint, for multiple observations at one locality (2nd option)—Showing strike and dip			
4.3.11	Small, minor inclined (dip direction to left) joint, for multiple observations at one locality (2nd option)—Showing strike and dip			
4.3.12	Small, minor vertical or near-vertical joint, for multiple observations at one locality (2nd option)—Showing strike			

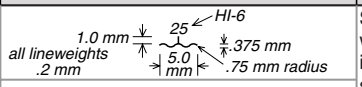
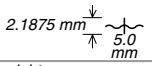
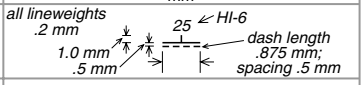
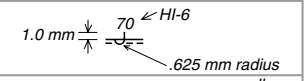
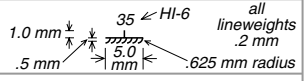
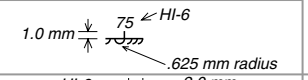
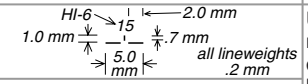
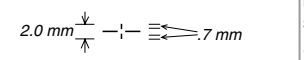
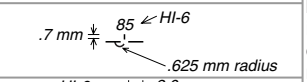
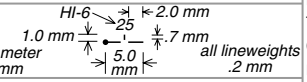
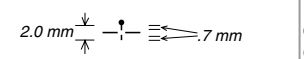
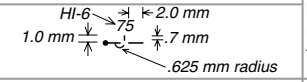
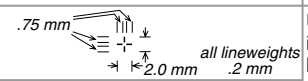
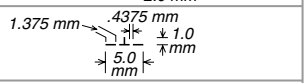
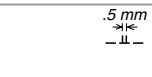
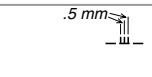
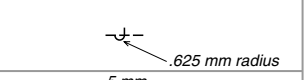
For more information, see general guidelines on pages A-i to A-v.

6—BEDDING

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
6.1	Horizontal bedding			Inclined (upright) and overturned bedding symbols are used when the top direction of beds is known to a reasonable degree of certainty. On maps where determination of top direction is "known" at some places and "unknown" at others, such symbols also may be used to indicate where top direction is "unknown" (compare with ref. nos. 6.13-24). Symbols may be used without a dip value to indicate the generalized strike and direction of dip of beds. For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
6.2	Inclined bedding—Showing strike and dip			
6.3	Vertical bedding—Showing strike			
6.4	Overturned bedding—Showing strike and dip			
6.5	Bedding overturned more than 180 degrees—Showing strike and dip			
6.6	Inclined (dip direction to right) bedding, for multiple observations at one locality—Showing strike and dip			
6.7	Inclined (dip direction to left) bedding, for multiple observations at one locality—Showing strike and dip			
6.8	Vertical bedding, for multiple observations at one locality—Showing strike			
6.9	Overturned (dip direction to right) bedding, for multiple observations at one locality—Showing strike and dip			
6.10	Overturned (dip direction to left) bedding, for multiple observations at one locality—Showing strike and dip			
6.11	Bedding overturned more than 180 degrees (dip direction to right), for multiple observations at one locality—Showing strike and dip			
6.12	Bedding overturned more than 180 degrees (dip direction to left), for multiple observations at one locality—Showing strike and dip			
6.13	Inclined bedding, where top direction of beds is known from local features—Showing strike and dip			Symbols that have a ball may be used to indicate a greater level of certainty in the determination of top direction. On maps where determination of top direction is "known" at some places and "unknown" at others, symbols that have a ball also may be used to indicate where top direction is "known" (compare with ref. nos. 6.1-12). For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
6.14	Vertical bedding, where top direction of beds is known from local features—Showing strike. Ball shows top direction			
6.15	Overturned bedding, where top direction of beds is known from local features—Showing strike and dip			
6.16	Bedding overturned more than 180 degrees, where top direction of beds is known from local features—Showing strike and dip			
6.17	Inclined (dip direction to right) bedding, where top direction of beds is known from local features, for multiple observations at one locality—Showing strike and dip			
6.18	Inclined (dip direction to left) bedding, where top direction of beds is known from local features, for multiple observations at one locality—Showing strike and dip			
6.19	Vertical (top direction to right) bedding, where top direction of beds is known from local features, for multiple observations at one locality—Showing strike. Ball shows top direction			
6.20	Vertical (top direction to left) bedding, where top direction of beds is known from local features, for multiple observations at one locality—Showing strike. Ball shows top direction			
6.21	Overturned (dip direction to right) bedding, where top direction of beds is known from local features, for multiple observations at one locality—Showing strike and dip			
6.22	Overturned (dip direction to left) bedding, where top direction of beds is known from local features, for multiple observations at one locality—Showing strike and dip			
6.23	Bedding overturned more than 180 degrees (dip direction to right), where top direction of beds is known from local features, for multiple observations at one locality—Showing strike and dip			
6.24	Bedding overturned more than 180 degrees (dip direction to left), where top direction of beds is known from local features, for multiple observations at one locality—Showing strike and dip			

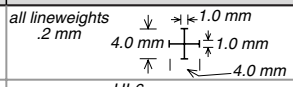
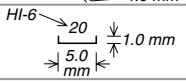
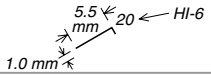
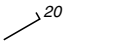
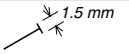
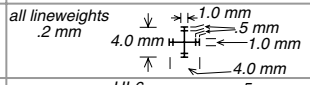
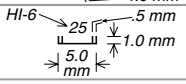
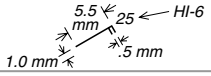
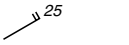
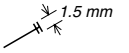
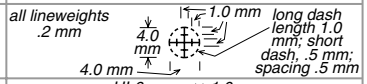
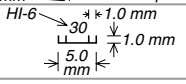
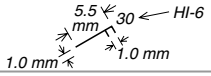
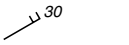
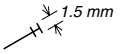
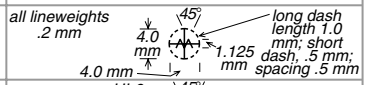
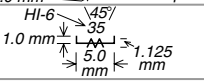
For more information, see general guidelines on pages A-i to A-v.

6—BEDDING (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
6.25	Inclined crenulated, warped, undulatory, or contorted bedding—Showing approximate strike and dip			Symbols may be used without a dip value to indicate the generalized strike and direction of dip of beds.
6.26	Vertical or near-vertical crenulated, warped, undulatory, or contorted bedding—Showing approximate strike			
6.27	Inclined graded bedding—Showing strike and dip			
6.28	Vertical or near-vertical graded bedding—Showing strike			
6.29	Overturned graded bedding—Showing strike and dip			
6.30	Inclined bedding in crossbedded rocks—Showing approximate strike and dip			
6.31	Vertical or near-vertical bedding in crossbedded rocks—Showing approximate strike			
6.32	Overturned bedding in crossbedded rocks—Showing approximate strike and dip			
6.33	Approximate orientation of inclined bedding—Showing approximate strike and dip			Use when the measurement of strike and (or) dip value is approximate but the location of observation is accurate. Symbols that have a ball may be used to indicate a greater level of certainty in the determination of top direction. On maps where determination of top direction is "known" at some places and "unknown" at others, symbols that have a ball also may be used to indicate where top direction is "known."
6.34	Approximate orientation of vertical or near-vertical bedding—Showing approximate strike			
6.35	Approximate orientation of overturned bedding—Showing approximate strike and dip			
6.36	Approximate orientation of inclined bedding, where top direction of beds is known from local features—Showing approximate strike and dip			
6.37	Approximate orientation of vertical or near-vertical bedding, where top direction of beds is known from local features—Showing approximate strike. Ball shows top direction			
6.38	Approximate orientation of overturned bedding, where top direction of beds is known from local features—Showing approximate strike and dip			
6.39	Horizontal bedding, as determined remotely or from aerial photographs			Usually reserved for use in reconnaissance geologic mapping.
6.40	Gently inclined (between 0° and 30°) bedding, as determined remotely or from aerial photographs—Showing approximate strike and direction of dip			
6.41	Moderately inclined (between 30° and 60°) bedding, as determined remotely or from aerial photographs—Showing approximate strike and direction of dip			
6.42	Steeply inclined (between 60° and 90°) bedding, as determined remotely or from aerial photographs—Showing approximate strike and direction of dip			
6.43	Vertical or near-vertical bedding, as determined remotely or from aerial photographs—Showing approximate strike			
6.44	Gently overturned (between 0° and 30°) bedding, as determined remotely or from aerial photographs—Showing approximate strike and direction of dip			
6.45	Moderately overturned (between 30° and 60°) bedding, as determined remotely or from aerial photographs—Showing approximate strike and direction of dip			
6.46	Steeply overturned (between 60° and 90°) bedding, as determined remotely or from aerial photographs—Showing approximate strike and direction of dip			

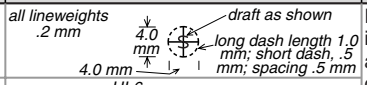
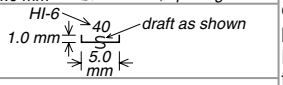
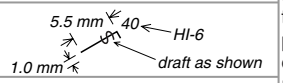
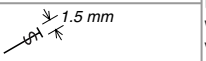
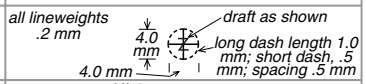
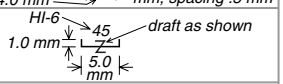
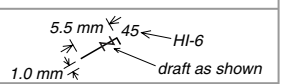
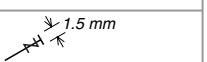
For more information, see general guidelines on pages A-i to A-v.

7—CLEAVAGE

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
7.1	Horizontal cleavage (generic or type unspecified)			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
7.2	Inclined cleavage (generic or type unspecified)—Showing strike and dip			
7.3	Vertical cleavage (generic or type unspecified)—Showing strike			
7.4	Inclined (dip direction to right) cleavage (generic or type unspecified), for multiple observations at one locality—Showing strike and dip			
7.5	Inclined (dip direction to left) cleavage (generic or type unspecified), for multiple observations at one locality—Showing strike and dip			
7.6	Vertical cleavage (generic or type unspecified), for multiple observations at one locality—Showing strike			
7.7	Horizontal continuous, slaty cleavage			
7.8	Inclined continuous, slaty cleavage—Showing strike and dip			
7.9	Vertical continuous, slaty cleavage—Showing strike			
7.10	Inclined (dip direction to right) continuous, slaty cleavage, for multiple observations at one locality —Showing strike and dip			
7.11	Inclined (dip direction to left) continuous, slaty cleavage, for multiple observations at one locality —Showing strike and dip			
7.12	Vertical continuous slaty, cleavage, for multiple observations at one locality—Showing strike			
7.13	Horizontal disjunctive, spaced cleavage			
7.14	Inclined disjunctive, spaced cleavage—Showing strike and dip			
7.15	Vertical disjunctive, spaced cleavage—Showing strike			
7.16	Inclined (dip direction to right) disjunctive, spaced cleavage, for multiple observations at one locality —Showing strike and dip			
7.17	Inclined (dip direction to left) disjunctive, spaced cleavage, for multiple observations at one locality —Showing strike and dip			
7.18	Vertical disjunctive, spaced cleavage, for multiple observations at one locality—Showing strike			
7.19	Horizontal disjunctive, symmetric crenulation cleavage			
7.20	Inclined disjunctive, symmetric crenulation cleavage—Showing strike and dip			
7.21	Vertical or near-vertical disjunctive, symmetric crenulation cleavage—Showing strike			
7.22	Inclined (dip direction to right) disjunctive, symmetric crenulation cleavage, for multiple observations at one locality—Showing strike and dip			
7.23	Inclined (dip direction to left) disjunctive, symmetric crenulation cleavage, for multiple observations at one locality—Showing strike and dip			
7.24	Vertical or near-vertical disjunctive, symmetric crenulation cleavage, for multiple observations at one locality—Showing strike			

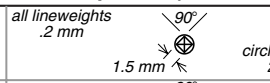
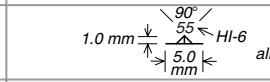
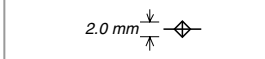
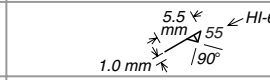
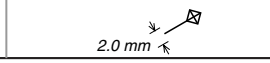
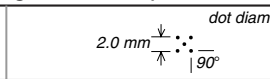
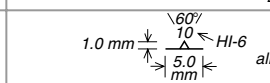
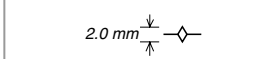
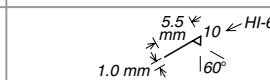
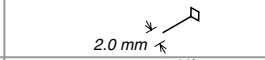
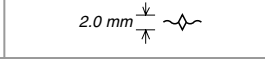
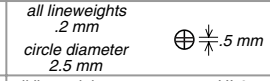
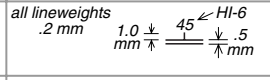
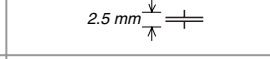
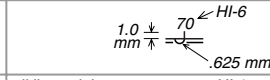
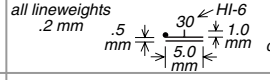
For more information, see general guidelines on pages A-i to A-v.

7—CLEAVAGE (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
7.25	Horizontal disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation cleavage			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
7.26	Inclined disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation cleavage—Showing strike and dip			
7.27	Vertical or near-vertical disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation cleavage—Showing strike			
7.28	Inclined (dip direction to right) disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation cleavage, for multiple observations at one locality—Showing strike and dip			
7.29	Inclined (dip direction to left) disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation cleavage, for multiple observations at one locality—Showing strike and dip			
7.30	Vertical or near-vertical disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation cleavage, for multiple observations at one locality—Showing strike			
7.31	Horizontal disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation cleavage			
7.32	Inclined disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation cleavage—Showing strike and dip			
7.33	Vertical or near-vertical disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation cleavage—Showing strike			
7.34	Inclined (dip direction to right) disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation cleavage, for multiple observations at one locality—Showing strike and dip			
7.35	Inclined (dip direction to left) disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation cleavage, for multiple observations at one locality—Showing strike and dip			
7.36	Vertical or near-vertical disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation cleavage, for multiple observations at one locality—Showing strike			

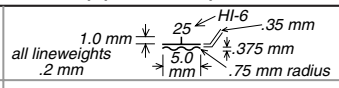
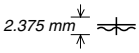
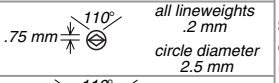
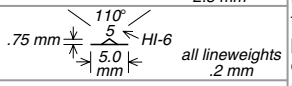
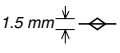
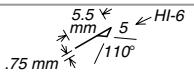
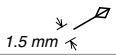
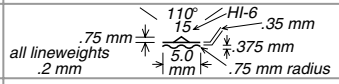
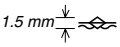
**For more information, see general guidelines on pages A-i to A-v.*

8—FOLIATION

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
8.1—Generic foliation (origin not known or not specified)				
8.1.1	Horizontal generic (origin not known or not specified) foliation			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.1.2	Inclined generic (origin not known or not specified) foliation—Showing strike and dip			
8.1.3	Vertical generic (origin not known or not specified) foliation—Showing strike			
8.1.4	Inclined (dip direction to right) generic (origin not known or not specified) foliation, for multiple observations at one locality—Showing strike and dip			
8.1.5	Inclined (dip direction to left) generic (origin not known or not specified) foliation, for multiple observations at one locality—Showing strike and dip			
8.1.6	Vertical generic (origin not known or not specified) foliation or foliation, for multiple observations at one locality—Showing strike			
8.2—Primary foliation or layering (in igneous rocks)				
8.2.1	Massive igneous rock			May be used at locality where foliation and lineation are absent.
8.2.2	Horizontal flow banding, lamination, layering, or foliation in igneous rock			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.2.3	Inclined flow banding, lamination, layering, or foliation in igneous rock—Showing strike and dip			
8.2.4	Vertical flow banding, lamination, layering, or foliation in igneous rock—Showing strike			
8.2.5	Inclined (dip direction to right) flow banding, lamination, layering, or foliation in igneous rock, for multiple observations at one locality—Showing strike and dip			
8.2.6	Inclined (dip direction to left) flow banding, lamination, layering, or foliation in igneous rock, for multiple observations at one locality—Showing strike and dip			
8.2.7	Vertical flow banding, lamination, layering, or foliation in igneous rock, for multiple observations at one locality—Showing strike			
8.2.8	Inclined crinkled or deformed flow banding, lamination, layering, or foliation in igneous rock—Showing approximate strike and dip			
8.2.9	Vertical or near-vertical crinkled or deformed flow banding, lamination, layering, or foliation in igneous rock—Showing approximate strike			
8.2.10	Horizontal cumulate foliation			Inclined (upright) and overturned cumulate foliation symbols are used when the top direction of layers is known to a reasonable degree of certainty. Symbols that have a ball may be used to indicate a greater level of certainty in the determination of top direction. On maps where determination of top direction is "known" at some places and "unknown" at others, symbols that have a ball also may be used to indicate where top direction is "known".
8.2.11	Inclined cumulate foliation—Showing strike and dip			
8.2.12	Vertical cumulate foliation—Showing strike			
8.2.13	Overturned cumulate foliation—Showing strike and dip			
8.2.14	Inclined cumulate foliation, where top direction of layers is known from local features—Showing strike and dip			
8.2.15	Vertical cumulate foliation, where top direction of layers is known from local features—Showing strike. Ball shows top direction			
8.2.16	Overturned cumulate foliation, where top direction of layers is known from local features—Showing strike and dip			

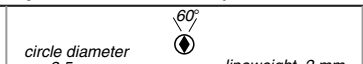
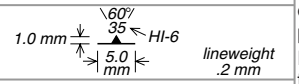
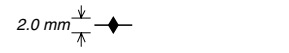
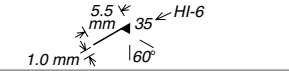
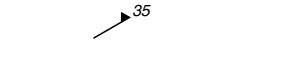
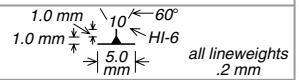
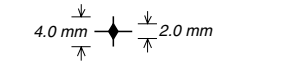
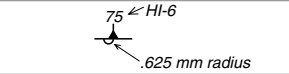
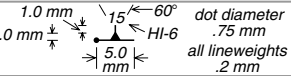
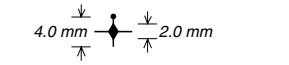
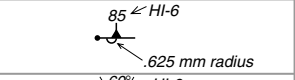
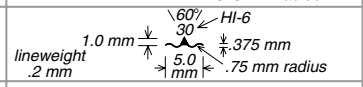
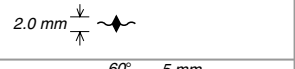
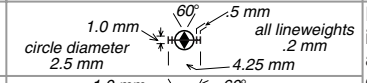
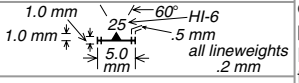
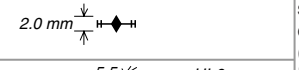
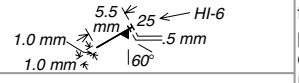
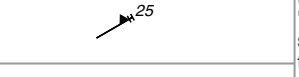
**For more information, see general guidelines on pages A-i to A-v.*

8—FOLIATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
8.2—Primary foliation or layering (in igneous rocks) (continued)				
8.2.17	Inclined crinkled or deformed cumulate foliation—Showing approximate strike and dip			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.2.18	Vertical or near-vertical crinkled or deformed cumulate foliation—Showing approximate strike			
8.2.19	Horizontal eutaxitic foliation			
8.2.20	Inclined eutaxitic foliation—Showing strike and dip			
8.2.21	Vertical or near-vertical eutaxitic foliation—Showing strike			
8.2.22	Inclined (dip direction to right) eutaxitic foliation, for multiple observations at one locality—Showing strike and dip			
8.2.23	Inclined (dip direction to left) eutaxitic foliation, for multiple observations at one locality—Showing strike and dip			
8.2.24	Vertical or near-vertical eutaxitic foliation, for multiple observations at one locality—Showing strike			
8.2.25	Inclined crinkled or deformed eutaxitic foliation—Showing approximate strike and dip			
8.2.26	Vertical or near-vertical crinkled or deformed eutaxitic foliation—Showing approximate strike			

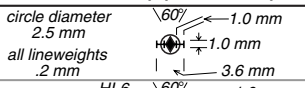
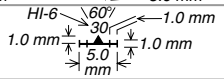
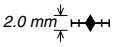
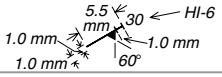
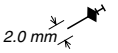
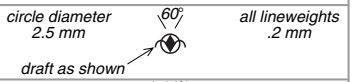
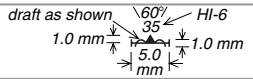
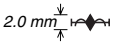
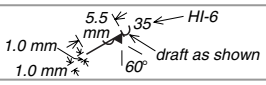
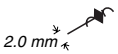
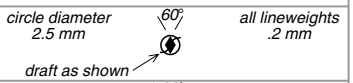
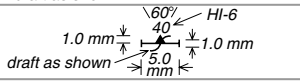
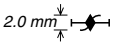
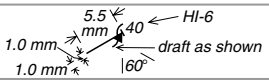
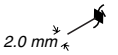
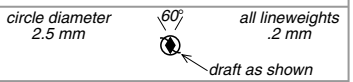
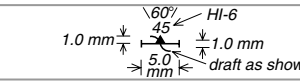
**For more information, see general guidelines on pages A-i to A-v.*

8—FOLIATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
8.3—Secondary foliation (caused by metamorphism or tectonism)				
8.3.1	Horizontal metamorphic or tectonic foliation			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.3.2	Inclined metamorphic or tectonic foliation—Showing strike and dip			
8.3.3	Vertical metamorphic or tectonic foliation—Showing strike			
8.3.4	Inclined (dip direction to right) metamorphic or tectonic foliation, for multiple observations at one locality—Showing strike and dip			
8.3.5	Inclined (dip direction to left) metamorphic or tectonic foliation, for multiple observations at one locality—Showing strike and dip			
8.3.6	Vertical metamorphic or tectonic foliation, for multiple observations at one locality—Showing strike			
8.3.7	Horizontal metamorphic or tectonic foliation parallel to bedding			Inclined (upright) and overturned foliation symbols are used when the top direction of bedding is known to a reasonable degree of certainty. Symbols that have a ball may be used to indicate a greater level of certainty in the determination of top direction. On maps where determination of top direction is "known" at some places and "unknown" at others, symbols that have a ball also may be used to indicate where top direction is "known".
8.3.8	Inclined metamorphic or tectonic foliation parallel to bedding—Showing strike and dip			
8.3.9	Vertical metamorphic or tectonic foliation parallel to bedding—Showing strike			
8.3.10	Inclined metamorphic or tectonic foliation parallel to overturned bedding—Showing strike and dip			
8.3.11	Inclined metamorphic or tectonic foliation parallel to upright bedding, where top direction of beds is known from local features—Showing strike and dip			
8.3.12	Vertical metamorphic or tectonic foliation parallel to bedding, where top direction of beds is known from local features—Showing strike. Ball shows top direction			
8.3.13	Inclined metamorphic or tectonic foliation parallel to overturned bedding, where top direction of beds is known from local features—Showing strike and dip			
8.3.14	Inclined crinkled or deformed metamorphic or tectonic foliation—Showing approximate strike and dip			
8.3.15	Vertical or near-vertical crinkled or deformed metamorphic or tectonic foliation—Showing approximate strike			
8.3.16	Horizontal continuous, penetrative foliation			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.3.17	Inclined continuous, penetrative foliation—Showing strike and dip			
8.3.18	Vertical continuous, penetrative foliation—Showing strike			
8.3.19	Inclined (dip direction to right) continuous, penetrative foliation, for multiple observations at one locality—Showing strike and dip			
8.3.20	Inclined (dip direction to left) continuous, penetrative foliation, for multiple observations at one locality—Showing strike and dip			
8.3.21	Vertical continuous, penetrative foliation, for multiple observations at one locality—Showing strike			

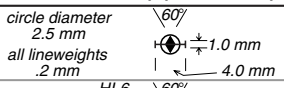
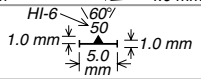
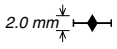
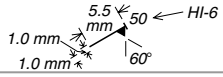
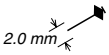
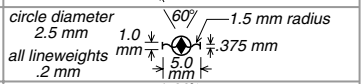
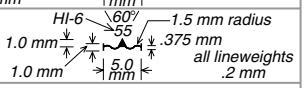
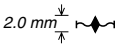
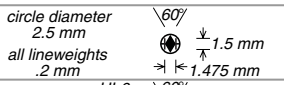
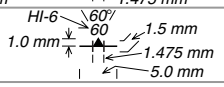
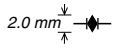
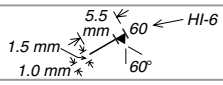
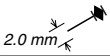
**For more information, see general guidelines on pages A-i to A-v.*

8—FOLIATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	8.3—Secondary foliation (caused by metamorphism or tectonism) (continued)			
8.3.22	Horizontal disjunctive, spaced foliation			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.3.23	Inclined disjunctive, spaced foliation—Showing strike and dip			
8.3.24	Vertical disjunctive, spaced foliation—Showing strike			
8.3.25	Inclined (dip direction to right) disjunctive, spaced foliation, for multiple observations at one locality—Showing strike and dip			
8.3.26	Inclined (dip direction to left) disjunctive, spaced foliation, for multiple observations at one locality—Showing strike and dip			
8.3.27	Vertical disjunctive, spaced foliation, for multiple observations at one locality—Showing strike			
8.3.28	Horizontal disjunctive, symmetric crenulation foliation			
8.3.29	Inclined disjunctive, symmetric crenulation foliation—Showing strike and dip			
8.3.30	Vertical or near-vertical disjunctive, symmetric crenulation foliation—Showing strike			
8.3.31	Inclined (dip direction to right) disjunctive, symmetric crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.32	Inclined (dip direction to left) disjunctive, symmetric crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.33	Vertical or near-vertical disjunctive, symmetric crenulation foliation, for multiple observations at one locality—Showing strike			
8.3.34	Horizontal disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation			
8.3.35	Inclined disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation—Showing strike and dip			
8.3.36	Vertical or near-vertical disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation—Showing strike			
8.3.37	Inclined (dip direction to right) disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.38	Inclined (dip direction to left) disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.39	Vertical or near-vertical disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike			
8.3.40	Horizontal disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation			
8.3.41	Inclined disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation—Showing strike and dip			
8.3.42	Vertical or near-vertical disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation—Showing strike			
8.3.43	Inclined (dip direction to right) disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.44	Inclined (dip direction to left) disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.45	Vertical or near-vertical disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike			

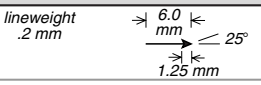
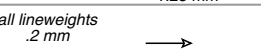
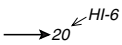
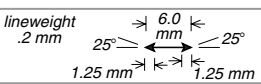
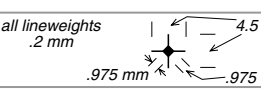
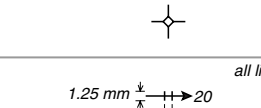
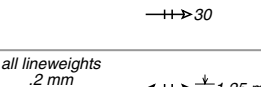
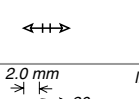
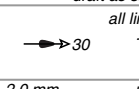
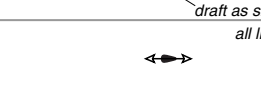
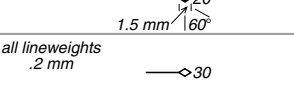
*For more information, see general guidelines on pages A-i to A-v.

8—FOLIATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
8.3—Secondary foliation (caused by metamorphism or tectonism) (continued)				
8.3.46	Horizontal gneissic layering			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.3.47	Inclined gneissic layering—Showing strike and dip			
8.3.48	Vertical or near-vertical gneissic layering—Showing strike			
8.3.49	Inclined (dip direction to right) gneissic layering, for multiple observations at one locality—Showing strike and dip			
8.3.50	Inclined (dip direction to left) gneissic layering, for multiple observations at one locality—Showing strike and dip			
8.3.51	Vertical or near-vertical gneissic layering, for multiple observations at one locality—Showing strike			
8.3.52	Horizontal undulatory gneissic layering			
8.3.53	Inclined undulatory gneissic layering—Showing strike and dip			
8.3.54	Vertical or near-vertical undulatory gneissic layering—Showing strike			
8.3.55	Horizontal mylonitic foliation			
8.3.56	Inclined mylonitic foliation—Showing strike and dip			
8.3.57	Vertical or near-vertical mylonitic foliation—Showing strike			
8.3.58	Inclined (dip direction to right) mylonitic foliation, for multiple observations at one locality—Showing strike and dip			
8.3.59	Inclined (dip direction to left) mylonitic foliation, for multiple observations at one locality—Showing strike and dip			
8.3.60	Vertical or near-vertical mylonitic foliation, for multiple observations at one locality—Showing strike			

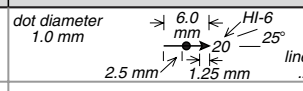
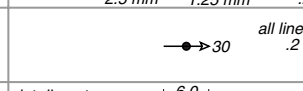
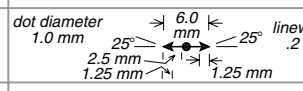
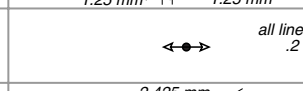
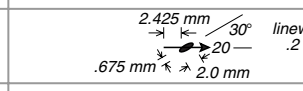
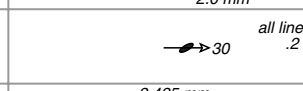
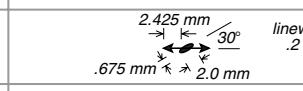
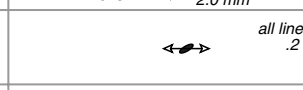
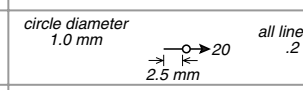
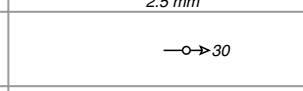
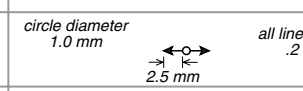
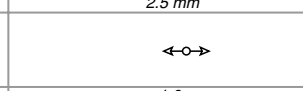
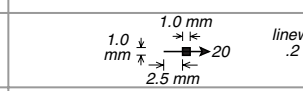
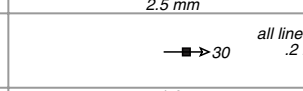
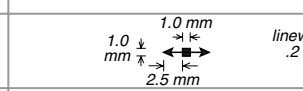
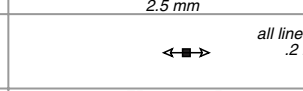
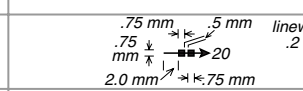
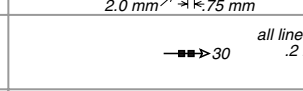
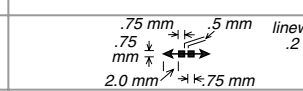
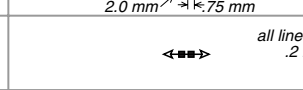
**For more information, see general guidelines on pages A-i to A-v.*

9—LINEATION

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
9.1	Approximate plunge direction of inclined generic (origin or type not known or not specified) lineation or linear structure (1st option)			Open-arrowed ("2nd option") symbols may be used to show a second generation or another instance of a particular lineation. Lineation symbols may be used separately or combined with other symbols. For lineation symbols representing a single observation at one locality, the point of observation is at one of the following two places: for inclined lineations, at the "tail" end (opposite the arrowhead); for horizontal lineations, at the midpoint of the bearing line. For a single lineation symbol combined with a single planar-feature (for example, bedding or foliation) symbol, join the "tail" end of the lineation arrow to the midpoint of the strike line of the planar-feature symbol; the junction point is at the point of observation. For multiple observations at one locality, join all symbols at their "tail" ends (opposite the arrowheads or other ornamentations); the junction point is at the point of observation.
9.2	Approximate plunge direction of inclined generic (origin or type not known or not specified) lineation or linear structure (2nd option)			
9.3	Inclined generic (origin or type not known or not specified) lineation or linear structure (1st option) —Showing bearing and plunge			
9.4	Inclined generic (origin or type not known or not specified) lineation or linear structure (2nd option) —Showing bearing and plunge			
9.5	Horizontal generic (origin or type not known or not specified) lineation or linear structure (1st option) —Showing bearing			
9.6	Horizontal generic (origin or type not known or not specified) lineation or linear structure (2nd option) —Showing bearing			
9.7	Vertical or near-vertical generic (origin or type not known or not specified) lineation or linear structure (1st option)			
9.8	Vertical or near-vertical generic (origin or type not known or not specified) lineation or linear structure (2nd option)			
9.9	Inclined parting lineation in sedimentary materials (1st option)—Showing bearing and plunge			
9.10	Inclined parting lineation in sedimentary materials (2nd option)—Showing bearing and plunge			
9.11	Horizontal parting lineation in sedimentary materials (1st option)—Showing bearing			
9.12	Horizontal parting lineation in sedimentary materials (2nd option)—Showing bearing			
9.13	Inclined sole mark, tool mark, scour mark, flute mark, groove, or channel in sedimentary materials (1st option)—Showing bearing and plunge			
9.14	Inclined sole mark, tool mark, scour mark, flute mark, groove, or channel in sedimentary materials (2nd option)—Showing bearing and plunge			
9.15	Horizontal sole mark, tool mark, scour mark, flute mark, groove, or channel in sedimentary materials (1st option)—Showing bearing			
9.16	Horizontal sole mark, tool mark, scour mark, flute mark, groove, or channel in sedimentary materials (2nd option)—Showing bearing			
9.17	Inclined slickenline, groove, or striation on fault surface (1st option)—Showing bearing and plunge			
9.18	Inclined slickenline, groove, or striation on fault surface (2nd option)—Showing bearing and plunge			
9.19	Horizontal slickenline, groove, or striation on fault surface (1st option)—Showing bearing			
9.20	Horizontal slickenline, groove, or striation on fault surface (2nd option)—Showing bearing			
9.21	Inclined surface groove or striation (origin not known or not specified) (1st option)—Showing bearing and plunge			
9.22	Inclined surface groove or striation (origin not known or not specified) (2nd option)—Showing bearing and plunge			
9.23	Horizontal surface groove or striation (origin not known or not specified) (1st option)—Showing bearing			
9.24	Horizontal surface groove or striation (origin not known or not specified) (2nd option)—Showing bearing			

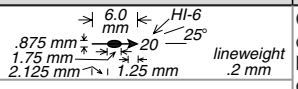
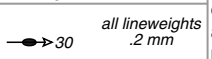
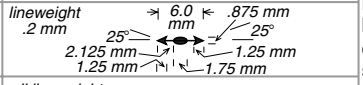
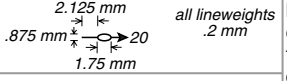
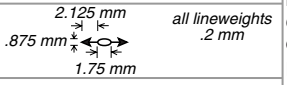
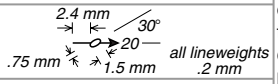
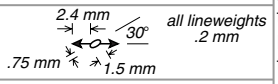
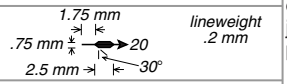
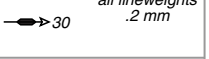
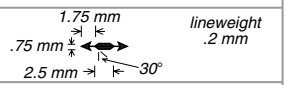
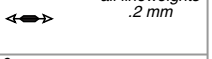
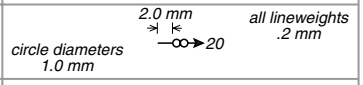
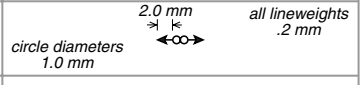
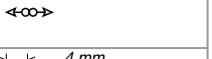
**For more information, see general guidelines on pages A-i to A-v.*

9—LINEATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
9.25	Inclined aligned-object lineation (1st option)—Showing bearing and plunge			Open-arrowed ("2nd option") symbols may be used to show a second generation or another instance of a particular lineation. Lineation symbols may be used separately or combined with other symbols. For lineation symbols representing a single observation at one locality, the point of observation is at one of the following two places: for inclined lineations, at the "tail" end (opposite the arrowhead); for horizontal lineations, at the midpoint of the bearing line. For a single lineation symbol combined with a single planar-feature (for example, bedding or foliation) symbol, join the "tail" end of the lineation arrow to the midpoint of the strike line of the planar-feature symbol; the junction point is at the point of observation. For multiple observations at one locality, join all symbols at their "tail" ends (opposite the arrowheads or other ornamentations); the junction point is at the point of observation.
9.26	Inclined aligned-object lineation (2nd option)—Showing bearing and plunge			
9.27	Horizontal aligned-object lineation (1st option)—Showing bearing			
9.28	Horizontal aligned-object lineation (2nd option)—Showing bearing			
9.29	Inclined aligned-clast or aligned-grain lineation (in sedimentary materials) (1st option)—Showing bearing and plunge			
9.30	Inclined aligned-clast or aligned-grain lineation (in sedimentary materials) (2nd option)—Showing bearing and plunge			
9.31	Horizontal aligned-clast or aligned-grain lineation (in sedimentary materials) (1st option)—Showing bearing			
9.32	Horizontal aligned-clast or aligned-grain lineation (in sedimentary materials) (2nd option)—Showing bearing			
9.33	Inclined aligned-inclusion lineation (in igneous rocks) (1st option)—Showing bearing and plunge			
9.34	Inclined aligned-inclusion lineation (in igneous rocks) (2nd option)—Showing bearing and plunge			
9.35	Horizontal aligned-inclusion lineation (in igneous rocks) (1st option)—Showing bearing			
9.36	Horizontal aligned-inclusion lineation (in igneous rocks) (2nd option)—Showing bearing			
9.37	Inclined aligned-mineral lineation (1st option)—Showing bearing and plunge			
9.38	Inclined aligned-mineral lineation (2nd option)—Showing bearing and plunge			
9.39	Horizontal aligned-mineral lineation (1st option)—Showing bearing			
9.40	Horizontal aligned-mineral lineation (2nd option)—Showing bearing			
9.41	Inclined aligned mineral-aggregate lineation (1st option)—Showing bearing and plunge			
9.42	Inclined aligned mineral-aggregate lineation (2nd option)—Showing bearing and plunge			
9.43	Horizontal aligned mineral-aggregate lineation (1st option)—Showing bearing			
9.44	Horizontal aligned mineral-aggregate lineation (2nd option)—Showing bearing			
9.45	Inclined aligned deformed-mineral lineation (1st option)—Showing bearing and plunge			
9.46	Inclined aligned deformed-mineral lineation (2nd option)—Showing bearing and plunge			
9.47	Horizontal aligned deformed-mineral lineation (1st option)—Showing bearing			
9.48	Horizontal aligned deformed-mineral lineation (2nd option)—Showing bearing			

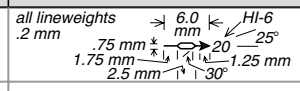
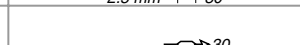
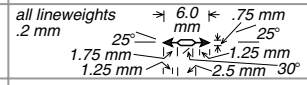
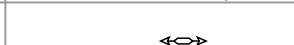
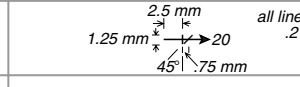
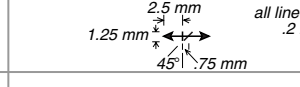
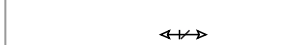
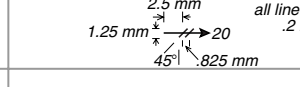
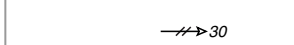
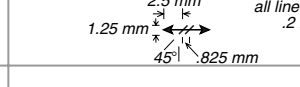
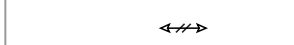
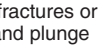
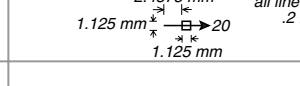
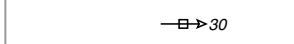
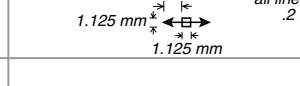
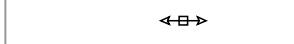
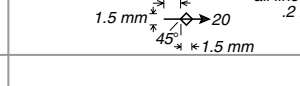
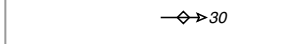
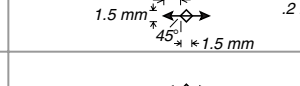
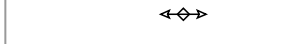
For more information, see general guidelines on pages A-i to A-v.

9—LINEATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
9.49	Inclined aligned stretched-object lineation (1st option)—Showing bearing and plunge			Open-arrowed ("2nd option") symbols may be used to show a second generation or another instance of a particular lineation. Lineation symbols may be used separately or combined with other symbols. For lineation symbols representing a single observation at one locality, the point of observation is at one of the following two places: for inclined lineations, at the "tail" end (opposite the arrowhead); for horizontal lineations, at the midpoint of the bearing line. For a single lineation symbol combined with a single planar-feature (for example, bedding or foliation) symbol, join the "tail" end of the lineation arrow to the midpoint of the strike line of the planar-feature symbol; the junction point is at the point of observation. For multiple observations at one locality, join all symbols at their "tail" ends (opposite the arrowheads or other ornamentations); the junction point is at the point of observation.
9.50	Inclined aligned stretched-object lineation (2nd option)—Showing bearing and plunge			
9.51	Horizontal aligned stretched-object lineation (1st option)—Showing bearing			
9.52	Horizontal aligned stretched-object lineation (2nd option)—Showing bearing			
9.53	Inclined aligned stretched-pebble lineation (1st option)—Showing bearing and plunge			
9.54	Inclined aligned stretched-pebble lineation (2nd option)—Showing bearing and plunge			
9.55	Horizontal aligned stretched-pebble lineation (1st option)—Showing bearing			
9.56	Horizontal aligned stretched-pebble lineation (2nd option)—Showing bearing			
9.57	Inclined aligned stretched-ooid lineation (1st option)—Showing bearing and plunge			
9.58	Inclined aligned stretched-ooid lineation (2nd option)—Showing bearing and plunge			
9.59	Horizontal aligned stretched-ooid lineation (1st option)—Showing bearing			
9.60	Horizontal aligned stretched-ooid lineation (2nd option)—Showing bearing			
9.61	Inclined rodding (1st option)—Showing bearing and plunge			
9.62	Inclined rodding (2nd option)—Showing bearing and plunge			
9.63	Horizontal rodding (1st option)—Showing bearing			
9.64	Horizontal rodding (2nd option)—Showing bearing			
9.65	Inclined mullions (1st option)—Showing bearing and plunge			
9.66	Inclined mullions (2nd option)—Showing bearing and plunge			
9.67	Horizontal mullions (1st option)—Showing bearing			
9.68	Horizontal mullions (2nd option)—Showing bearing			
9.69	Inclined boudins (1st option)—Showing bearing and plunge			
9.70	Inclined boudins (2nd option)—Showing bearing and plunge			
9.71	Horizontal boudins (1st option)—Showing bearing			
9.72	Horizontal boudins (2nd option)—Showing bearing			

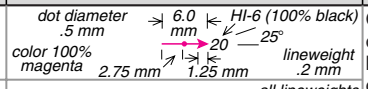
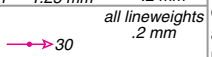
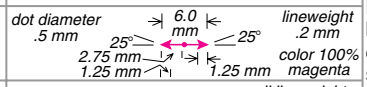
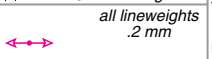
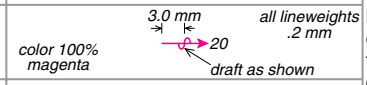
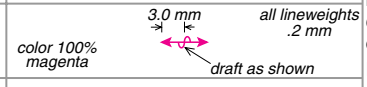
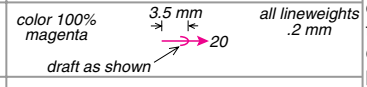
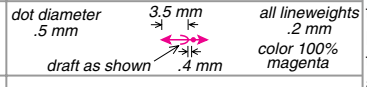
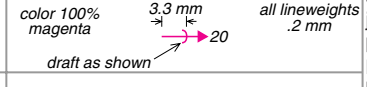
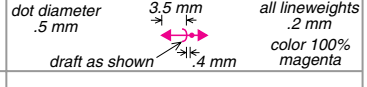
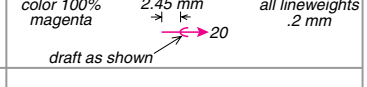
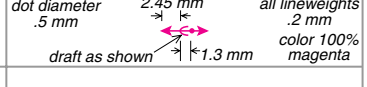
*For more information, see general guidelines on pages A-i to A-v.

9—LINEATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
9.73	Inclined pencil structure (1st option)—Showing bearing and plunge			Open-arrowed ("2nd option") symbols may be used to show a second generation or another instance of a particular lineation. Lineation symbols may be used separately or combined with other symbols. For lineation symbols representing a single observation at one locality, the point of observation is at one of the following two places: for inclined lineations, at the "tail" end (opposite the arrowhead); for horizontal lineations, at the midpoint of the bearing line. For a single lineation symbol combined with a single planar-feature (for example, bedding or foliation) symbol, join the "tail" end of the lineation arrow to the midpoint of the strike line of the planar-feature symbol; the junction point is at the point of observation. For multiple observations at one locality, join all symbols at their "tail" ends (opposite the arrowheads or other ornamentations); the junction point is at the point of observation.
9.74	Inclined pencil structure (2nd option)—Showing bearing and plunge			
9.75	Horizontal pencil structure (1st option)—Showing bearing			
9.76	Horizontal pencil structure (2nd option)—Showing bearing			
9.77	Inclined lineation at intersection of bedding and cleavage (1st option)—Showing bearing and plunge			
9.78	Inclined lineation at intersection of bedding and cleavage (2nd option)—Showing bearing and plunge			
9.79	Horizontal lineation at intersection of bedding and cleavage (1st option)—Showing bearing			
9.80	Horizontal lineation at intersection of bedding and cleavage (2nd option)—Showing bearing			
9.81	Inclined lineation at intersection of two cleavages (1st option)—Showing bearing and plunge			
9.82	Inclined lineation at intersection of two cleavages (2nd option)—Showing bearing and plunge			
9.83	Horizontal lineation at intersection of two cleavages (1st option)—Showing bearing			
9.84	Horizontal lineation at intersection of two cleavages (2nd option)—Showing bearing			
9.85	Inclined lineation at intersection of two fractures or joints (1st option)—Showing bearing and plunge			
9.86	Inclined lineation at intersection of two fractures or joints (2nd option)—Showing bearing and plunge			
9.87	Horizontal lineation at intersection of two fractures or joints (1st option)—Showing bearing			
9.88	Horizontal lineation at intersection of two fractures or joints (2nd option)—Showing bearing			
9.89	Inclined lineation at intersection of two foliations (1st option)—Showing bearing and plunge			
9.90	Inclined lineation at intersection of two foliations (2nd option)—Showing bearing and plunge			
9.91	Horizontal lineation at intersection of two foliations (1st option)—Showing bearing			
9.92	Horizontal lineation at intersection of two foliations (2nd option)—Showing bearing			
9.93	Inclined lineation at intersection of two surfaces (origin or type unspecified) (1st option)—Showing bearing and plunge			
9.94	Inclined lineation at intersection of two surfaces (origin or type unspecified) (2nd option)—Showing bearing and plunge			
9.95	Horizontal lineation at intersection of two surfaces (origin or type unspecified) (1st option)—Showing bearing			
9.96	Horizontal lineation at intersection of two surfaces (origin or type unspecified) (2nd option)—Showing bearing			

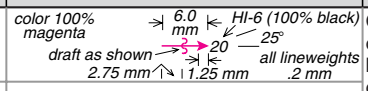
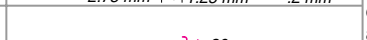
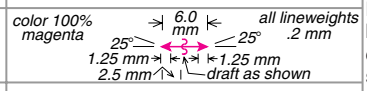
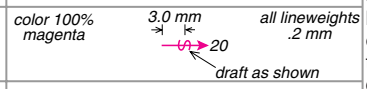
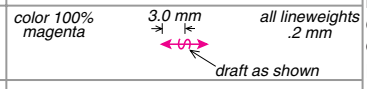
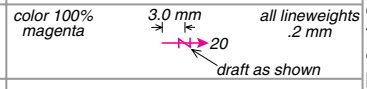
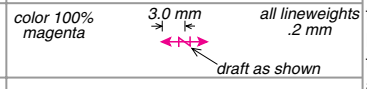
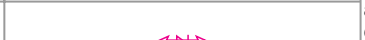
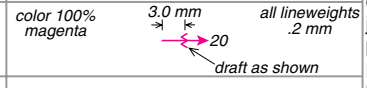
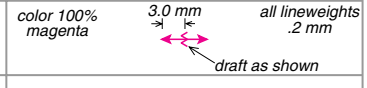
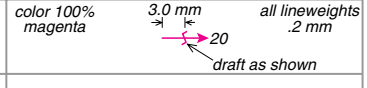
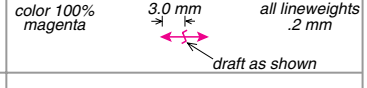
**For more information, see general guidelines on pages A-i to A-v.*

9—LINEATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
9.97	Inclined fold hinge of generic (type or orientation unspecified) small, minor fold (1st option)—Showing bearing and plunge			Open-arrowed ("2nd option") symbols may be used to show a second generation or another instance of a particular lineation. Lineation symbols may be used separately or combined with other symbols. For lineation symbols representing a single observation at one locality, the point of observation is at one of the following two places: for inclined lineations, at the "tail" end (opposite the arrowhead); for horizontal lineations, at the midpoint of the bearing line. For a single lineation symbol combined with a single planar-feature (for example, bedding or foliation) symbol, join the "tail" end of the lineation arrow to the midpoint of the strike line of the planar-feature symbol; the junction point is at the point of observation. For multiple observations at one locality, join all symbols at their "tail" ends (opposite the arrowheads or other ornamentations); the junction point is at the point of observation. May also be shown in black or other colors.
9.98	Inclined fold hinge of generic (type or orientation unspecified) small, minor fold (2nd option)—Showing bearing and plunge			
9.99	Horizontal fold hinge of generic (type or orientation unspecified) small, minor fold (1st option)—Showing bearing			
9.100	Horizontal fold hinge of generic (type or orientation unspecified) small, minor fold (2nd option)—Showing bearing			
9.101	Inclined fold hinge of small, minor penecontemporaneous soft-sediment fold (1st option)—Showing bearing and plunge			
9.102	Inclined fold hinge of small, minor penecontemporaneous soft-sediment fold (2nd option)—Showing bearing and plunge			
9.103	Horizontal fold hinge of small, minor penecontemporaneous soft-sediment fold (1st option)—Showing bearing			
9.104	Horizontal fold hinge of small, minor penecontemporaneous soft-sediment fold (2nd option)—Showing bearing			
9.105	Inclined fold hinge of small, minor anticline (1st option)—Showing bearing and plunge			
9.106	Inclined fold hinge of small, minor anticline (2nd option)—Showing bearing and plunge			
9.107	Horizontal fold hinge of small, minor anticline (1st option)—Showing bearing. Ball on topographically higher side of fold			
9.108	Horizontal fold hinge of small, minor anticline (2nd option)—Showing bearing. Ball on topographically higher side of fold			
9.109	Inclined fold hinge of small, minor antiform (1st option)—Showing bearing and plunge			
9.110	Inclined fold hinge of small, minor antiform (2nd option)—Showing bearing and plunge			
9.111	Horizontal fold hinge of small, minor antiform (1st option)—Showing bearing. Ball on topographically higher side of fold			
9.112	Horizontal fold hinge of small, minor antiform (2nd option)—Showing bearing. Ball on topographically higher side of fold			
9.113	Inclined fold hinge of small, minor syncline (1st option)—Showing bearing and plunge			
9.114	Inclined fold hinge of small, minor syncline (2nd option)—Showing bearing and plunge			
9.115	Horizontal fold hinge of small, minor syncline (1st option)—Showing bearing. Ball on topographically higher side of fold			
9.116	Horizontal fold hinge of small, minor syncline (2nd option)—Showing bearing. Ball on topographically higher side of fold			
9.117	Inclined fold hinge of small, minor synform (1st option)—Showing bearing and plunge			
9.118	Inclined fold hinge of small, minor synform (2nd option)—Showing bearing and plunge			
9.119	Horizontal fold hinge of small, minor synform (1st option)—Showing bearing. Ball on topographically higher side of fold			
9.120	Horizontal fold hinge of small, minor synform (2nd option)—Showing bearing. Ball on topographically higher side of fold			

*For more information, see general guidelines on pages A-i to A-v.

9—LINEATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
9.121	Inclined symmetric minor fold hinge (1st option)—Showing bearing and plunge			Open-arrowed ("2nd option") symbols may be used to show a second generation or another instance of a particular lineation. Lineation symbols may be used separately or combined with other symbols. For lineation symbols representing a single observation at one locality, the point of observation is at one of the following two places: for inclined lineations, at the "tail" end (opposite the arrowhead); for horizontal lineations, at the midpoint of the bearing line. For a single lineation symbol combined with a single planar-feature (for example, bedding or foliation) symbol, join the "tail" end of the lineation arrow to the midpoint of the strike line of the planar-feature symbol; the junction point is at the point of observation. For multiple observations at one locality, join all symbols at their "tail" ends (opposite the arrowheads or other ornamentations); the junction point is at the point of observation. May also be shown in black or other colors.
9.122	Inclined symmetric minor fold hinge (2nd option)—Showing bearing and plunge			
9.123	Horizontal symmetric minor fold hinge (1st option)—Showing bearing			
9.124	Horizontal symmetric minor fold hinge (2nd option)—Showing bearing			
9.125	Inclined asymmetric (S-shaped, counterclockwise sense of shear) minor fold hinge (1st option)—Showing bearing and plunge			
9.126	Inclined asymmetric (S-shaped, counterclockwise sense of shear) minor fold hinge (2nd option)—Showing bearing and plunge			
9.127	Horizontal asymmetric (S-shaped, counterclockwise sense of shear) minor fold hinge (1st option)—Showing bearing			
9.128	Horizontal asymmetric (S-shaped, counterclockwise sense of shear) minor fold hinge (2nd option)—Showing bearing			
9.129	Inclined asymmetric (Z-shaped, clockwise sense of shear) minor fold hinge (1st option)—Showing bearing and plunge			
9.130	Inclined asymmetric (Z-shaped, clockwise sense of shear) minor fold hinge (2nd option)—Showing bearing and plunge			
9.131	Horizontal asymmetric (Z-shaped, clockwise sense of shear) minor fold hinge (1st option)—Showing bearing			
9.132	Horizontal asymmetric (Z-shaped, clockwise sense of shear) minor fold hinge (2nd option)—Showing bearing			
9.133	Inclined crenulation lineation (1st option)—Showing bearing and plunge			
9.134	Inclined crenulation lineation (2nd option)—Showing bearing and plunge			
9.135	Horizontal crenulation lineation (1st option)—Showing bearing			
9.136	Horizontal crenulation lineation (2nd option)—Showing bearing			
9.137	Inclined asymmetric (S-shaped, counterclockwise sense of shear) kink-band crenulation lineation (1st option)—Showing bearing and plunge			
9.138	Inclined asymmetric (S-shaped, counterclockwise sense of shear) kink-band crenulation lineation (2nd option)—Showing bearing and plunge			
9.139	Horizontal asymmetric (S-shaped, counterclockwise sense of shear) kink-band crenulation lineation (1st option)—Showing bearing			
9.140	Horizontal asymmetric (S-shaped, counterclockwise sense of shear) kink-band crenulation lineation (2nd option)—Showing bearing			
9.141	Inclined asymmetric (Z-shaped, clockwise sense of shear) kink-band crenulation lineation (1st option)—Showing bearing and plunge			
9.142	Inclined asymmetric (Z-shaped, clockwise sense of shear) kink-band crenulation lineation (2nd option)—Showing bearing and plunge			
9.143	Horizontal asymmetric (Z-shaped, clockwise sense of shear) kink-band crenulation lineation (1st option)—Showing bearing			
9.144	Horizontal asymmetric (Z-shaped, clockwise sense of shear) kink-band crenulation lineation (2nd option)—Showing bearing			

*For more information, see general guidelines on pages A-i to A-v.