













































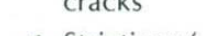

































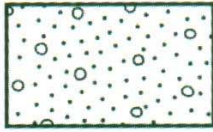


Simbologías diversas

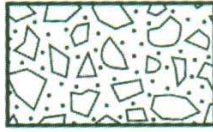
LITHOLOGY			
Siliciclastic sediments		Carbonates	Others
 Clay, mudstone	 Lithic sst (litharenite)	 Limestone	 Chert
 Shale	 Greywacke	 Dolomite	 Peat
 Marl	 Clayey sst	 Sandy ls	 Brown coal (lignite)
 Siltstone	 Calcareous sst	Symbols to add:	
 Sandstone (undiff.)	 Alternating strata, sst/shale	 Intraclast	 Hard coal
 Quartz arenite	 Pebble-supported conglomerate	 Ooid	 Halite
 Feldspathic sst (arkose)	 Matrix-supported conglomerate	 Oncolite/pisolite, > 2 mm diam.	 Gypsum/anydrite
		 Peloid	 Volcaniclastic sediment
		 Fossils (undiff.); for specific symbols see below	
SEDIMENTARY STRUCTURES			
 Flute cast	 Parallel lamination	 Wave-ripple lamination	 Stromatolites
 Groove cast	 Cross lamination	Graded bedding:	
 Tool marks	 Cross-bedding, planar	 Normal	Bioturbation:
 Load casts	 Cross-bedding, trough	 Reversed	 Slight
 Shrinkage cracks	 Cross-bedding, herringbone	 Imbrication	 Intense
 Striations/lineations	 Cross-bedding, low angle	 Slump structures	Bed contacts:
 Symmetrical ripples	 Flaser bedding	 Convolute bedding	 Sharp, planar
 Asymmetrical ripples	 Lenticular bedding	 Nodules	 Sharp, irregular
		 Stylolites	 Gradational
			Paleocurrents:
			 Azimuth
			 Trend
FOSSILS			
 Fossils (undiff.)	 Brachiopods	 Echinoids	 Algae
 Fossils, broken	 Bryozoan	 Gastropods	 Plant fragments
 Ammonoids	 Coral, solitary	 Graptolites	 Roots
 Belemnites	 Coral, compound	 Stromatoporoid	 Burrows
 Bivalves	 Crinoids	 Trilobite	Devise others when needed

Rocas sedimentarias

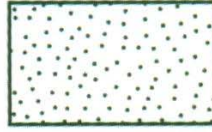
ROCAS SEDIMENTARIAS



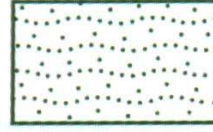
Grava o conglomerado



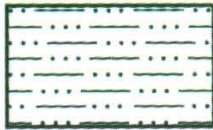
Brecha



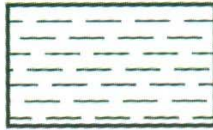
Arenisca



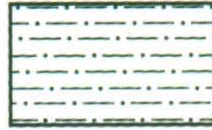
Arenisca con rizaduras



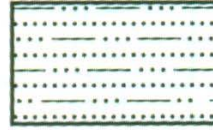
Limolita



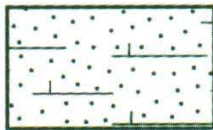
Lutita



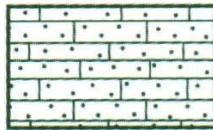
Lodolita



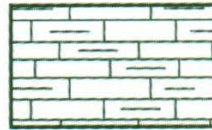
Grauwacka



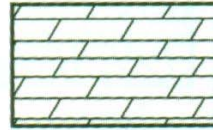
Arenisca calcárea



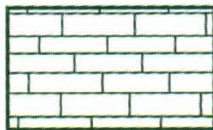
Caliza arenosa



Caliza arcillosa



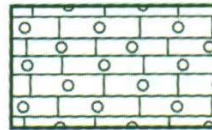
Dolomía



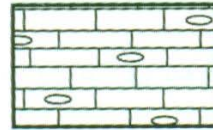
Caliza



Caliza fosilífera



Caliza oolítica



Caliza con pedernal



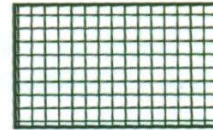
Caliche o calcreta



Carbón



Yeso



Sal

United States Geological Survey
tiene disponible los archivos en formato PostScript

Estructuras Sedimentarias

SIGNOS PARA ESTRUCTURAS SEDIMENTARIAS

Estructuras sedimentarias dentro del estrato

	laminación paralela		gradación grano decreciente
	laminación ondulada		gradación grano creciente
	laminación cruzada		imbricación guijarros/cantos
	laminación flaser		estratificación lenticular
	estratificación cruzada planar		estratificación hummocky
	estratificación cruzada curvada		estratificación herringbone

Estructuras sedimentarias en la superficie del estrato

	flute cast		gotas de lluvia
	crescent marks		grietas de desecación
	groove cast		superficie endurecida (hardground)
	tool marks		superficie erosionada
	chevron cast		rizaduras simétricas
	corte y relleno		rizaduras asimétricas

Estructuras sedimentarias de deformación

	load cast		estructura de plato
	diques de arena		fallas sinsedimentarias
	slump		tepee
	laminación convoluta		estructuras de flama
	conglomerado intraformacional		intraclastos
	volcán de arena		

Estructuras y Fósiles

Estructuras diagenéticas

-  cristales de pirita
-  cristales de yeso
-  concreciones
-  estilolitas
-  fenestras
-  nódulos
-  vetillas

Estructuras orgánicas

-  bioturbación ligera
-  bioturbación intensa
-  carpeta de algas
-  estromatolitos
-  excavaciones
-  perforaciones
-  pistas

Fósiles

- | | | |
|---|---|---|
|  amonoides |  escamas |  hojas |
|  belemnite |  esponja |  huesos |
|  bivalvos |  estromatolito |  madera |
|  braquiópodo |  foraminífero |  ostrácodo |
|  briozoario |  bentónico |  pez |
|  crinoide |  planctónico |  radiola |
|  coral colonial |  fósiles indiferenciados |  raíces |
|  coral solitario |  gasterópodos |  rudista |
|  equinoide |  graptolito |  trilobite |

Iconofósiles

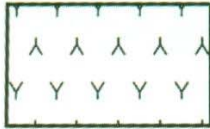
- | | | |
|---|---|---|
|  <i>Rhizocorallium</i> |  <i>Thalassinoides</i> |  <i>Chondrites</i> |
|  <i>Skolithos</i> |  <i>Zoophycos</i> |  <i>Helminthoides</i> |
|  <i>Cruziana</i> |  <i>Paleodictyon</i> |  <i>Nereites</i> |

Tipo de contactos

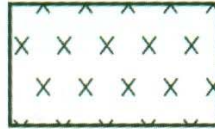


Rocas Ígneas y Metamórficas

ROCAS IGNEAS



Toba



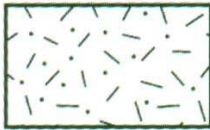
Toba cristalina



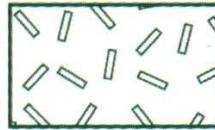
Brecha volcánica
aglomerado



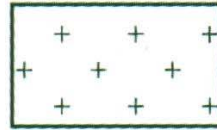
Derrame de
basalto



Granito



Roca porfírica

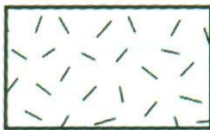


Roca ígnea 1

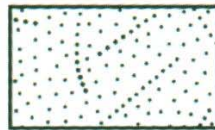


Roca ígnea 2

ROCAS METAMÓRFICAS



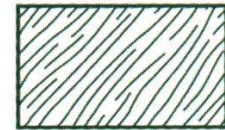
Roca
metamórfica



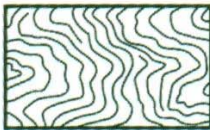
Cuarzita



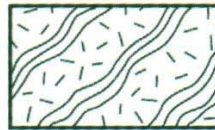
Pizarra
Fililita



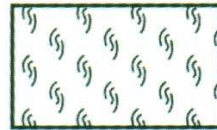
Esquisto



Esquisto
plegado



Gneis



Serpentina
talco




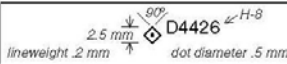
Migmatita

Simbologías del United States Geological Survey

Federal Geographic Data Committee
 FGDC Digital Cartographic Standard for Geologic Map Symbolization

FGDC Document Number FGDC-STD-013-2006
 Appendix A

10—PALEONTOLOGICAL FEATURES

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
10.1—Fossil locality				
10.1.1	Fossil locality—Showing collection number		 2.5 mm line weight, 90° angle, dot diameter .5 mm	May be shown in red or other colors.

REF NO	DESCRIPTION	SYMBOL	REF NO	DESCRIPTION	SYMBOL	REF NO	DESCRIPTION	SYMBOL
10.2—Fossil symbols			10.2—Fossil symbols (continued)			10.2—Fossil symbols (continued)		
10.2.1	Macrofossils		10.2.23	Gastropods		10.2.45	Microfossils	
10.2.2	Invertebrates		10.2.24	Pelecypods		10.2.46	Conodonts	
10.2.3	Annelids		10.2.25	Sponges		10.2.47	Diatoms	
10.2.4	Arthropods		10.2.26	Vertebrates		10.2.48	Foraminifera	
10.2.5	Arachnids		10.2.27	Amphibians		10.2.49	Larger foraminifera, or fusulinids	
10.2.6	Crustaceans		10.2.28	Fish		10.2.50	Smaller, benthonic foraminifera	
10.2.7	Insects		10.2.29	Mammals		10.2.51	Smaller, planktonic foraminifera	
10.2.8	Trilobites		10.2.30	Reptiles		10.2.52	Nannofossils	
10.2.9	Brachiopods		10.2.31	Plants		10.2.53	Ostracodes	
10.2.10	Bryozoans		10.2.32	Leaves		10.2.54	Palynomorphs	
10.2.11	Cnidarians		10.2.33	Roots		10.2.55	Acritarchs	
10.2.12	Corals		10.2.34	Wood		10.2.56	Chitinozoans	
10.2.13	Stromatoporoids		10.2.35	Algae		10.2.57	Dinoflagellates	
10.2.14	Echinoderms		10.2.36	Conifers		10.2.58	Pollen and (or) spores	
10.2.15	Crinoids		10.2.37	Ferns		10.2.59	Radiolarians	
10.2.16	Echinoids		10.2.38	Flowering plants and (or) trees		10.2.60	Silicoflagellates	
10.2.17	Graptolites		10.2.39	Stromatolites		10.2.61	Spicules	
10.2.18	Mollusks		10.2.40	Fungi		CARTOGRAPHIC SPECIFICATIONS*		
10.2.19	Cephalopods		10.2.41	Trace fossils		all lineweights .125 mm draft as shown; size may vary (see below)		
10.2.20	Ammonoids		10.2.42	Burrows		 fill color 100% white		
10.2.21	Belemnoids		10.2.43	Coprolites		 fill color 100% black		
10.2.22	Nautiloids		10.2.44	Tracks		NOTES ON USAGE*		
Fossil symbols usually are reserved for use on stratigraphic columns, sections, or charts. Cartographic specifications, although shown for only two examples, pertain to all fossil symbols. Fossil symbols may be reduced in size, and line-weights reduced accordingly. Note, however, that line-weights below .125 mm may not plot correctly if output at higher resolutions (1800 dpi or higher). May also be shown in other colors.								

37—LITHOLOGIC PATTERNS

[Lithologic patterns are usually reserved for use on stratigraphic columns, sections, or charts]

37.1—Sedimentary-rock lithologic patterns

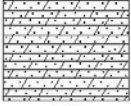
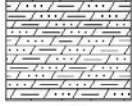
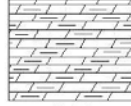
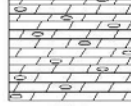
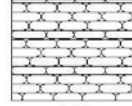



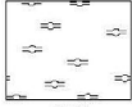

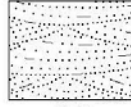
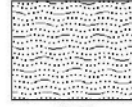
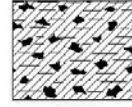


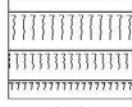

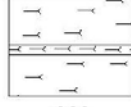
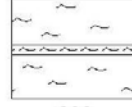
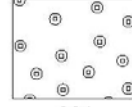
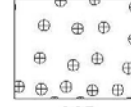
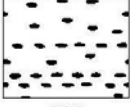

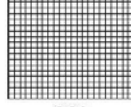











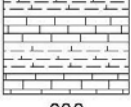

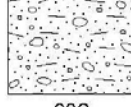
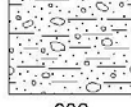



601 Gravel or conglomerate (1st option)	602 Gravel or conglomerate (2nd option)	603 Crossbedded gravel or conglomerate	605 Breccia (1st option)	606 Breccia (2nd option)	607 Massive sand or sandstone	608 Bedded sand or sandstone
609 Crossbedded sand or sandstone (1st option)	610 Crossbedded sand or sandstone (2nd option)	611 Ripple-bedded sand or sandstone	612 Argillaceous or shaly sandstone	613 Calcareous sandstone	614 Dolomitic sandstone	616 Silt, siltstone, or shaly silt
617 Calcareous siltstone	618 Dolomitic siltstone	619 Sandy or silty shale	620 Clay or clay shale	621 Cherty shale	622 Dolomitic shale	623 Calcareous shale or marl
624 Carbonaceous shale	625 Oil shale	626 Chalk	627 Limestone	628 Clastic limestone	629 Fossiliferous clastic limestone	630 Nodular or irregularly bedded limestone
631 Limestone, irregular (burrow?) fillings of saccharoidal dolomite	632 Crossbedded limestone	633 Cherty crossbedded limestone	634 Cherty and sandy crossbedded clastic limestone	635 Oolitic limestone	636 Sandy limestone	637 Silty limestone
638 Argillaceous or shaly limestone	639 Cherty limestone (1st option)	640 Cherty limestone (2nd option)	641 Dolomitic limestone, limy dolostone, or limy dolomite	642 Dolostone or dolomite	643 Crossbedded dolostone or dolomite	644 Oolitic dolostone or dolomite

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

37—LITHOLOGIC PATTERNS (continued)

[Lithologic patterns are usually reserved for use on stratigraphic columns, sections, or charts]

37.1—Sedimentary-rock lithologic patterns (continued)

						
645 Sandy dolostone or dolomite	646 Silty dolostone or dolomite	647 Argillaceous or shaly dolostone or dolomite	648 Cherty dolostone or dolomite	649 Bedded chert (1st option)	650 Bedded chert (2nd option)	651 Fossiliferous bedded chert
						
652 Fossiliferous rock	653 Diatomaceous rock	654 Subgraywacke	655 Crossbedded subgraywacke	656 Ripple-bedded subgraywacke	657 Peat	658 Coal
						
659 Bony coal or impure coal	660 Underclay	661 Flint clay	662 Bentonite	663 Glauconite	664 Limonite	665 Siderite
						
666 Phosphatic-nodular rock	667 Gypsum	668 Salt	669 Interbedded sandstone and siltstone	670 Interbedded sandstone and shale	671 Interbedded ripple- bedded sandstone and shale	672 Interbedded shale and silty limestone (shale dominant)
						
673 Interbedded shale and limestone (shale dominant) (1st option)	674 Interbedded shale and limestone (shale dominant) (2nd option)	675 Interbedded calcareous shale and limestone (shale dominant)	676 Interbedded silty limestone and shale	677 Interbedded limestone and shale (1st option)	678 Interbedded limestone and shale (2nd option)	679 Interbedded limestone and shale (limestone dominant)
						
680 Interbedded limestone and calcareous shale	681 Till or diamiction (1st option)	682 Till or diamiction (2nd option)	683 Till or diamiction (3rd option)	684 Loess (1st option)	685 Loess (2nd option)	686 Loess (3rd option)

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

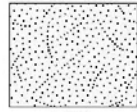
37—LITHOLOGIC PATTERNS (continued)

[Lithologic patterns are usually reserved for use on stratigraphic columns, sections, or charts]

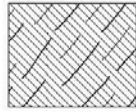
37.2—Metamorphic-rock, igneous-rock, and vein-matter lithologic patterns



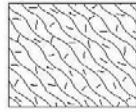
701
Metamorphism



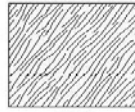
702
Quartzite



703
Slate



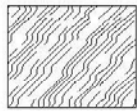
704
Schistose or
gneissoid granite



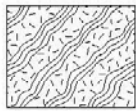
705
Schist



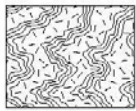
706
Contorted schist



707
Schist and gneiss



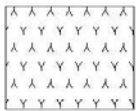
708
Gneiss



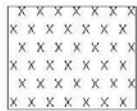
709
Contorted gneiss



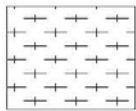
710
Soapstone, talc,
or serpentinite



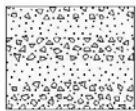
711
Tuffaceous rock



712
Crystal tuff



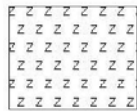
713
Devitrified
tuff



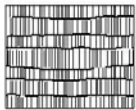
714
Volcanic breccia
and tuff



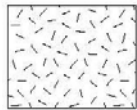
715
Volcanic breccia
or agglomerate



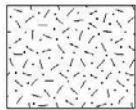
716
Zeolitic rock



717
Basaltic flows



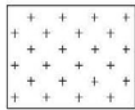
718
Granite (1st option)



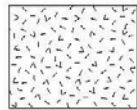
719
Granite (2nd option)



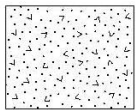
720
Banded
igneous rock



721
Igneous rock
(1st option)



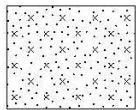
722
Igneous rock
(2nd option)



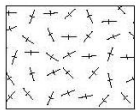
723
Igneous rock
(3rd option)



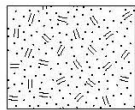
724
Igneous rock
(4th option)



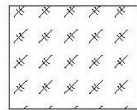
725
Igneous rock
(5th option)



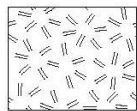
726
Igneous rock
(6th option)



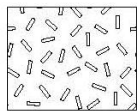
727
Igneous rock
(7th option)



728
Igneous rock
(8th option)



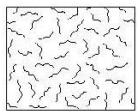
729
Porphyritic rock
(1st option)



730
Porphyritic rock
(2nd option)



731
Vitrophyre



732
Quartz



733
Ore

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