



Government of **Western Australia**
Department of **Mines, Industry Regulation**
and **Safety**

GSWA geologic map symbology

Structural line styles and symbols, with descriptions

For Series and Non-Series maps

Edition 2 June 2016



Geological Survey of
Western Australia

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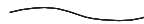
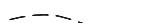
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*New symbols can be added to this list
only with written approval by the Chief Geoscientist*

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Geological boundary

Geological boundary.....	
<i>IBG only</i> Geological boundary, concealed.....	

GSDID

01-001-001
01-001-002

Deformation event

Structural symbols are labelled according to local deformation events; no named orogeny or event implied. To be used up to, and including, 1:250k scale maps.

Local deformation event

D ₉	⑨
D ₈	⑧
D ₇	⑦
D ₆	⑥
D ₅	⑤
D ₄	④
D ₃	③
D ₂	②
D ₁	①









































01-002-009
01-002-008
01-002-007
01-002-006
01-002-005
01-002-004
01-002-003
01-002-002
01-002-001

Structural line styles for Non-Series maps (hard copy)
with attributes to be used for geological compilation and data packages

Fault

A 'fault, major' is defined as a regional to crustal-scale structure, commonly bounding different terranes or tectonic units — anything else is a fault

Fault, major

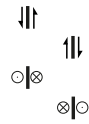
exposed.....	
exposed, showing dip.....	
exposed, showing dip direction.....	
dip-slip, exposed, dot on downthrown side.....	
normal, exposed, tick on downthrown side.....	
normal, exposed, tick on downthrown side, showing dip.....	
thrust, exposed, triangle on upthrown side.....	
thrust, exposed, triangle on upthrown side, showing dip.....	
reverse, exposed, triangle on upthrown side.....	
reverse, exposed, triangle on upthrown side, showing dip.....	
strike-slip, exposed, showing relative dextral displacement.....	
strike-slip, exposed, showing relative sinistral displacement.....	
exposed, showing dip direction, with relative dextral displacement.....	
exposed, showing dip direction, with relative sinistral displacement.....	
oblique-slip, exposed, dot on downthrown side, showing relative dextral displacement.....	
oblique-slip, exposed, dot on downthrown side, showing relative sinistral displacement.....	
normal oblique, exposed, tick on downthrown side, showing relative dextral displacement.....	
normal oblique, exposed, tick on downthrown side, showing relative sinistral displacement.....	
thrust oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....	
thrust oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....	
reverse oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....	
reverse oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....	
concealed.....	
concealed, showing dip direction.....	
dip-slip, concealed, dot on downthrown side.....	
normal, concealed, tick on downthrown side.....	
thrust, concealed, triangle on upthrown side.....	
reverse, concealed, triangle on upthrown side.....	
strike-slip, concealed, showing relative dextral displacement.....	
strike-slip, concealed, showing relative sinistral displacement.....	
concealed, showing dip direction, with relative dextral displacement.....	
concealed, showing dip direction, with relative sinistral displacement.....	
oblique-slip, concealed, dot on downthrown side, showing relative dextral displacement.....	
oblique-slip, concealed, dot on downthrown side, showing relative sinistral displacement.....	
normal oblique, concealed, tick on downthrown side, showing relative dextral displacement.....	
normal oblique, concealed, tick on downthrown side, showing relative sinistral displacement.....	
thrust oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....	
thrust oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....	
reverse oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....	
reverse oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....	

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01-004-040

Fault (cont.)

For use in cross section(s) only

- relative vertical movement indicated by arrows, left side down.....
- relative vertical movement indicated by arrows, right side down.....
- relative horizontal movement, towards viewer, away from viewer.....
- relative horizontal movement, away from viewer, towards viewer.....

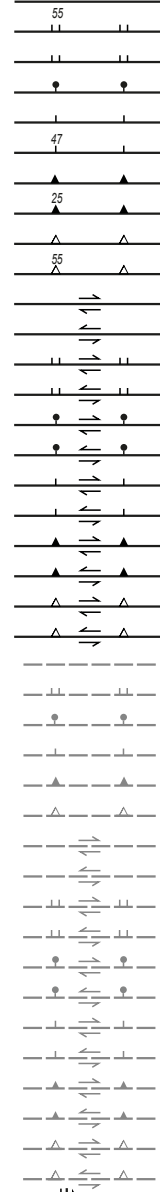


GSDID

01-004-041
01-004-042
01-004-043
01-004-044

Fault

- exposed.....
- exposed, showing dip.....
- exposed, showing dip direction.....
- dip-slip, exposed, dot on downthrown side.....
- normal, exposed, tick on downthrown side.....
- normal, exposed, tick on downthrown side, showing dip.....
- thrust, exposed, triangle on upthrown side.....
- thrust, exposed, triangle on upthrown side, showing dip.....
- reverse, exposed, triangle on upthrown side.....
- reverse, exposed, triangle on upthrown side, showing dip.....
- strike-slip, exposed, showing relative dextral displacement.....
- strike-slip, exposed, showing relative sinistral displacement.....
- exposed, showing dip direction, with relative dextral displacement.....
- exposed, showing dip direction, with relative sinistral displacement.....
- oblique-slip, exposed, dot on downthrown side, showing relative dextral displacement.....
- oblique-slip, exposed, dot on downthrown side, showing relative sinistral displacement.....
- normal oblique, exposed, tick on downthrown side, showing relative dextral displacement.....
- normal oblique, exposed, tick on downthrown side, showing relative sinistral displacement.....
- thrust oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....
- thrust oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....
- reverse oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....
- reverse oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....
- concealed.....
- concealed, showing dip direction.....
- dip-slip, concealed, dot on downthrown side.....
- normal, concealed, tick on downthrown side.....
- thrust, concealed, triangle on upthrown side.....
- reverse, concealed, triangle on upthrown side.....
- strike-slip, concealed, showing relative dextral displacement.....
- strike-slip, concealed, showing relative sinistral displacement.....
- concealed, showing dip direction, with relative dextral displacement.....
- concealed, showing dip direction, with relative sinistral displacement.....
- oblique-slip, concealed, dot on downthrown side, showing relative dextral displacement.....
- oblique-slip, concealed, dot on downthrown side, showing relative sinistral displacement.....
- normal oblique, concealed, tick on downthrown side, showing relative dextral displacement.....
- normal oblique, concealed, tick on downthrown side, showing relative sinistral displacement.....
- thrust oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....
- thrust oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....
- reverse oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....
- reverse oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....



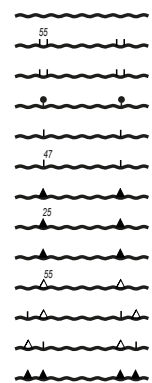
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For use in cross section(s) only

Fault or shear zone

Fault or shear zone, major

- exposed.....
- exposed, showing dip.....
- exposed, showing dip direction.....
- dip-slip, exposed, dot on downthrown side.....
- normal, exposed, tick on downthrown side.....
- normal, exposed, tick on downthrown side, showing dip.....
- thrust, exposed, triangle on upthrown side.....
- thrust, exposed, triangle on upthrown side, showing dip.....
- reverse, exposed, triangle on upthrown side.....
- reverse, exposed, triangle on upthrown side, showing dip.....
- normal, exposed, reactivated by thrust.....
- thrust, exposed, reactivated by normal fault.....
- thrust, exposed, reactivated by thrust.....



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Fault or shear zone (cont.)

Falt or shear zone, major (cont.)

strike-slip, exposed, showing relative dextral displacement.....	
strike-slip, exposed, showing relative sinistral displacement.....	
exposed, showing dip direction, with relative dextral displacement.....	
exposed, showing dip direction, with relative sinistral displacement.....	
oblique-slip, exposed, dot on downthrown side, showing relative dextral displacement.....	
oblique-slip, exposed, dot on downthrown side, showing relative sinistral displacement.....	
normal oblique, exposed, tick on downthrown side, showing relative dextral displacement.....	
normal oblique, exposed, tick on downthrown side, showing relative sinistral displacement.....	
thrust oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....	
thrust oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....	
reverse oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....	
reverse oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....	
concealed.....	
concealed, showing dip direction.....	
dip-slip, concealed, dot on downthrown side.....	
normal, concealed, tick on downthrown side.....	
thrust, concealed, triangle on upthrown side.....	
reverse, concealed, triangle on upthrown side.....	
normal, concealed, reactivated by thrust.....	
thrust, concealed, reactivated by normal fault.....	
thrust, concealed, reactivated by thrust.....	
strike-slip, concealed, showing relative dextral displacement.....	
strike-slip, concealed, showing relative sinistral displacement.....	
concealed, showing dip direction, with relative dextral displacement.....	
concealed, showing dip direction, with relative sinistral displacement.....	
oblique-slip, concealed, dot on downthrown side, showing relative dextral displacement.....	
oblique-slip, concealed, dot on downthrown side, showing relative sinistral displacement.....	
normal oblique, concealed, tick on downthrown side, showing relative dextral displacement.....	
normal oblique, concealed, tick on downthrown side, showing relative sinistral displacement.....	
thrust oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....	
thrust oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....	
reverse oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....	
reverse oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....	
relative vertical movement indicated by arrows, left side down.....	
relative vertical movement indicated by arrows, right side down.....	
relative horizontal movement, towards viewer, away from viewer.....	
relative horizontal movement, away from viewer, towards viewer.....	

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For use in cross section(s) only

Fault or shear zone

exposed.....	
exposed, showing dip.....	
exposed, showing dip direction.....	
dip-slip, exposed, dot on downthrown side.....	
normal, exposed, tick on downthrown side.....	
normal, exposed, tick on downthrown side, showing dip.....	
thrust, exposed, triangle on upthrown side.....	
thrust, exposed, triangle on upthrown side, showing dip.....	
reverse, exposed, triangle on upthrown side.....	
reverse, exposed, triangle on upthrown side, showing dip.....	
normal, exposed, reactivated by thrust.....	
thrust, exposed, reactivated by normal fault.....	
thrust, exposed, reactivated by thrust.....	
strike-slip, exposed, showing relative dextral displacement.....	
strike-slip, exposed, showing relative sinistral displacement.....	
exposed, showing dip direction, with relative dextral displacement.....	
exposed, showing dip direction, with relative sinistral displacement.....	
oblique-slip, exposed, dot on downthrown side, showing relative dextral displacement.....	
oblique-slip, exposed, dot on downthrown side, showing relative sinistral displacement.....	
normal oblique, exposed, tick on downthrown side, showing relative dextral displacement.....	
normal oblique, exposed, tick on downthrown side, showing relative sinistral displacement.....	
thrust oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....	
thrust oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....	
reverse oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....	
reverse oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....	

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Fault or shear zone (cont.)

Fault or shear zone (cont.)

For use in cross section(s) only

concealed.....	
concealed, showing dip direction.....	
dip-slip, concealed, dot on downthrown side.....	
normal, concealed, tick on downthrown side.....	
thrust, concealed, triangle on upthrown side.....	
reverse, concealed, triangle on upthrown side.....	
normal, concealed, reactivated by thrust.....	
thrust, concealed, reactivated by normal fault.....	
thrust, concealed, reactivated by thrust.....	
strike-slip, concealed, showing relative dextral displacement.....	
strike-slip, concealed, showing relative sinistral displacement.....	
concealed, showing dip direction, with relative dextral displacement.....	
concealed, showing dip direction, with relative sinistral displacement.....	
oblique-slip, concealed, dot on downthrown side, showing relative dextral displacement.....	
oblique-slip, concealed, dot on downthrown side, showing relative sinistral displacement.....	
normal oblique, concealed, tick on downthrown side, showing relative dextral displacement.....	
normal oblique, concealed, tick on downthrown side, showing relative sinistral displacement.....	
thrust oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....	
thrust oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....	
reverse oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....	
reverse oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....	
relative vertical movement indicated by arrows, left side down.....	
relative vertical movement indicated by arrows, right side down.....	
relative horizontal movement, towards viewer, away from viewer.....	
relative horizontal movement, away from viewer, towards viewer.....	

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Shear zone

Shear zone, major

exposed.....	
exposed, showing dip.....	
exposed, showing dip direction.....	
dip-slip, exposed, dot on downthrown side.....	
normal, exposed, tick on downthrown side.....	
normal, exposed, tick on downthrown side, showing dip.....	
thrust, exposed, triangle on upthrown side.....	
thrust, exposed, triangle on upthrown side, showing dip.....	
reverse, exposed, triangle on upthrown side.....	
reverse, exposed, triangle on upthrown side, showing dip.....	
normal, exposed, reactivated by thrust.....	
thrust, exposed, reactivated by normal fault.....	
thrust, exposed, reactivated by thrust.....	
strike-slip, exposed, showing relative dextral displacement.....	
strike-slip, exposed, showing relative sinistral displacement.....	
exposed, showing dip direction, with relative dextral displacement.....	
exposed, showing dip direction, with relative sinistral displacement.....	
oblique-slip, exposed, dot on downthrown side, showing relative dextral displacement.....	
oblique-slip, exposed, dot on downthrown side, showing relative sinistral displacement.....	
normal oblique, exposed, tick on downthrown side, showing relative dextral displacement.....	
normal oblique, exposed, tick on downthrown side, showing relative sinistral displacement.....	
thrust oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....	
thrust oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....	
reverse oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....	
reverse oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....	
concealed.....	
concealed, showing dip direction.....	
dip-slip, concealed, dot on downthrown side.....	
normal, concealed, tick on downthrown side.....	
thrust, concealed, triangle on upthrown side.....	
reverse, concealed, triangle on upthrown side.....	
normal, concealed, reactivated by thrust.....	
thrust, concealed, reactivated by normal fault.....	
thrust, concealed, reactivated by thrust.....	
strike-slip, concealed, showing relative dextral displacement.....	
strike-slip, concealed, showing relative sinistral displacement.....	
concealed, showing dip direction, with relative dextral displacement.....	

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Shear zone (cont.)

Shear zone, major (cont.)

concealed, showing dip direction, with relative sinistral displacement.....		GSDID
oblique-slip, concealed, dot on downthrown side, showing relative dextral displacement.....		01-006-038
oblique-slip, concealed, dot on downthrown side, showing relative sinistral displacement.....		01-006-039
normal oblique, concealed, tick on downthrown side, showing relative dextral displacement.....		01-006-040
normal oblique, concealed, tick on downthrown side, showing relative sinistral displacement.....		01-006-041
thrust oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....		01-006-042
thrust oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....		01-006-043
reverse oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....		01-006-044
reverse oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....		01-006-045
relative vertical movement indicated by arrows, left side down.....		01-006-046
relative vertical movement indicated by arrows, right side down.....		01-006-047
relative horizontal movement, towards viewer, away from viewer.....		01-006-048
relative horizontal movement, away from viewer, towards viewer.....		01-006-049
		01-006-050

For use in cross section(s) only

Shear zone

exposed.....		01-006-051
exposed, showing dip.....		01-006-052
exposed, showing dip direction.....		01-006-053
dip-slip, exposed, dot on downthrown side.....		01-006-054
normal, exposed, tick on downthrown side.....		01-006-055
normal, exposed, tick on downthrown side, showing dip.....		01-006-056
thrust, exposed, triangle on upthrown side.....		01-006-057
thrust, exposed, triangle on upthrown side, showing dip.....		01-006-058
reverse, exposed, triangle on upthrown side.....		01-006-059
reverse, exposed, triangle on upthrown side, showing dip.....		01-006-060
normal, exposed, reactivated by thrust.....		01-006-061
thrust, exposed, reactivated by normal fault.....		01-006-062
thrust, exposed, reactivated by thrust.....		01-006-063
strike-slip, exposed, showing relative dextral displacement.....		01-006-064
strike-slip, exposed, showing relative sinistral displacement.....		01-006-065
exposed, showing dip direction, with relative dextral displacement.....		01-006-066
exposed, showing dip direction, with relative sinistral displacement.....		01-006-067
oblique-slip, exposed, dot on downthrown side, showing relative dextral displacement.....		01-006-068
oblique-slip, exposed, dot on downthrown side, showing relative sinistral displacement.....		01-006-069
normal oblique, exposed, tick on downthrown side, showing relative dextral displacement.....		01-006-070
normal oblique, exposed, tick on downthrown side, showing relative sinistral displacement.....		01-006-071
thrust oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....		01-006-072
thrust oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....		01-006-073
reverse oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....		01-006-074
reverse oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....		01-006-075
concealed.....		01-006-076
concealed, showing dip direction.....		01-006-077
dip-slip, concealed, dot on downthrown side.....		01-006-078
normal, concealed, tick on downthrown side.....		01-006-079
thrust, concealed, triangle on upthrown side.....		01-006-080
reverse, concealed, triangle on upthrown side.....		01-006-081
normal, concealed, reactivated by thrust.....		01-006-082
thrust, concealed, reactivated by normal fault.....		01-006-083
thrust, concealed, reactivated by thrust.....		01-006-084
strike-slip, concealed, showing relative dextral displacement.....		01-006-085
strike-slip, concealed, showing relative sinistral displacement.....		01-006-086
concealed, showing dip direction, with relative dextral displacement.....		01-006-087
concealed, showing dip direction, with relative sinistral displacement.....		01-006-088
oblique-slip, concealed, dot on downthrown side, showing relative dextral displacement.....		01-006-089
oblique-slip, concealed, dot on downthrown side, showing relative sinistral displacement.....		01-006-090
normal oblique, concealed, tick on downthrown side, showing relative dextral displacement.....		01-006-091
normal oblique, concealed, tick on downthrown side, showing relative sinistral displacement.....		01-006-092
thrust oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....		01-006-093
thrust oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....		01-006-094
reverse oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....		01-006-095
reverse oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....		01-006-096
relative vertical movement indicated by arrows, left side down.....		01-006-097
relative vertical movement indicated by arrows, right side down.....		01-006-098
relative horizontal movement, towards viewer, away from viewer.....		01-006-099
relative horizontal movement, away from viewer, towards viewer.....		01-006-100

For use in cross section(s) only

Structural line styles for Series Maps (hard copy) — all scales arranged in map legend order

Fault or shear zone

Fault or shear zone

exposed.....	
exposed, showing dip.....	
exposed, showing dip direction.....	
dip-slip, exposed, dot on downthrown side.....	
normal, exposed, tick on downthrown side.....	
normal, exposed, tick on downthrown side, showing dip.....	
thrust, exposed, triangle on upthrown side.....	
thrust, exposed, triangle on upthrown side, showing dip.....	
reverse, exposed, triangle on upthrown side.....	
reverse, exposed, triangle on upthrown side, showing dip.....	
normal, exposed, reactivated by thrust.....	
thrust, exposed, reactivated by normal fault.....	
thrust, exposed, reactivated by thrust.....	
strike-slip, exposed, showing relative dextral displacement.....	
strike-slip, exposed, showing relative sinistral displacement.....	
exposed, showing dip direction, with relative dextral displacement.....	
exposed, showing dip direction, with relative sinistral displacement.....	
oblique-slip, exposed, dot on downthrown side, showing relative dextral displacement.....	
oblique-slip, exposed, dot on downthrown side, showing relative sinistral displacement.....	
normal oblique, exposed, tick on downthrown side, showing relative dextral displacement.....	
normal oblique, exposed, tick on downthrown side, showing relative sinistral displacement.....	
thrust oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....	
thrust oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....	
reverse oblique, exposed, triangle on upthrown side, showing relative dextral displacement.....	
reverse oblique, exposed, triangle on upthrown side, showing relative sinistral displacement.....	
concealed.....	
concealed, showing dip direction.....	
dip-slip, concealed, dot on downthrown side.....	
normal, concealed, tick on downthrown side.....	
thrust, concealed, triangle on upthrown side.....	
reverse, concealed, triangle on upthrown side.....	
normal, concealed, reactivated by thrust.....	
thrust, concealed, reactivated by normal fault.....	
thrust, concealed, reactivated by thrust.....	
strike-slip, concealed, showing relative dextral displacement.....	
strike-slip, concealed, showing relative sinistral displacement.....	
concealed, showing dip direction, with relative dextral displacement.....	
concealed, showing dip direction, with relative sinistral displacement.....	
oblique-slip, concealed, dot on downthrown side, showing relative dextral displacement.....	
oblique-slip, concealed, dot on downthrown side, showing relative sinistral displacement.....	
normal oblique, concealed, tick on downthrown side, showing relative dextral displacement.....	
normal oblique, concealed, tick on downthrown side, showing relative sinistral displacement.....	
thrust oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....	
thrust oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....	
reverse oblique, concealed, triangle on upthrown side, showing relative dextral displacement.....	
reverse oblique, concealed, triangle on upthrown side, showing relative sinistral displacement.....	

GSDID
01-003-001
01-003-002
01-003-003
01-003-004
01-003-005
01-003-006
01-003-007
01-003-008
01-003-009
01-003-010
01-003-011
01-003-012
01-003-013
01-003-014
01-003-015
01-003-016
01-003-017
01-003-018
01-003-019
01-003-020
01-003-021
01-003-022
01-003-023
01-003-024
01-003-025
01-003-026
01-003-027
01-003-028
01-003-029
01-003-030
01-003-031
01-003-032
01-003-033
01-003-034
01-003-035
01-003-036
01-003-037
01-003-038
01-003-039
01-003-040
01-003-041
01-003-042
01-003-043
01-003-044
01-003-045
01-003-046

For use in cross section(s) only

relative vertical movement indicated by arrows, left side down.....	
relative vertical movement indicated by arrows, right side down.....	
relative horizontal movement, towards viewer, away from viewer.....	
relative horizontal movement, away from viewer, towards viewer.....	

01-003-047
01-003-048
01-003-049
01-003-050

Relative movement to be shown in legend after last fault or shear zone symbol.

relative movement (section only)	
vertical, direction indicated by arrows.....	
horizontal: towards viewer, away from viewer.....	



Folds

Folds may be displayed without generalized plunge direction

For symbol combinations used on maps see Appendix 6.2

		STRUCTYPEID	GSDID
Fold axial trace			
exposed.....			01-007-001
concealed.....			01-007-002
vertical, exposed.....			01-007-003
vertical, concealed.....			01-007-004
Fold axial trace and generalized plunge direction, exposed.....			01-007-005
Fold axial trace and generalized plunge direction, concealed.....			01-007-006
Fold axial trace and generalized plunge direction			
anticline, exposed.....			01-007-007
syncline, exposed.....			01-007-008
overturned anticline, exposed.....			01-007-009
overturned syncline, exposed.....			01-007-010
asymmetric anticline, exposed, short arrow on short limb.....			01-007-011
asymmetric syncline, exposed, short arrow on short limb.....			01-007-012
antiform, exposed.....			01-007-013
synform, exposed.....			01-007-014
synformal anticline, exposed.....			01-007-015
antiformal syncline, exposed.....			01-007-016
asymmetric antiform, exposed, short arrow on short limb.....			01-007-017
asymmetric synform, exposed, short arrow on short limb.....			01-007-018
monocline, exposed.....			01-007-019
anticline, concealed.....			01-007-020
syncline, concealed.....			01-007-021
overturned anticline, concealed.....			01-007-022
overturned syncline, concealed.....			01-007-023
asymmetric anticline, concealed, short arrow on short limb.....			01-007-024
asymmetric syncline, concealed, short arrow on short limb.....			01-007-025
antiform, concealed.....			01-007-026
synform, concealed.....			01-007-027
synformal anticline, concealed.....			01-007-028
antiformal syncline, concealed.....			01-007-029
asymmetric antiform, concealed, short arrow on short limb.....			01-007-030
asymmetric synform, concealed, short arrow on short limb.....			01-007-031
monocline, concealed.....			01-007-032
Small-scale fold axial surface, showing strike and dip			
horizontal.....		FASH	01-008-001
inclined.....		FASI	01-008-002
vertical.....		FASV	01-008-003
overturned.....		FASO	01-008-004
Small-scale fold axis, showing trend and plunge			
horizontal.....		FHHO	01-008-005
inclined.....		FHIN	01-008-006
vertical.....		FHVE	01-008-007
anticline.....		FHAN	01-008-008
syncline.....		FHSY	01-008-009
antiform.....		FHAF	01-008-010
synform.....		FHSF	01-008-011
S-vergence.....		FHSV	01-008-012
M-vergence.....		FHMV	01-008-013
Z-vergence.....		FHZV	01-008-014
Kink fold axis, showing trend and plunge.....		KIBA	01-009-001
Locality of superposed fold.....		LOSF	01-009-002
Mesoscale folding.....		FMES	01-009-003

Plunge direction to be entered in PLUNGE DIR column in attribute table (see appendix 6.3), and plotted by GIS
 Doubly plunging folds to be discussed with GIS.

Structural symbols

Bedding, showing strike and dip

horizontal.....	
inclined.....	
vertical.....	
overturned, inclined.....	
overturned, horizontal.....	
way-up not known, inclined.....	
strike and dip direction estimated from aerial photography.....	
strike and dip estimated from aerial photography	
1–15°.....	
16–45°.....	
46–89°.....	
horizontal.....	
vertical.....	
overturned 1–15°.....	
overturned 16–45°.....	
overturned 46–89°.....	

Trend of bedding

Trend of layering or foliation, unspecified.....

Paleocurrent

from current lineation, flow direction known.....	
from fluting, flow direction known.....	
from clast imbrication, flow direction known.....	
from megaripples, flow direction known.....	
from tabular planar cross-bedding, flow direction known.....	
from asymmetrical ripple marks, flow direction known.....	
from scours, flow direction known.....	
from trough cross-bedding, flow direction known.....	
from cross-bedding, flow direction known.....	
from current lineation, flow direction not known.....	
from fluting, flow direction not known.....	
from clast imbrication, flow direction not known.....	
from megaripples, flow direction not known.....	
from tabular planar cross-bedding, flow direction not known.....	
from asymmetrical ripple marks, flow direction not known.....	
from scours, flow direction not known.....	
from trough cross-bedding, flow direction not known.....	
from cross-bedding, flow direction not known.....	

Paleowind direction

from adhesion surface, flow direction known.....	
from cross-bedding, flow direction known.....	
from adhesion surface, flow direction not known.....	
from cross-bedding, flow direction not known.....	

Glacial striae

flow direction known.....	
flow direction not known.....	

Igneous contact, showing strike and dip

horizontal.....	
inclined.....	
vertical.....	

Igneous layering, showing strike and dip

horizontal.....	
inclined.....	
vertical.....	
dip indeterminate.....	

Trend of igneous layering.....

Igneous flow banding, showing strike and dip

horizontal.....	
inclined.....	
vertical.....	
dip indeterminate.....	

Trend of igneous flow banding.....

STRUCTYPEID GSDID

BEHO	01-010-001
BEIN	01-010-002
BEVE	01-010-003
BEOI	01-010-004
BEOH	01-010-005
BEWU	01-010-006
BEPN	01-010-007

BEP1	01-010-008
BEP2	01-010-009
BEP3	01-010-010
BEPH	01-010-011
BEPV	01-010-012
BEI4	01-010-013
BEI2	01-010-014
BEI3	01-010-015
	01-010-016
	01-011-001

CLNT	01-012-001
SMFT	01-012-002
CLIM	01-012-003
MEGT	01-012-004
PCBD	01-012-005
ARFT	01-012-006
SCRK	01-012-007
TSFT	01-012-008
PCXF	01-012-009
CLNP	01-012-010
SMFU	01-012-011
CLIU	01-012-012
MEGU	01-012-013
PLCB	01-012-014
ARUN	01-012-015
SCRU	01-012-016
TSDU	01-012-017
PCXU	01-012-018

ADRF	01-013-001
AEDF	01-013-002
ASFT	01-013-003
PWXU	01-013-004

GSIT	01-014-001
GSDU	01-014-002

ICHO	01-015-001
ICIN	01-015-002
ICVE	01-015-003

ILHO	01-016-001
ILIN	01-016-002
ILVE	01-016-003
ILDI	01-016-004
	01-016-005

IFBH	01-017-001
IFBI	01-017-002
IFBV	01-017-003
IFBU	01-017-004
	01-017-005

Structural symbols (cont.)

Way-up indicator

sedimentary structure.....	
graded bedding.....	
cross-bedding.....	
cross-lamination.....	
coarsening upward sequence.....	
fining upwards sequence.....	
solemarking.....	
microbialite growth direction.....	
igneous structure.....	
igneous differentiation.....	
pillow structure.....	
spinfex texture.....	

STRUCTYPEID	GSDID
WASE	01-018-001
WAGB	01-018-002
WACB	01-018-003
WAXL	01-018-004
WACU	01-018-005
WAFS	01-018-006
WASO	01-018-007
WASG	01-018-008
WAIS	01-018-009
WAID	01-018-010
WAPI	01-018-011
WAST	01-018-012

Magmatic foliation, showing strike and dip

horizontal.....	
inclined.....	
vertical.....	
dip indeterminate.....	

MFOH	01-019-001
MFOI	01-019-002
MFOV	01-019-003
MFOU	01-019-004
	01-019-005

Trend of magmatic foliation.....

Metamorphic foliation, showing strike and dip

horizontal.....	
inclined.....	
vertical.....	
dip indeterminate.....	

FOHO	01-020-001
FOIN	01-020-002
FOVE	01-020-003
FODI	01-020-004
	01-020-005

Trend of metamorphic foliation.....

Gneissic layering, showing strike and dip

horizontal.....	
inclined.....	
vertical.....	

GNVH	01-021-001
GNIN	01-021-002
GNVE	01-021-003

strike and dip estimated from aerial photography

1-15°.....	
16-45°.....	
46-89°.....	
horizontal.....	
vertical.....	

GNP1	01-021-004
GNP2	01-021-005
GNP3	01-021-006
GNPH	01-021-007
GNPV	01-021-008
	01-021-009

Trend of gneissic layering.....

Cleavage, showing strike and dip

horizontal.....	
inclined.....	
vertical.....	
C-S fabric; inclined.....	

CLHO	01-022-001
CLIN	01-022-002
CLVE	01-022-003
CSFI	01-022-004

Crenulation cleavage, showing strike and dip

horizontal.....	
inclined.....	
vertical.....	

CCHO	01-023-001
CCIN	01-023-002
CCVE	01-023-003

Shear-sense indicator

dextral.....	
sinistral.....	

SHSD	01-024-001
SHSS	01-024-002

showing dip of igneous flow banding

dextral	
inclined.....	
vertical.....	
sinistral	
inclined.....	
vertical.....	

SIDI	01-024-003
SIDV	01-024-004

SISI	01-024-005
SISV	01-024-006

showing dip of magmatic foliation

dextral	
inclined.....	
vertical.....	
sinistral	
inclined.....	
vertical.....	















































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MFDV	01-024-008

MFSI	01-024-009
MFSV	01-024-010


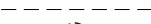

























Structural symbols (cont.)

Shear-sense indicator (cont.)

STRUCTYPEID GSDSID

showing dip of metamorphic foliation				
dextral				
inclined.....		<table border="1"><tr><td>FODD</td><td>01-024-011</td></tr></table>	FODD	01-024-011
FODD	01-024-011			
vertical.....		<table border="1"><tr><td>FODV</td><td>01-024-012</td></tr></table>	FODV	01-024-012
FODV	01-024-012			
sinistral				
inclined.....		<table border="1"><tr><td>FOSI</td><td>01-024-013</td></tr></table>	FOSI	01-024-013
FOSI	01-024-013			
vertical.....		<table border="1"><tr><td>FOSV</td><td>01-024-014</td></tr></table>	FOSV	01-024-014
FOSV	01-024-014			
normal.....		<table border="1"><tr><td>FONO</td><td>01-024-015</td></tr></table>	FONO	01-024-015
FONO	01-024-015			
reverse.....		<table border="1"><tr><td>FORE</td><td>01-024-016</td></tr></table>	FORE	01-024-016
FORE	01-024-016			
showing dip of gneissic layering				
dextral				
inclined.....		<table border="1"><tr><td>GLDI</td><td>01-024-017</td></tr></table>	GLDI	01-024-017
GLDI	01-024-017			
vertical.....		<table border="1"><tr><td>GLDV</td><td>01-024-018</td></tr></table>	GLDV	01-024-018
GLDV	01-024-018			
sinistral				
inclined.....		<table border="1"><tr><td>GLSI</td><td>01-024-019</td></tr></table>	GLSI	01-024-019
GLSI	01-024-019			
vertical.....		<table border="1"><tr><td>GLSV</td><td>01-024-020</td></tr></table>	GLSV	01-024-020
GLSV	01-024-020			
normal.....		<table border="1"><tr><td>GLNO</td><td>01-024-021</td></tr></table>	GLNO	01-024-021
GLNO	01-024-021			
reverse.....		<table border="1"><tr><td>GLRE</td><td>01-024-022</td></tr></table>	GLRE	01-024-022
GLRE	01-024-022			
Lineation, unspecified, showing trend and plunge				
horizontal.....		<table border="1"><tr><td>LINH</td><td>01-025-001</td></tr></table>	LINH	01-025-001
LINH	01-025-001			
inclined.....		<table border="1"><tr><td>LINU</td><td>01-025-002</td></tr></table>	LINU	01-025-002
LINU	01-025-002			
vertical.....		<table border="1"><tr><td>LINV</td><td>01-025-003</td></tr></table>	LINV	01-025-003
LINV	01-025-003			
Mineral lineation, showing trend and plunge				
horizontal.....		<table border="1"><tr><td>MILH</td><td>01-026-001</td></tr></table>	MILH	01-026-001
MILH	01-026-001			
inclined.....		<table border="1"><tr><td>MIEL</td><td>01-026-002</td></tr></table>	MIEL	01-026-002
MIEL	01-026-002			
vertical.....		<table border="1"><tr><td>MILV</td><td>01-026-003</td></tr></table>	MILV	01-026-003
MILV	01-026-003			
Stretching lineation, showing trend and plunge				
horizontal.....		<table border="1"><tr><td>STLH</td><td>01-027-001</td></tr></table>	STLH	01-027-001
STLH	01-027-001			
inclined.....		<table border="1"><tr><td>STLI</td><td>01-027-002</td></tr></table>	STLI	01-027-002
STLI	01-027-002			
vertical.....		<table border="1"><tr><td>STLV</td><td>01-027-003</td></tr></table>	STLV	01-027-003
STLV	01-027-003			
Axis of crenulation, showing trend and plunge				
horizontal.....		<table border="1"><tr><td>CRHH</td><td>01-028-001</td></tr></table>	CRHH	01-028-001
CRHH	01-028-001			
inclined.....		<table border="1"><tr><td>CRHI</td><td>01-028-002</td></tr></table>	CRHI	01-028-002
CRHI	01-028-002			
vertical.....		<table border="1"><tr><td>CRHV</td><td>01-028-003</td></tr></table>	CRHV	01-028-003
CRHV	01-028-003			
Bedding–cleavage intersection lineation, showing trend and plunge				
horizontal.....		<table border="1"><tr><td>BCIH</td><td>01-029-001</td></tr></table>	BCIH	01-029-001
BCIH	01-029-001			
inclined.....		<table border="1"><tr><td>BCIN</td><td>01-029-002</td></tr></table>	BCIN	01-029-002
BCIN	01-029-002			
vertical.....		<table border="1"><tr><td>BCIV</td><td>01-029-003</td></tr></table>	BCIV	01-029-003
BCIV	01-029-003			
Cleavage–cleavage intersection lineation, showing trend and plunge				
horizontal.....		<table border="1"><tr><td>CLCH</td><td>01-030-001</td></tr></table>	CLCH	01-030-001
CLCH	01-030-001			
inclined.....		<table border="1"><tr><td>CLCL</td><td>01-030-002</td></tr></table>	CLCL	01-030-002
CLCL	01-030-002			
vertical.....		<table border="1"><tr><td>CLCV</td><td>01-030-003</td></tr></table>	CLCV	01-030-003
CLCV	01-030-003			
Slickenline, showing plunge				
horizontal.....		<table border="1"><tr><td>SLIH</td><td>01-031-001</td></tr></table>	SLIH	01-031-001
SLIH	01-031-001			
inclined.....		<table border="1"><tr><td>SLIC</td><td>01-031-002</td></tr></table>	SLIC	01-031-002
SLIC	01-031-002			
vertical.....		<table border="1"><tr><td>SLIV</td><td>01-031-003</td></tr></table>	SLIV	01-031-003
SLIV	01-031-003			
Slickenline, showing direction of movement and plunge				
normal.....		<table border="1"><tr><td>SLIN</td><td>01-031-004</td></tr></table>	SLIN	01-031-004
SLIN	01-031-004			
reverse.....		<table border="1"><tr><td>SLIR</td><td>01-031-005</td></tr></table>	SLIR	01-031-005
SLIR	01-031-005			
dextral.....		<table border="1"><tr><td>SLID</td><td>01-031-006</td></tr></table>	SLID	01-031-006
SLID	01-031-006			
sinistral.....		<table border="1"><tr><td>SLIS</td><td>01-031-007</td></tr></table>	SLIS	01-031-007
SLIS	01-031-007			
Flow lineation, showing trend and plunge				
horizontal.....		<table border="1"><tr><td>FLHO</td><td>01-032-001</td></tr></table>	FLHO	01-032-001
FLHO	01-032-001			
inclined.....		<table border="1"><tr><td>FLIN</td><td>01-032-002</td></tr></table>	FLIN	01-032-002
FLIN	01-032-002			
vertical.....		<table border="1"><tr><td>FLVE</td><td>01-032-003</td></tr></table>	FLVE	01-032-003
FLVE	01-032-003			
Magmatic lineation, showing trend and plunge				
horizontal.....		<table border="1"><tr><td>ILHZ</td><td>01-033-001</td></tr></table>	ILHZ	01-033-001
ILHZ	01-033-001			
inclined.....		<table border="1"><tr><td>ILIC</td><td>01-033-002</td></tr></table>	ILIC	01-033-002
ILIC	01-033-002			
vertical.....		<table border="1"><tr><td>ILVT</td><td>01-033-003</td></tr></table>	ILVT	01-033-003
ILVT	01-033-003			
Joint or fracture, showing strike and dip				
horizontal.....		<table border="1"><tr><td>JOHO</td><td>01-034-001</td></tr></table>	JOHO	01-034-001
JOHO	01-034-001			
inclined.....		<table border="1"><tr><td>JOIN</td><td>01-034-002</td></tr></table>	JOIN	01-034-002
JOIN	01-034-002			
vertical.....		<table border="1"><tr><td>JOVE</td><td>01-034-003</td></tr></table>	JOVE	01-034-003
JOVE	01-034-003			
Fracture pattern.....	-----	<table border="1"><tr><td></td><td>01-035-001</td></tr></table>		01-035-001
	01-035-001			

Structural symbols (cont.)

		STRUCTYPEID	GSDID
Sample Mineral Commodities	Metamorphic mineral defining stretching lineation <i>see MINEDEX database for complete list</i>		
	Biotite.....	Bt	
	Chlorite.....	Chl	
	Talc.....	Tlc	
Geophysical layer only (not structure)	Airphoto or satellite image trend		
	unspecified.....		01-036-001
	flow-top trend and ogive structure.....		01-036-002
	geomorphic circular feature.....		01-036-003
	Interpreted circular gravity feature.....		01-037-001
	* Lineament		
	interpreted from aeromagnetic data.....		01-038-001
	interpreted from gravity data.....		01-038-002
	interpreted from geophysical data.....		01-038-003
	** Trend line		
	interpreted from aeromagnetic data.....		01-039-001
	interpreted from gravity data.....		01-039-002
	interpreted from geophysical data.....		01-039-003
	Relative magnetic anomaly, triangle on the side of decreasing intensity.....		01-040-001
	Relative gravity anomaly, triangle on the side of decreasing intensity.....		01-041-001
	Meteorite impact structure.....		CRYP 01-042-001
	Shatter cones.....		SHAT 01-042-002
	Fossil locality.....		FOS 01-043-001
	Macrofossil locality.....		MAC 01-043-002
	Microfossil locality.....		MIC 01-043-003
	Trace fossil locality.....		TRAC 01-043-004
	Wood fossil locality.....		FOSW 01-043-005
	Oncolite locality.....		ONCL 01-043-006
	Palynomorph locality.....		PALY 01-043-007
	Plant fossil locality.....		PLAN 01-043-008
	Stromatolite fossil locality.....		STRO 01-043-009
	Vertebrate fossil locality.....		VERT 01-043-010
Fossil type locality.....		FTYP 01-043-011	
Type section.....		TYPS 01-043-012	
Isotopic age determination site with identification number.....		ISOS 01-044-001	

*Lineaments are uncommon linear features or alignments of features in the order of tens or hundreds of kilometres long; their interpretation has a greater uncertainty than trend lines.

**Trend lines define linear anomalies (usually highs) and their orientation. They are common elements that can easily be interpreted as geological features such as bedding/layering, metamorphic or magmatic foliations, faults or shear zones and related fabrics, or margins of intrusions.

Mining symbols

Mineral field boundary.....	— · · · —
Mineral field district boundary.....	— · —
Mining centre.....	MOUNT DOCKRELL
Mining locality.....	Bardoc
Battery or treatment plant.....	■
Battery or treatment plant, abandoned.....	■

STRUCTYPEID	GSDID
	03-001-001
	03-001-002
	03-001-003
	03-001-004
	03-001-005
	03-001-006

Not on IBG

Opencut or quarry.....	
Made ground or mining area.....	
Tailings or stockpile.....	
Limit of alluvial workings.....	
Salt evaporator.....	

SDI code		GSDID
Opencut		03-002-001
Made ground		03-002-002
Tailings		03-002-003
Alluvial workings		03-002-004
Salt evaporator		03-002-005

Obtain Chief Geoscientist's written permission to display drillholes on hardcopy maps

Mineral exploration costean, pit, or shallow trench.....	☒ Agy
Mineral exploration drillhole showing subsurface data.....	⊗ AHc
Mineral exploration drill line showing subsurface data.....	⊗ — ⊗ EYdm

DHCP	03-003-001
DHSV	03-003-002
DHSV	03-003-003

Petroleum symbols

Gasfield or oilfield boundary.....	
------------------------------------	--

03-004-001

Petroleum exploration well

drilling in progress.....	○
suspended.....	⊖
dry, abandoned.....	⊕
show of oil.....	○
show of oil, suspended.....	⊖
show of oil, abandoned.....	⊕
show of gas.....	☼
show of gas, suspended.....	⊖☼
show of gas, abandoned.....	⊕☼
show of oil and gas.....	⊖
show of oil and gas, suspended.....	⊖☼
show of oil and gas, abandoned.....	⊕☼
service.....	○
completed as water bore.....	⊖ ^w
Stratigraphic well.....	⊖ st

DIP	03-005-001
WS	03-005-002
WDA	03-005-003
SOIL	03-005-004
SOILS	03-005-005
SOILA	03-005-006
SGAS	03-005-007
SGASS	03-005-008
SGASA	03-005-009
SOAG	03-005-010
SOAGS	03-005-011
SOAGA	03-005-012
SERV	03-005-013
WB	03-005-014
STRAT2	03-005-015

Petroleum production well

oil.....	●
oil, suspended.....	●
oil, abandoned.....	●
gas.....	☼
gas, suspended.....	☼
gas, abandoned.....	☼
oil and gas.....	●☼
oil and gas, suspended.....	●☼
oil and gas, abandoned.....	●☼
gas and condensate.....	☼
gas and condensate, suspended.....	☼
gas and condensate, abandoned.....	☼

OIL	03-006-001
OILS	03-006-002
OILA	03-006-003
GAS	03-006-004
GASS	03-006-005
GASA	03-006-006
OAG	03-006-007
OAGS	03-006-008
OAGA	03-006-009
GAC	03-006-010
GACS	03-006-011
GACA	03-006-012

Summary of linear trends

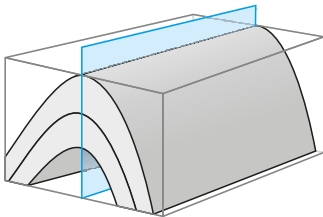


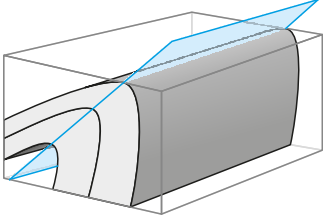


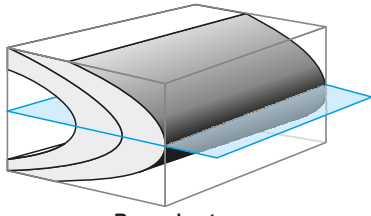


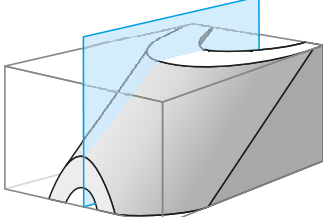


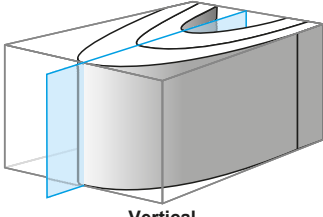


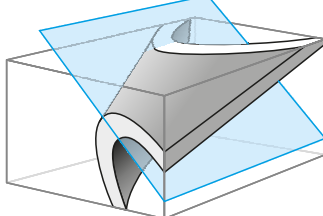


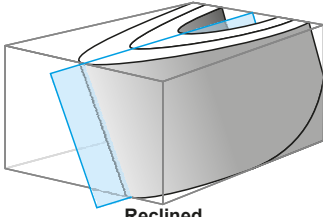


		mm	GSDID
Trend of bedding	_____	blk 4,1	01-010-016
Trend of layering or foliation, unspecified.....	_____	blk 3,0.5	01-011-001
Trend of igneous layering.....	=====	blk 2,0.5 x 0.4	01-016-005
Trend of igneous flow banding.....	====	blk 4,1 x 0.4	01-017-005
Trend of magmatic foliation.....	_____	blk 4,0.5	01-019-005
Trend of metamorphic foliation.....	_____	blk 2,0.5	01-020-005
Trend of gneissic layering.....	_____	blk 3,2	01-021-009
Fracture pattern.....	-----	blk 1,2, 0.5	01-035-001
Airphoto or satellite image trend			
unspecified.....	_____	blk 6, 1	01-036-001
flow-top trend and ogive structure.....	-----	blk 2, 1	01-036-002
* Lineament			
interpreted from aeromagnetic data.....	_____	P266 6, 1	01-038-001
interpreted from geophysical data.....	_____	cyan 6, 1	01-038-002
interpreted from gravity data.....	_____	mag 6, 1	01-038-003
** Trend line			
interpreted from aeromagnetic data.....	_____	P266 2, 1	01-039-001
interpreted from geophysical data.....	_____	cyan 2, 1	01-039-002
interpreted from gravity data.....	_____	mag 2, 1	01-039-003

Geophysical layer only (not structure)

*Lineaments are uncommon linear features or alignments of features in the order of tens or hundreds of kilometres long; their interpretation has a greater uncertainty than trend lines.

**Trend lines define linear anomalies (usually highs) and their orientation. They are common elements that can easily be interpreted as geological features such as bedding/layering, metamorphic or magmatic foliations, faults or shear zones and related fabrics, or margins of intrusions

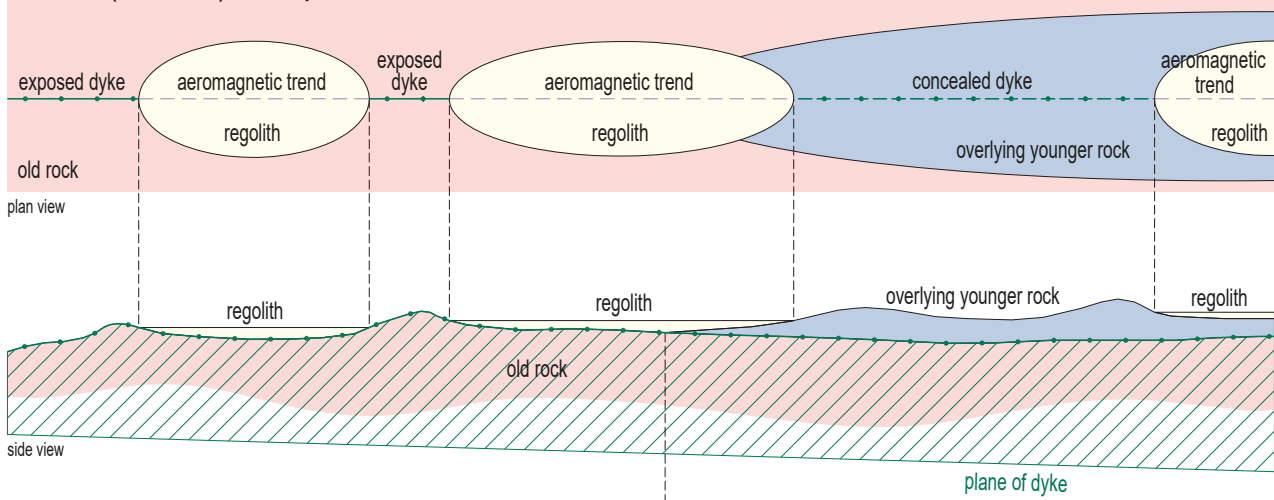
Graphic representation of small scale fold structures

Physical characteristics	Map symbol(s)	Map symbol(s) at map scale
 <p data-bbox="387 488 555 517">Upright horizontal</p>		
 <p data-bbox="336 757 608 786">Moderately inclined horizontal</p>		
 <p data-bbox="424 1014 528 1043">Recumbent</p>		
 <p data-bbox="344 1301 600 1330">Upright moderately plunging</p>		
 <p data-bbox="440 1568 507 1597">Vertical</p>		
 <p data-bbox="288 1854 660 1883">Moderately inclined, moderately plunging</p>		
 <p data-bbox="432 2112 515 2141">Reclined</p>		

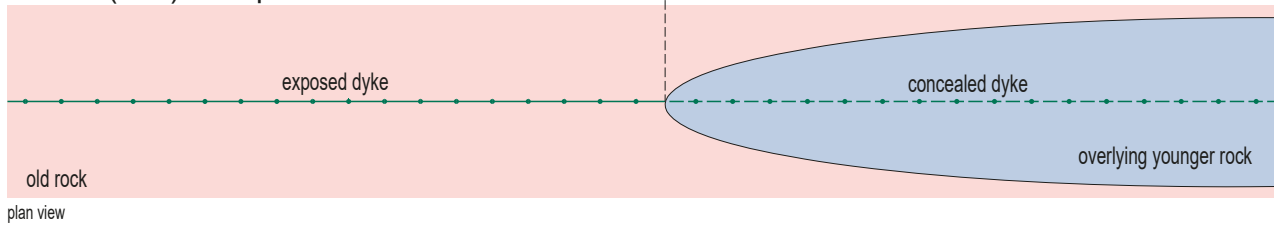
Graphic representation of line units cutting through older and younger rock units

Diagram showing intrusive rocks (e.g. dykes, shown as line units) on hardcopy maps where overlying younger rock is present, and dyke does *not* cut through younger rock.

1:100k (surface) – Map

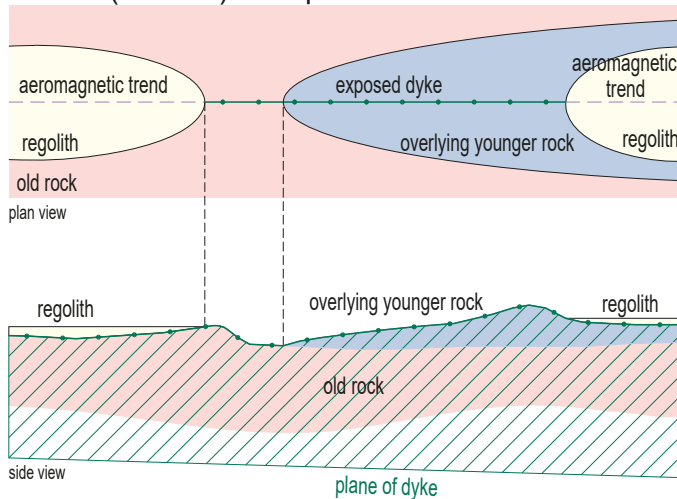


1:500k (IBG) – Map

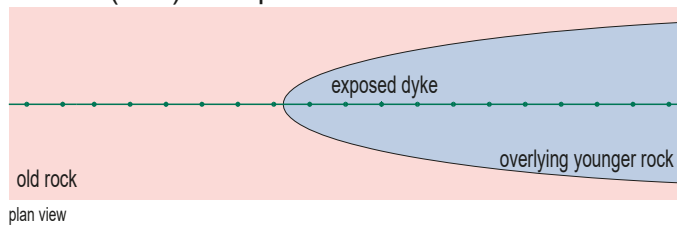


Where intrusive dyke cuts through both geology layers

1:100k (surface) – Map



1:500k (IBG) – Map



IBG to surface geology conversion procedure for linear rock units

1. **Geologists** compile and submit the interpgeo_line_100k layer to GIS. On this layer:
 - o Linear rock units that are out to be completely exposed on the surface geology layer can be attributed as OUT (= outcrop) in the SHOW column of the attribute table (e.g. zq in figure 1).
 - o Linear rock units (or parts thereof) that can be traced under cover of younger rocks (not regolith!) are to be attributed as 'concealed' in a TYPE column of the attribute table (e.g. Acib in figure).
- The SDI layers are handed in to GIS.

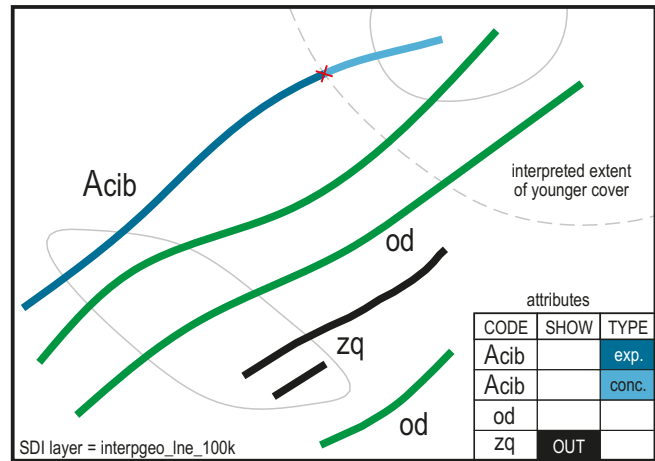


Figure 1

2. **GIS** breaks linear rock units that are not labelled as OUT at the outcrop-regolith intersections, attributing them as OUT or REG in the SHOW column of the attribute table. NB. this step is carried out for 'concealed' units as well.
- The SDI layers are handed back to the geologist.

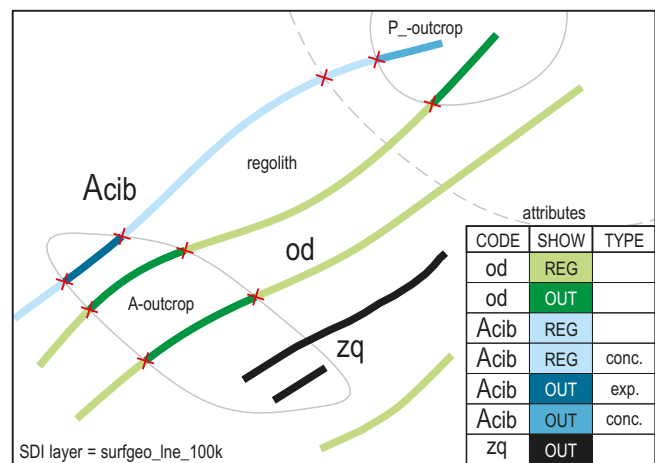


Figure 2

3. The **geologist** assesses every linear rock unit attributed as REG, spilt them if necessary, and re-attributes all segments as follows:
 - a. REG_X = linear rock unit must be displayed through regolith on the surface geology layer. NB. if a linear rock unit outcrops for <200m outside a polygon, it will need to be labelled as REG_X or it will not be displayed on the surface geology layer because too short for the scale of the layer
 - b. NO = linear rock unit will not be displayed on the surface geology layer
 - c. TREND = linear rock unit will not be displayed on the digital surface geology layer but will appear on hardcopy maps as a 'Trend line interpreted from aeromagnetic data'. For this to happen, the geologist needs to ensure that the exact same line is represented on the geophys_100k layer with exactly the same feature and a YES in the SURF_SHOW column in that layer

- NB. At this point geos also need to complete the assessment of 'concealed' linear rock units on the surface geology line layer, ie.
- o Units attributed as OUT and 'concealed' that are to be displayed need not be touched
 - o Units attributed as OUT and 'concealed' that are not to be displayed need to be re-attributed as NO
 - o No 'concealed' linear rock units are to be displayed under regolith, ie. the combination of TYPE = concealed and SHOW = REG_X is not allowed.
 - o No trends interpreted from geophysical data are to be displayed in outcrop.

→ The SDI layers are handed back to GIS.

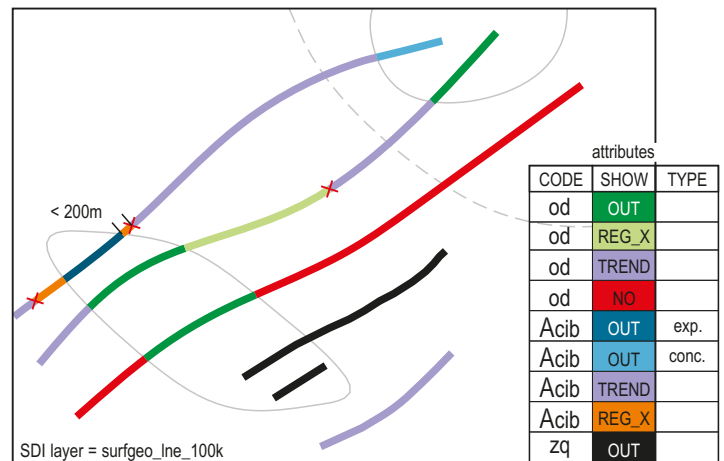
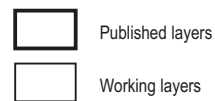


Figure 3



IBG to surface geology conversion procedure for linear rock units

4. GIS creates a back-up copy of the submitted layer. This is archived for future reference (e.g. re-generations of surface layer).

a. GIS generates a surfgeo_line_100k layer by extracting all the linear rock units attributed as OUT and REG_X. Where linear rock units with the same codes are adjacent, they are merged back to form single lines.

b. GIS checks that all linear rock units labelled as TREND perfectly match features on the geophys_100K layer (as described at point 3c). If a match does not exist, it is generated by GIS.

In order to be able to symbolize concealed linear rock units, at this point GIS 'recodes' concealed linear rock units by adding an underscore at the end of the code (ie. A-cib_). A row for the new code is manually inserted by GIS in the lut.

Legend narratives are manually corrected in the lut only (not in ENS) by adding '.....; concealed' at the end. If the concatenation of characters for name+code+narrative is too long, the geologist will be asked to re-assess the legend narrative and to shorten in ENS.

NB. At no point are symbology details to be entered in ENS.

→ all SDI layers are handed over to Mapping.

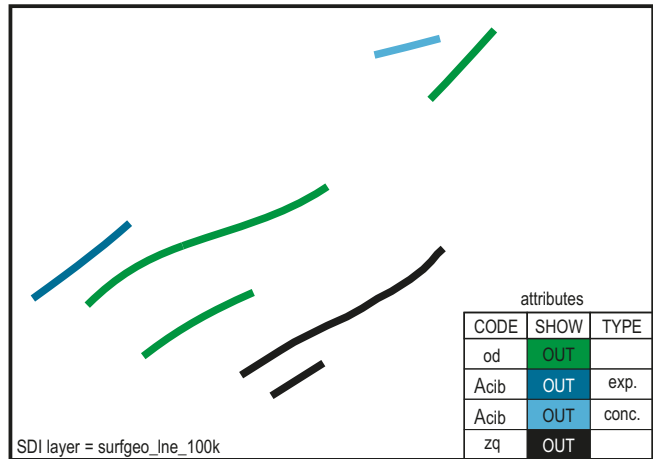


Figure 4a

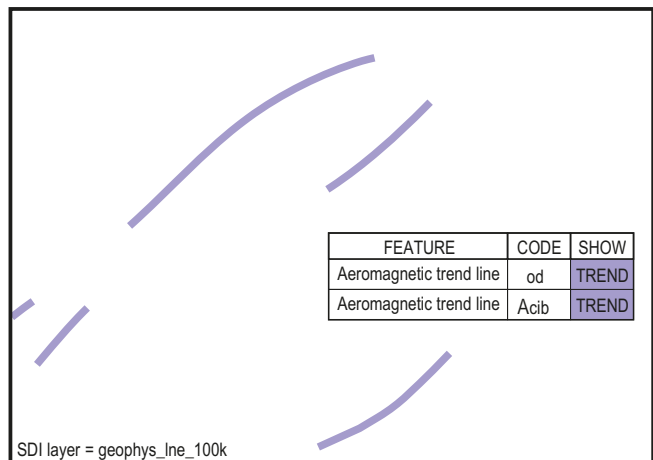


Figure 4b

5. A hardcopy map is generated by combining the surfgeo_line_100k, the geophys_100k, and surfstruc_line_100k layers. For those products that contain concealed linear rock units, one code only will be listed in the legend, and the legend narrative modified by adding '.....; concealed where dashed' at the end.

Geos need to double-check that all conversions have been implemented correctly on hardcopy printouts. This includes to ensure that the legend narratives match the actual content of the product if concealed linear rock units are present.

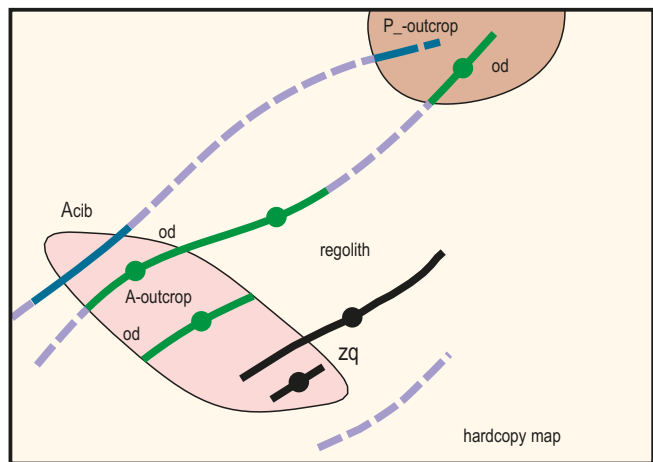


Figure 5



Attribute table configuration for structural and geophysical layers

Field name	Owner	Required field	Field type and max length	Text case	Notes
FID	Auto	YES	integer	n/a	
SHAPE	Auto	YES	polyline	ULC	
FEATURE	Geo	YES	150 characters	ULC	Description of structural element, e.g. 'Bedding, showing strike and dip; horizontal'
NAME	Geo	NO	50 characters	UC	Names to be approved by Project Managers
CODE	GIS	NO	30 characters	ULC	This is a GIS-generated field, designed to preserve information for those aeromag trends or lineaments that are created by conversion from surface linear rock units, and to distinguish them from those that are not generated from linear rock units
SURF_SHOW	GIS/GEO	YES, surface layer only	10 characters	ULC	Used to indicate, upon splitting of features into exposed and concealed on the surface geology layer, which segments are to be displayed and which are not. • YES = display • NO = do not display
DIP	Geo	NO	5 integers	n/a	-9999 if value=NULL
DIP_EST	Geo	NO	30 characters	LC	Words only, i.e. no number or degree symbols. Follow scheme by McClay (1987): <ul style="list-style-type: none"> • horizontal (0_n) • subhorizontal (1–10_n) • gentle (10_n–30_n) • moderate (30_n–60_n) • steep (60_n–80_n) • subvertical (80_n–89_n) • vertical (90_n) <p>Multiple usage as in 'subhorizontal to moderate' also allowed, but must be in this style (i.e. no hyphens)</p>
DIP_DIR	Geo	NO	35 characters	LC	Use house style: e.g. 'southeast', not 'south-east'. Usage as in 'southwest to south-southwest' also allowed, but must be in this style (i.e. no hyphens)
PLUNGE	Geo	NO	5 integers	n/a	-9999 if value=NULL
PLUNGE_EST	Geo	NO	30 characters	LC	Words only, i.e. no number or degree symbols. Follow scheme by McClay (1987): <ul style="list-style-type: none"> • horizontal (0_n) • subhorizontal (1–10_n) • gentle (10_n–30_n) • moderate (30_n–60_n) • steep (60_n–80_n) • subvertical (80_n–89_n) • vertical (90_n) <p>Multiple usage as in 'subhorizontal to moderate' also allowed, but must be in this style (i.e. no hyphens)</p>
PLUNGE_DIR	Geo	NO	35 characters	LC	Use house style: e.g. 'southeast', not 'south-east'
MAX_AGE_EV	Geo	NO	150 characters	ULC	Event names used in attribute table must be listed at least as Approved for DE in ENS
MIN_AGE_EV	Geo	NO	150 characters	ULC	Event names used in attribute table must be listed at least as Approved for DE in ENS
COMMENT	Geo	NO	150 characters	ULC	Guidelines to follow: <ul style="list-style-type: none"> • components separated by semicolons • listing in chronological order, if applicable • in-house rules to be followed for spelling, etc. • fields to be edited
GSWA_STYLE	Geo/GIS	NO	12 characters	ULC	Numbers in this field are treated as characters. Enter numbers as: '003' or '257a'.
AR73a				LC	Lower case
For publishing				UC	Upper case
GIS-use only				ULC	Upper and lower case

08.03.16

See [000214.angela.riganti.xlsx](#) for digital copy and examples

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