

### 18—VOLCANIC FEATURES

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
18.1	Rim of volcanic crater—Identity and existence certain, location accurate. Hachures point into crater			Use to show outline of topographic wall. Rim may not outline crater completely. May also be shown in red, magenta, or other colors.
18.2	Rim of volcanic crater—Identity or existence questionable, location accurate. Hachures point into crater			
18.3	Rim of volcanic crater—Identity or existence certain, location approximate. Hachures point into crater			
18.4	Rim of volcanic crater—Identity or existence questionable, location approximate. Hachures point into crater			
18.5	Rim of volcanic crater—Identity and existence certain, location concealed. Hachures point into crater			
18.6	Rim of volcanic crater—Identity or existence questionable, location concealed. Hachures point into crater			
18.7	Rim of volcanic crater—Dot shows low point of crater			
18.8	Caldera margin (1st option)—Identity and existence certain, location accurate. Ticks point into caldera			May also be shown in red, magenta, or other colors.
18.9	Caldera margin (1st option)—Identity or existence questionable, location accurate. Ticks point into caldera			
18.10	Caldera margin (1st option)—Identity and existence certain, location approximate. Ticks point into caldera			
18.11	Caldera margin (1st option)—Identity or existence questionable, location approximate. Ticks point into caldera			
18.12	Caldera margin (1st option)—Identity and existence certain, location inferred. Ticks point into caldera			
18.13	Caldera margin (1st option)—Identity or existence questionable, location inferred. Ticks point into caldera			
18.14	Caldera margin (1st option)—Identity and existence certain, location concealed. Ticks point into caldera			
18.15	Caldera margin (1st option)—Identity or existence questionable, location concealed. Ticks point into caldera			
18.16	Caldera margin (2nd option)—Identity and existence certain, location accurate. Ticks point into caldera			
18.17	Caldera margin (2nd option)—Identity or existence questionable, location accurate. Ticks point into caldera			
18.18	Caldera margin (2nd option)—Identity and existence certain, location approximate. Ticks point into caldera			
18.19	Caldera margin (2nd option)—Identity or existence questionable, location approximate. Ticks point into caldera			
18.20	Caldera margin (2nd option)—Identity and existence certain, location inferred. Ticks point into caldera			
18.21	Caldera margin (2nd option)—Identity or existence questionable, location inferred. Ticks point into caldera			
18.22	Caldera margin (2nd option)—Identity and existence certain, location concealed. Ticks point into caldera			
18.23	Caldera margin (2nd option)—Identity or existence questionable, location concealed. Ticks point into caldera			

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

**18—VOLCANIC FEATURES (continued)**

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
18.24	Contact separating individual lava flows within same map unit—Identity and existence certain, location accurate		lineweight .2 mm color 100% red	May also be shown in magenta, black, or other colors.
18.25	Contact separating individual lava flows within same map unit—Identity or existence questionable, location accurate			
18.26	Contact separating individual lava flows within same map unit—Identity and existence certain, location approximate		3.5 mm 	
18.27	Contact separating individual lava flows within same map unit—Identity or existence questionable, location approximate			
18.28	Contact separating individual lava flows within same map unit—Identity and existence certain, location inferred		1.5 mm 	
18.29	Contact separating individual lava flows within same map unit—Identity or existence questionable, location inferred			
18.30	Contact separating individual lava flows within same map unit—Identity and existence certain, location concealed		.5 mm 	
18.31	Contact separating individual lava flows within same map unit—Identity or existence questionable, location concealed			
18.32	Flow lobe or lava-flow front—Identity and existence certain, location accurate. Hachures on side of overlying younger flow		all lineweights .2 mm color 100% red 	
18.33	Flow lobe or lava-flow front—Identity or existence questionable, location accurate. Hachures on side of overlying younger flow			
18.34	Flow lobe or lava-flow front—Identity and existence certain, location approximate. Hachures on side of overlying younger flow		3.5 mm 	
18.35	Flow lobe or lava-flow front—Identity or existence questionable, location approximate. Hachures on side of overlying younger flow			
18.36	Flow lobe or lava-flow front—Identity and existence certain, location concealed. Hachures on side of overlying younger flow		.5 mm 	
18.37	Flow lobe or lava-flow front—Identity or existence questionable, location concealed. Hachures on side of overlying younger flow			
18.38	Form line on lava flow		lineweight .2 mm color 100% red length and spacing may vary	
18.39	Flow lines on lava flow		color 100% red stem lineweight .175 mm 25° 2.0 mm stem length and spacing may vary	
18.40	Cracks on surface of lava flow		lineweight .25 mm color 100% red length and spacing may vary	
18.41	Volcanic fissure			
18.42	Buried volcanic fissure			
18.43	Volcanic fissure where lava has been emitted			
18.44	Lava tube—Red circles indicate presence of skylights (not mapped to scale) along lava tube		circle lineweight .2 mm; diameter .75 mm; color 100% red lineweight .15 mm 1.375 mm 25°	
18.45	Lava tube—Red circles outline collapses (mapped to scale) along lava tube		lineweight .2 mm; color 100% red	
18.46	Crest line of pressure ridge or tumulus on lava flow		lineweight .2 mm color 100% red 60° 5.5 mm 1.0 mm	
18.47	Pressure ridge on lava flow		lineweight .2 mm color 100% red 60° 5.5 mm 1.0 mm	

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**18—VOLCANIC FEATURES (continued)**

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
18.48	Ice-contact lava-flow margin—Identity and existence certain, location accurate. Rectangles on side of overlying younger flow		lineweight .2 mm color 100% red	May also be shown in magenta, black, or other colors.
18.49	Ice-contact lava-flow margin—Identity or existence questionable, location accurate. Rectangles on side of overlying younger flow		<i>H-8</i> tick spacing 2.0 mm (at base) color 100% red lineweight .2 mm rectangle height .5 mm rectangle width 2.0 mm total length 12.0 mm	
18.50	Ice-contact lava-flow margin—Identity and existence certain, location approximate. Rectangles on side of overlying younger flow		rectangle height 3.5 mm rectangle width .75 mm	
18.51	Ice-contact lava-flow margin—Identity or existence questionable, location approximate. Rectangles on side of overlying younger flow		rectangle height 3.5 mm rectangle width .75 mm	
18.52	Ice-contact lava-flow margin—Identity and existence certain, location concealed. Rectangles on side of overlying younger flow		rectangle height .5 mm rectangle width 2.5 mm	
18.53	Ice-contact lava-flow margin—Identity or existence questionable, location concealed. Rectangles on side of overlying younger flow		rectangle height .5 mm rectangle width 2.5 mm	
18.54	Outline of basalt-filled lava pond		all lineweights .2 mm tick spacing 2.0 mm (at base) color 100% red radius 1.0 mm height .875 mm	May also be shown in magenta, black, or other colors.
18.55	Small cone, vent, cinder cone, or spatter cone		lineweight .2 mm color 100% red radius 2.0 mm height 2.0 mm angle 60°	May also be shown in magenta, black, or other colors.
18.56	Large cone, vent, cinder cone, or spatter cone		lineweight .2 mm color 100% red radius 2.625 mm height 2.625 mm angle 60°	
18.57	Small hornito		lineweight .2 mm color 100% red radius 2.0 mm height 2.0 mm angle 45°	
18.58	Large hornito		lineweight .2 mm color 100% red radius 2.625 mm height 2.625 mm angle 45°	
18.59	Spatter rampart		lineweight .2 mm color 100% red radius 1.5 mm height 1.5 mm angle 90° spacing .5 mm	
18.60	Rootless vent area on lava flow		lineweight .2 mm line color 100% red pattern 327-R	
18.61	Thermal area		lineweight .2 mm line color 100% red pattern 121-R in 50% red	
18.62	Thermal spring		color 100% red dot diameter 1.5 mm radius .5 mm lineweight .15 mm tail length 2.0 mm <i>H-7</i>	Rotate tail to downhill. May also be shown in magenta or other colors.
18.63	Geyser		lineweight .2 mm lineweight .375 mm lineweight .2 mm color 100% red radius .5 mm height 2.75 mm ellipse height 1.25 mm; width 2.5 mm	May also be shown in magenta, black, or other colors.
18.64	Fumarole or steam vent		draft as shown 2.5 mm all lineweights .2 mm color 100% red ellipse height 1.25 mm; width 2.5 mm	
18.65	Recent volcano on small-scale maps		outer diameter 3.0 mm; inner diameter 1.375 mm all lineweights .2 mm angle 22.5° color 100% red	
18.66	Active volcano on small-scale maps		lineweight .3 mm color 100% red radius 2.625 mm angle 60°	Usually reserved for maps at scales of 1:250,000 or smaller.
18.67	Inactive volcano on small-scale maps		color 100% red radius 2.5 mm lineweight .3 mm angle 90°	May also be shown in magenta, black, or other colors.
18.68	Cinder cone on small-scale maps		circle diameter 1.375 mm lineweight .2 mm color 100% red	
18.69	Diatreme		dot diameter 1.375 mm color 100% red <i>H-7</i>	
18.70	Breccia pipe		dot diameter 1.375 mm color 100% red <i>H-7</i>	
18.71	Collapse structure—Indicating breccia pipe at depth		lineweight .2 mm circle diameter 1.375 mm color 100% red <i>H-7</i>	

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