



## ORIENTEERING NSW

### COMPARISON OF MAPPING SPECIFICATIONS

#### ROCKS AND BOULDERS

**Green** = symbol change, map needs to change. **Yellow** = symbol change, gets smaller. **Blue** = symbol change, gets bigger or more frequent.

**Pink** = ISOM 2017 and ISSprOM differ. **Red** = symbol different, fix when field checking map. **Olive green** = not sure about this change in symbol.

**Red text** = recommended annotations to IOF Specifications.

ISOM 2000	ISOM 2017-2 (Adjusted version published January 2019)	ISSOM 1 January 2007	ISSprOM 2019 (valid from 1 January 2020, with errata)
Rock is a special category of land form. The inclusion of rock gives useful information about danger and runnability, as well as providing features for map reading and control points. Rock is shown in black to distinguish it from other land forms features. Care must be taken to make sure that rock features such as cliffs agree with the shape and fall of the ground shown by contours or form lines.	Rock is a special category of landform. The inclusion of rock gives useful information about danger and runnability as well as providing features for map reading and control points. Rock is shown in black to distinguish it from other landform features. Care must be taken to make sure that rock features such as cliffs fit with the shape and fall of the ground as shown by contours.		

<p><b>201 Impassable cliff</b></p> <p>An impassable cliff, quarry or earth bank (see 106) is shown with a 0.35 mm line and</p> <p>downward tags showing its full extent from the top line to the foot.</p> <p>For vertical rock faces the tags may be omitted if space is short, e.g. narrow passages between cliffs</p> <p>The tags may extend over an area symbol representing detail immediately below the rock face. (the passage should be drawn with a width of at least 0.3 mm).</p> <p>When a rock face drops straight into water making it impossible to pass under the cliff along the water's edge, the bank line is omitted or the tags should clearly extend over the bank line.</p> <p>This addition is common sense mapping practice.</p>	<p><b>201 Impassable cliff (L)</b></p> <p>A cliff, quarry or earth bank that is so high and steep that it is impossible to pass/climb or is dangerous.</p> <p>For vertical rock faces the tags may be omitted if space is short.</p> <p>Ends of the top line may be rounded or square.</p> <p>Shorter tags may be used at the ends. Neither OCAD or OOM seem to have this drawing feature. I'm not sure if the omission means anything. ISOM 2017 does not prevent tags extending over details.</p> <p>The gap between two impassable cliffs or between impassable cliffs and other impassable feature symbols must exceed 0.25 mm on the map.</p> <p>When an impassable cliff drops straight into water, making it impossible to pass under the cliff along the water's edge, the bank line is omitted or the tags shall clearly extend over the bank line.</p>	<p><b>201 Impassable cliff (forbidden to cross)</b></p> <p>An impassable cliff, quarry or earth bank (see symbol <i>earth bank</i> 106).</p> <p>Tags are drawn downwards, showing its full extent from the top line to the foot.</p> <p>For vertical rock faces the tags may be omitted if space is short, e.g. narrow passages between cliffs</p> <p>The tags may extend over an area symbol representing detail immediately below the rock face. (the passage should be drawn with a width of at least 0.3 mm).</p> <p>When a rock face drops straight into water making it impossible to pass under the cliff along the water's edge, the bank line is omitted or the tags shall clearly extend over the bank line.</p>	<p><b>201 Impassable cliff (L)</b></p> <p>An impassable cliff, quarry or earth bank (see symbol <i>Earth bank</i> 104).</p> <p>Tags are drawn downwards, showing its full extent from the top line to the foot.</p> <p>For vertical rock faces the tags may be omitted if space is short, e.g. narrow passages between cliffs</p> <p>The tags may extend over an area symbol representing detail immediately below the rock face. (the passage should be drawn with a width of at least 0.4 mm).</p> <p>When a rock face drops straight into water, making it impossible to pass under the cliff along the water's edge, the bank line is omitted or the tags shall clearly extend over the bank line.</p> <p>An impassable cliff should interplay with the contour lines.</p>
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ISOM 2000	ISOM 2017-2 (Adjusted version published January 2019)	ISSOM 1 January 2007	ISSprOM 2019 (valid from 1 January 2020, with errata)
<p>Minimum length: appears to be 0.72mm</p> <p>Colour: black.</p> <p>Main line: width 0.35mm Tag: width: 0.12mm Tag: length: 0.5mm min Space between tags: 0.6mm</p>	<p>Minimum length: 0.6 mm (footprint 9 m). 0.7mm if main line has rounded ends. Colour: black.</p> <p>Main line: width 0.35mm Tag: width: 0.12mm Tag: length 0.4mm (OM) Space between tags: 0.5mm (CC)</p>	<p>Minimum height is 2 meters.</p> <p>Main line: min length 0.9mm</p> <p>Colour: black. It is forbidden to cross an impassable cliff! Competitors violating this rule will be disqualified.</p> <p>Main line: width 0.50mm Tag: width: 0.18mm Tag: length: 0.75mm [0.5mm OM] Space between tags: 0.9mm [CC]</p>	<p>Minimum height: 1.5 m. Minimum length: 0.9 mm (footprint 3.6 m). Colour: black. [OA Rule 17.2 says competitors shall not cross a feature drawn with the Impassable cliff symbol.]</p> <p>Main line: width 0.50mm Tag: width: 0.18mm Tag: length: 0.75mm (OM) Space between tags: 0.9mm (CC)</p>

<p><b>203 Passable rock face</b> A small vertical rock face may be shown without tags.</p> <p>If the direction of fall of the rock face is not apparent from the contours or to improve legibility, short tags should be drawn in the direction of the fall.</p> <p>For passable rock faces shown without tags the ends of the line may be rounded to improve legibility. [In general section 3.3, minimum gap is 0.15mm.]</p> <p>(minimum height 1 m) Min length with tags: 0.84mm [from drawing] Min length without tags: 0.6mm</p> <p>Colour: black. Main line (cliff with tags): width 0.18mm; without tags 0.25mm Tag: width: 0.12mm Tag: length: 0.5mm Space between tags: 0.5mm</p>	<p><b>202 Cliff (L)</b> A passable cliff or quarry.</p> <p>If the direction of fall of the cliff is not apparent from the contours, or to improve legibility, short tags may be drawn in the direction of the downslope. For non-vertical cliffs, the tags should be drawn to show the full horizontal extent. <b>Ends of the base line must be rounded if no tags appear.</b></p> <p><b>A passage between two cliffs must be at least 0.2 mm.</b></p> <p>A cliff should interplay with the contour lines. Crossing a cliff will normally slow progress. Minimum height: 1 m. Minimum length with tags: <b>0.6</b> mm (footprint 9 m). Minimum length without tags: <b>0.65mm</b> (OM) Colour: black. Main line width (with or without tags): <b>0.25mm</b> Tag: width: 0.12mm Tag: length: <b>min 0.4mm</b> (OM) Space between tags: 0.5mm (CC)</p>	<p><b>203 Passable rock face</b> A small vertical rock face may be shown without tags.</p> <p>If the direction of fall of the rock face is not apparent from the contours or to improve legibility, short tags should be drawn in the direction of the fall.</p> <p>For passable rock faces shown without tags the end of the line may be rounded to improve legibility.</p> <p>Minimum height is 1 m. Minimum length with tags: 0.9 mm Minimum length without tags: 0.9mm Colour: black. Main line width (with or without tags): 0.3mm Tag: width: 0.18mm Tag: length: min 0.75mm Space between tags: 0.75mm</p>	<p><b>202 Passable rock face (L)</b> A passable cliff or quarry. A small vertical rock face may be shown without tags. If the direction of fall of the rock face is not apparent from the contours, or to improve legibility, short tags should be drawn in the direction of the fall. For non-vertical cliffs, the tags should be drawn to show the full horizontal extent. <b>For passable rock faces shown without tags the end of the line must be rounded to improve legibility.</b></p> <p>Minimum height: <b>0.6 m.</b> Minimum length with tags: 0.9 mm (footprint 3.6 m). Minimum length without tags: 0.9 mm (footprint 3.6 m). Colour: black. Main line width (with or without tags): 0.3mm Tag: width: 0.18mm Tag: length: min 0.75mm (OM) Space between tags: 0.75mm (CC)</p>
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ISOM 2000	ISOM 2017-2 (Adjusted version published January 2019)	ISSOM 1 January 2007	ISSprOM 2019 (valid from 1 January 2020, with errata)
<p><b>204 Rocky pit</b> <b>205 Cave</b> Rocky pits, holes or mineshafts which may constitute a danger to the runner. A cave is represented by the same symbol as a rocky pit. Location is the centre of gravity of the symbol, which is orientated to north. In this case the [cave] symbol should be orientated to point up the slope as indicated opposite. The centre of gravity of the symbol marks the opening.</p> <p>Colour: black. Symbol: V Line width: 0.16mm Symbol height: 0.8mm Symbol width (top of V): 0.7mm</p>	<p><b>203 Rocky pit or cave (P)</b> Rocky pits, holes, caves or mineshafts which may constitute a danger to the competitor.</p> <p>Location is the centre of gravity of the symbol, and the symbol shall be orientated to north, except for caves with a distinct entrance, where the symbol should point into the cave.</p> <p>Rocky pits larger than 5 m in diameter should be exaggerated and represented using cliff symbols (201, 202).</p> <p>Minimum depth: 1 m. Footprint: 10.5 m x 12 m. Colour: black. Symbol: V Line width: 0.16mm Symbol height: 0.8mm Symbol width (top of V): 0.7mm (OM)</p>	<p><b>204 Rocky pit</b> <b>205 Cave</b> A rocky pit, hole or mineshaft which may constitute a danger to the competitor. A cave is represented by the same symbol as a rocky pit. The symbol is orientated to north. In this case the [cave] symbol shall be orientated to point up the slope as indicated opposite. The centre of gravity of the symbol marks the opening.</p> <p>This symbol should generally not be used in urban areas. <b>Controls may not be placed inside caves!</b></p> <p>Colour: black. Symbol: V Line width: 0.25mm Symbol height: 1.25mm Symbol width (top of V): 0.82mm</p>	<p><b>203 Rocky pit or cave (P)</b> A rocky pit, hole, cave or mineshaft which may constitute a danger to the competitor.</p> <p>Location is the centre of gravity of the symbol, and the symbol shall be orientated to north, except for caves with a distinct entrance, where the symbol should point into the cave.</p> <p>Minimum depth: 0.5 m. Footprint: 4.4 m x 5.0 m. Colour: black. Symbol: V Line width: 0.25mm Symbol height: 1.25mm (OM) Symbol width (top of V): 1.1mm (OM)</p>

ISOM 2000	ISOM 2017-2 (Adjusted version published January 2019)	ISSOM 1 January 2007	ISSprOM 2019 (valid from 1 January 2020, with errata)
<p><b>206 Boulder</b> A small distinct boulder (minimum height 1 m). Every boulder marked on the map should be immediately identifiable on the ground.</p> <p>To be able to show the distinction between boulders with significant difference in size it is permitted to enlarge this symbol by 20% (diameter 0.5 mm).</p> <p>Colour: black. Diameter: 0.4mm or 0.5mm (larger boulders)</p>	<p><b>204 Boulder (P)</b> A distinct boulder (should be higher than 1 m), which is immediately identifiable on the ground.</p> <p>Groups of boulders are represented using symbol Boulder cluster (207) or a boulder field symbol (208, 209). To be able to show the distinction between neighbouring (closer than 30 m apart) boulders with significant difference in size, it is permitted to enlarge the symbol to 0.5 mm for some of the boulders. Footprint: 6 m diameter (7.5 m diameter). Colour: black. Diameter: 0.4 or 0.5mm (larger boulders) Max gap between boulders of different size: 2.0mm (CC)</p>	<p><b>206 Boulder</b> A small distinct boulder. The minimum height is 1 m. Every boulder marked on the map shall be immediately identifiable on the ground.</p> <p>Colour: black. Diameter: 0.6mm</p>	<p><b>204 Boulder (P)</b> A small distinct boulder.</p> <p>Every boulder marked on the map shall be immediately identifiable on the ground.</p> <p>Footprint: 2.4 m in diameter. Colour: black. Diameter: 0.6mm</p>

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<p><b>207 Large boulder</b> A particularly large and distinct boulder.</p> <p>For gigantic boulders symbol 202 should be used.</p> <p>Colour: black. Diameter: 0.6mm</p>	<p><b>205 Large boulder (P)</b> A particularly large and distinct boulder. A large boulder should be more than 2 m high.</p> <p>To be able to show the distinction between neighbouring (closer than 30 m apart) large boulders with significant difference in size, it is permitted to reduce the size of the symbol to 0.5 mm for some of the boulders.</p> <p>Footprint: 9 m diameter (7.5 m diameter). Colour: black. Diameter: 0.6 or 0.5mm (smaller boulders) Max gap between boulders of different size: 2.0mm (CC)</p>	<p><b>207 Large boulder</b> A particularly large and distinct boulder.</p> <p>Gigantic boulders shall be represented in plan shape with the symbol <i>gigantic boulder or rock pillar</i> (202).</p> <p>Colour: black. Diameter: 0.9mm</p>	<p><b>205 Large boulder (P)</b> A particularly large and distinct boulder.</p> <p>Footprint: 3.6 m in diameter.</p> <p>Colour: black. Diameter: 0.9mm</p>

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<p><b>202 Rock pillars/cliffs</b></p> <p>In the case of unusual features such as rock pillars or massive cliffs or gigantic boulders, the rocks shall be shown in plan shape without tags.</p> <p>Colour: black.</p>	<p><b>206 Gigantic boulder or rock pillar (A)</b></p> <p>A gigantic boulder, rock pillar or massive cliff shall be represented in plan shape. The objects can vary in shape and width.</p> <p>The gap between gigantic boulders or between gigantic boulders and other impassable feature symbols must exceed 0.15 mm on the map.</p> <p>Minimum width: 0.25 mm (footprint 3.75 m).</p> <p>Minimum area: 0.3 mm<sup>2</sup> (footprint 67 m<sup>2</sup>).</p> <p>Colour: black.</p>	<p><b>202 Gigantic boulder or rock pillar</b></p> <p>A gigantic boulder, rock pillar or massive cliff shall be represented in Plan shape without tags.</p> <p>Colour: black.</p>	<p><b>206 Gigantic boulder or rock pillar (A)</b></p> <p>A gigantic boulder, rock pillar or massive cliff shall be represented in plan shape. The objects can vary in shape and width.</p> <p>The gap between gigantic boulders or between gigantic boulders and other impassable feature symbols must exceed 0.15 mm on the map.</p> <p>Minimum width: 0.3 mm.</p> <p>Minimum area: 0.75 mm<sup>2</sup> (footprint 12 m<sup>2</sup>)</p> <p>Colour: black.</p>



ISOM 2000	ISOM 2017-2 (Adjusted version published January 2019)	ISSOM 1 January 2007	ISSprOM 2019 (valid from 1 January 2020, with errata)
<p><b>209 Boulder cluster</b> A small distinct group of boulders so closely clustered together that they cannot be marked individually.</p> <p>To be able to show the distinction between boulder clusters with significant difference in size it is permitted to enlarge this symbol by 25% (1.0 mm).</p> <p>The symbol is an equilateral triangle orientated to the north.</p> <p>Colour: black. Dimension of each edge of triangle: 0.8 or 1.0mm</p>	<p><b>207 Boulder cluster (P)</b> A distinct group of boulders so closely clustered together that they cannot be marked individually. The boulders in the cluster should be higher than 1 m. A boulder cluster must be easily identifiable as a group of boulders. To be able to show the distinction between neighbouring (maximum 30 m apart) boulder clusters with significant difference in boulder size, it is permitted to enlarge this symbol to 120% (edge length 0.96 mm) for some of the boulder clusters.</p> <p>The symbol is orientated to north.</p> <p>Footprint: 12 m x 10 m. Colour: black. Dimension of each edge of triangle: 0.8 or 0.96mm Max gap between boulder clusters of different size: 2.0mm (CC)</p>	<p>[no symbol]</p>	<p><b>207 Boulder cluster (P)</b> A distinct group of boulders so closely clustered together that they cannot be marked individually. The boulders in the cluster should be higher than 0.5 m. A boulder cluster must be easily identifiable as a group of boulders. To be able to show the distinction between neighbouring (maximum 8 m apart), boulder clusters with significant difference in boulder size, it is permitted to enlarge this symbol by 20% (edge length 1.44 mm) for some of the boulder clusters.</p> <p>The symbol is orientated to north.</p> <p>Footprint: 4.8 m x 4.0 m Colour: black. Dimension of each edge of triangle: 1.2 or 1.44mm Max gap between boulder clusters of different size: 2.0mm (CC)</p>

<p><b>208 Boulder field</b> An area which is covered with so many blocks of stone that they cannot be marked individually is shown with randomly orientated solid triangles with sides of ratio 8:6:5.</p> <p>The going is indicated by the density of the triangles.</p> <p>A minimum of two triangles should be used.</p> <p>To be able to show the distinction between boulder fields with a significant difference in boulder size</p>	<p><b>208 Boulder field (A)</b> An area which is covered with so many scattered blocks of stone that they cannot be marked individually, is shown with randomly placed and orientated solid triangles with sides of ratio 8:6:5 (inner angles: 92.9, 48.5, 38.6).</p> <p>A boulder field will generally not impact runnability. If the runnability of the boulder field is reduced, symbol 209 (dense boulder field) should be used or the symbol should be combined with a stony ground symbol.</p> <p>A minimum of two triangles should be used. One triangle may be used if it is combined with other rock symbols (for instance directly below cliff symbols (201, 202), adjacent to boulder symbols (204-206) or combined with stony ground symbols (210-212)).</p> <p>The maximum centre to centre distance between neighbouring triangles is 1.2 mm. The minimum centre to centre distance between neighbouring triangles is 0.75 mm. Density: 0.8-1 symbol / mm<sup>2</sup>.</p> <p>To be able to show obvious height differences within a boulder field, it is permitted to enlarge some of the triangles to 120%.</p>	<p><b>208 Boulder field</b> An area which is covered with so many blocks of stone that they cannot be marked individually is represented with randomly orientated solid triangles.</p> <p>The runnability is reduced and is indicated by the density of the triangles.</p> <p>A minimum of two triangles shall be used.</p> <p>The triangles can be enlarged by up to 20 %.</p>	<p><b>208 Boulder field</b> An area which is covered with so many blocks of stone that they cannot be marked individually is represented with randomly orientated solid triangles.</p> <p>The runnability is reduced and is indicated by the density of the triangles.</p> <p>A minimum of two triangles shall be used.</p> <p>To be able to show obvious height differences within a boulder field, it is permitted to</p>
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<p>it is permitted to enlarge the triangles by 20%.</p> <p>Colour: black. Sides of triangle: between 0.5 and 1.0mm.</p>	<p>Footprint of individual triangle: 12 m x 6 m. Colour: black. Sides of triangle: 0.5, 0.6 &amp; 0.8mm [but can be enlarged to 120%]</p>	<p>Colour: black. Sides of triangle: 0.6, 0.72, 0.96mm</p>	<p>enlarge some of the triangles to 120%.</p> <p>Colour: black. Sides of triangle: 0.6, 0.72, 0.96mm</p>
<p>[no previous symbol]</p>	<p><b>209 Dense boulder field (A)</b> An area which is covered with so many blocks of stone that they cannot be marked individually and the runnability is affected, is shown with randomly placed and orientated solid triangles with sides of ratio 8:6:5 (inner angles: 92.9, 48.5, 38.6). A minimum of two triangles must be used. The maximum centre to centre distance between neighbouring triangles is 0.6 mm. Density: 2-3 symbols / mm<sup>2</sup>. To be able to show obvious height differences within a boulder field, it is permitted to enlarge some of the triangles to 120%. Footprint of individual triangle: 12 m x 6 m. Colour: black. Sides of triangle: 0.5, 0.6 &amp; 0.8mm</p>	<p>[no symbol]</p>	<p>[no symbol]</p>

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<b>Stony ground – run</b> [Stony ground with runnability between, say, 90 and 80% of normal speed can be mapped with the 210 symbol]	[No symbol]	[Stony ground with runnability between, say, 90 and 80% of normal speed can be mapped with the 210 symbol]	[Stony ground with runnability between, say, 90 and 80% of normal speed can be mapped with the 210 symbol]

ISOM 2000	ISOM 2017-2 (Adjusted version published January 2019)	ISSOM 1 January 2007	ISSprOM 2019 (valid from 1 January 2020, with errata)
<p><b>210 Stony ground</b> Stony or rocky ground which affects going should be shown on the map.</p> <p>The dots should be randomly distributed with density according to the amount of rock.</p> <p>A minimum of three dots should be used.</p> <p>Colour: black. Dot diameter: 0.16 to 0.20mm</p>	<p><b>210 Stony ground, slow running (A)</b> Stony or rocky ground which reduces runnability to about 60-80% of normal speed.</p> <p>The dots should be randomly distributed but not interfere with the representation of important terrain features and objects. Illustration serves as an example of density and also point symbol (single dots) can be used to draw stony ground.</p> <p>The minimum number of dots is three (footprint 10 m x 10 m).</p> <p>The maximum centre to centre distance between neighbouring dots is 0.6 mm. The minimum centre to centre distance between neighbouring dots is 0.45 mm. Density: 3-4 dots / mm<sup>2</sup>. To avoid confusion with symbol <i>Distinct vegetation boundary</i> (416), the dots should not be arranged to form a line.</p> <p>Colour: black. Dot diameter: 0.2mm</p>	<p><b>210 Stony ground</b> An area of stony or rocky ground which reduces runnability.</p> <p>The dots shall be randomly distributed with density according to the amount of rock.</p> <p>A minimum of three dots shall be used.</p> <p>Colour: black. Dot diameter: 0.2-0.25mm</p>	<p><b>210 Stony ground (A)</b> An area of stony or rocky ground which reduces runnability.</p> <p>The dots shall be randomly distributed with density according to the amount of rock but not interfere with the representation of important terrain features or objects.</p> <p>A minimum of three dots shall be used.</p> <p>Density: Minimum 3 dots. <i>Distinct vegetation boundary</i> (416), To avoid confusion with symbol the dots shall not be arranged to form a line.</p> <p>Colour: black. Dot diameter: 0.2-0.25mm</p>

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<p>[Stony ground with runnability between 20 and 60% of normal speed can be mapped with the 210 symbol]</p>	<p><b>211 Stony ground, walk (A)</b>  Stony or rocky ground which reduces the runnability significantly (to about 20-60% of normal speed). The dots should be randomly distributed but not interfere with the representation of important terrain features and objects. Illustration serves as an example of density and also point symbol (single dots) can be used to draw stony ground.  The minimum number of dots is three (footprint 8 m x 8 m).  The maximum centre to centre distance between neighbouring dots is 0.4 mm.  The minimum centre to centre distance between neighbouring dots is 0.32 mm.  Density: 6-8 dots / mm<sup>2</sup>.  To avoid confusion with symbol <i>Distinct vegetation boundary</i> (416), the dots should not be arranged to form a line.  Colour: black.  Dot diameter: 0.2mm</p>	<p>[Stony ground with runnability between 20 and 60% of normal speed can be mapped with the 210 symbol]</p>	<p>[Stony ground with runnability between 20 and 60% of normal speed can be mapped with the 210 symbol]</p>

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[Stony ground with runnability less than 20% of normal speed can be mapped with the 210 symbol]	<p><b>212 Stony ground, fight (A)</b></p> <p>Stony or rocky ground which is hardly passable (less than 20% of normal speed).</p> <p>The dots should be randomly distributed but not interfere with the representation of important terrain features and objects.</p> <p>Illustration serves as an example of density and also point symbol (single dots) can be used to draw stony ground.</p> <p>The minimum number of dots is three (footprint 7 m x 7 m).</p> <p>The maximum centre to centre distance between neighbouring dots is 0.32 mm.</p> <p>The minimum centre to centre distance between neighbouring dots is 0.25 mm.</p> <p>Density: 10-12 dots / mm<sup>2</sup>.</p> <p>To avoid confusion with symbol Distinct vegetation boundary (416), the dots should not be arranged to form a line.</p> <p>Colour: black.</p> <p>Dot diameter: 0.2mm</p>	[Stony ground with runnability less than 20% of normal speed can be mapped with the 210 symbol]	[Stony ground with runnability less than 20% of normal speed can be mapped with the 210 symbol]

ISOM 2000	ISOM 2017-2 (Adjusted version published January 2019)	ISSOM 1 January 2007	ISSprOM 2019 (valid from 1 January 2020, with errata)
<p><b>211 Open sandy ground</b> An area of soft sandy ground or gravel with no vegetation and where running is slow. Where an area of sandy ground is open but running is good, it is shown as open land (401/402).</p> <p>Colour: black 12.5% (22 lines/cm) and yellow 50% (see 403). Dot diameter: 0.18mm Distance between dots: 0.45mm</p>	<p><b>213 Sandy ground (A)</b> An area of soft sandy ground where runnability is reduced to less than 80% of normal speed.</p> <p>The symbol is orientated to north.</p> <p>Minimum area: 1 mm x 1 mm (footprint 15 m x 15 m). Colour: yellow 50%, black.</p> <p>Dot diameter: 0.16mm Distance between dots: 0.45mm (CC) Angle of dots: 45 degrees</p>	<p><b>211 Open sandy ground</b> An area of soft sandy ground or gravel with no vegetation which reduces runnability. Where an area of sandy ground is open and has good runnability, it is represented with symbol <i>open land</i> (401), <i>open land with scattered trees</i> (402) or <i>paved area</i> (529).</p> <p>Colour: black 12.5% (22 lines/cm) and yellow 50%. Dot diameter: 0.18mm Distance between dots: 0.45mm</p>	<p><b>213 Open sandy ground (A)</b> An area of sandy ground or soft gravel with no vegetation which reduces runnability. Where an area of sandy ground is open and has good runnability, it is represented with symbol <i>Open land</i> (401), <i>Open land with scattered trees</i> (402) or <i>Paved area</i> (501). Black dots shall not interfere with black objects.</p> <p>Minimum width: 0.3 mm Minimum area: 1 mm<sup>2</sup> (footprint 16 m<sup>2</sup>). Colour: yellow 50%, black.</p> <p>Dot diameter: 0.18mm Distance between dots: 0.5mm (CC) Angle of dots: 45 degrees</p>



ISOM 2000	ISOM 2017-2 (Adjusted version published January 2019)	ISSOM 1 January 2007	ISSprOM 2019 (valid from 1 January 2020, with errata)
<p><b>212 Bare rock</b> A runnable area of rock without earth or vegetation is shown as bare rock. An area of rock covered with grass, moss or other low vegetation is shown as open land (401/402).</p> <p>Colour: black 30% (60 lines/cm) or grey.</p>	<p><b>214 Bare rock (A)</b> A runnable area of rock without earth or vegetation should be shown as bare rock. An area of rock covered with grass, moss or other low vegetation, shall not be shown using the bare rock symbol. An area of less runnable bare rock should be shown using a stony ground symbol (210-212).</p> <p>Minimum area: 1 mm x 1 mm (footprint 15 m x 15 m). Colour: black 30%.</p>	<p><b>212 Bare rock</b> An area of runnable rock without earth or vegetation.  An area of rock covered with grass, moss or other low vegetation shall be represented according to its openness and runnability (401/402/403/404).</p> <p>Colour: black 20% (min. 60 lines/cm) or grey.</p>	<p><b>214 Bare rock (A)</b> An area of runnable rock without earth or vegetation.  An area of rock covered with grass, moss or other low vegetation shall be represented according to its openness and runnability (401/402/403/404).</p> <p>Minimum width: 0.25 mm Minimum area: 1 mm<sup>2</sup> (footprint 16 m<sup>2</sup>). Colour: <b>black 30%</b>.</p>

ISOM 2000	ISOM 2017-2 (Adjusted version published January 2019)	ISSOM 1 January 2007	ISSprOM 2019 (valid from 1 January 2020, with errata)
[no equivalent symbol]	<p><b>215 Trench (L)</b>  Rocky or artificial trench. Minimum depth should be 1 m.  Minimum length: 1 mm (footprint 15 m).  Shorter trenches may be exaggerated to the minimum graphical dimension.  Impassable trenches shall be represented using symbol <i>Impassable cliff</i> (201).  Collapsed and easily crossable trenches should be mapped as erosion gullies.  Colour: black.  Line width: 0.1mm  Gap between lines: 0.1mm</p>	[no equivalent symbol]	[no equivalent symbol]

**Some extra comments**

The maps below show maps where the absence of tags on cliffs could be misleading and dangerous.



Baal Bone Gap map – with gigantic boulders and steeply sloping bare rock cliffs. The map dates back to the 1990s.



Saddleback map with steeply sloping granite bare rock with a convex slope at the top. This means it is fairly easy to start going down the cliff face and to find yourself in a very dangerous situation. Saddleback does have quite a few boulders shown using the 206 Gigantic boulder or rock pillar symbol. Using 206 for this cliff could be quite dangerous.

**SITUATIONS WHERE USE OF NON-STANDARD SYMBOLS IS OK**

In the gold mining areas of Hill End, the following deviations were necessary:

- small black dots to show earth spires;
- thinner black lines to show impassable earth banks – these don't hide as much detail;
- with a thicker line showing high (10m plus) impassable earth banks.