

## Product: Swedish bedrock age database

### List of product changes

List of changes in the product or product description.

#### List of changes

Document version	Product version	Approval date	Changes
1.0		2016-03-10	First version
1.1		2017-04-06	Information about symbolization is updated, including new figures showing symbolization and layer structure in the lyr file to deliver formats esri shape and file geodatabase. Alias names in attribute table are changed. A new figure showing the database structure in the Access database is added
2.0	1.0	2024-06-09	Provided according to EU-commission regulation about valuable datasets. New open license terms, distribution like bulk download (GeoPackage) and direct access (OGC API – Features), symbology for ArcGIS Pro and QGIS

### Summary

The Swedish Bedrock Age Database contains published radiometric age determinations of Swedish Bedrock, currently c. 2700 records (Fig. 1). In addition to age and age errors, there is information about the geographic location of the sample, dated rock type, dated material, analytical method, isotopic system, age interpretation etc. To each record in the database there is a literature reference to the source of information. The reference generally contains detailed information about background, aim, methods, data, discussion and interpretation of the age determination.

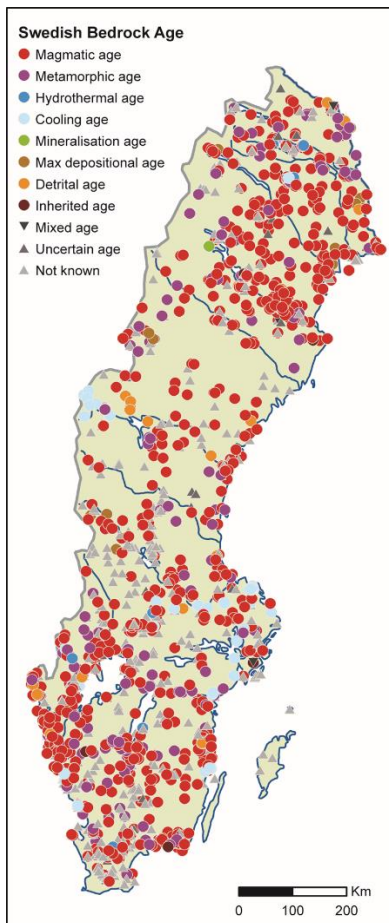


Figure 1. The map shows age determinations of Swedish rocks, where the points are symbolized on the interpretation of age.

Licens	<a href="#">CC0 1.0 universell</a>
Coordinatsystem (storage)	SWEREF99TM (EPSG:3006)

## Provided

The product is provided by downloading prepackaged files (bulk download), and by direct access via standardized APIs developed by Open Geospatial Consortium (OGC).

<b>Bulk download</b>	
Format	OGC GeoPackage
URL	<a href="https://resource.sgu.se/data/oppnadata/bergets-alder/bergets-alder.zip">https://resource.sgu.se/data/oppnadata/bergets-alder/bergets-alder.zip</a>

<b>Direct access OGC API - Features</b>	
Format	GeoJSON
URL	<a href="https://api.sgu.se/oppnadata/bergets-alder/ogc/features/v1">https://api.sgu.se/oppnadata/bergets-alder/ogc/features/v1</a>

## Content of delivery

### Files included in delivery

File name	Format	Content
bergets_alder.gpkg	OGC GeoPackage	alder (points)
bergets_alder.lyrx	ArcGIS Pro Layer Definition file	Symbology of file for use with ArcGIS Pro
bergets_alder.qlr	QGIS Layer definition file	Symbology of file for use with QGIS
bedrock-age-description-eng.pdf	PDF	Short description of the content and structure of the product (in English)
bergets-alder-beskrivning.pdf	PDF	Short description of the content and structure of the product (in Swedish)

## History and aim

The compilation of ages has been created through collaboration between the Geological Survey of Sweden (SGU) and the Department of Geosciences at the Natural History Museum in Stockholm. The aim is to collect all available geochronological data from Sweden into a single database for research purposes, but the database is also intended to be used in exploration, urban planning, and for a wider public with an interest in the Swedish bedrock geology.

## Maintenance

The database is located at SGU, which now has the primary responsibility for its updates, maintenance and further development. Several new parameters have been added during the past year, and work is underway to update the information for all items, and to correct errors in the database. If you discover any errors or missing age determinations, or have suggestions of improvements of the database, please contact SGU customer service, [kundservice@sgu.se](mailto:kundservice@sgu.se).

## Data quality

In the literature reference of every age determination are generally detailed information about the background, purpose, methods, data, data quality, discussion and conclusions. Spatial accuracy is variable, but generally better for age determinations described in more recent publications.

## Symbology

A lyrx file and a qlr file with symbology is included for use with ArcGIS Pro and QGIS, respectively. The age determinations are shown in two different selectable layers with different symbolization (Fig. 2–3). One layer shows the age determinations based on the isotopic system used, and the second layer is based on the age interpretation. These layers are in turn divided into selectable sub-layers to refine the selection of data displayed. For example, you can choose to view only age determinations based on the isotope system uranium-lead (U-Pb), or to only view ages interpreted as metamorphic. The points

in the map are symbolized by age in the selection layers based on age interpretation, and by age interpretation in the selection layers based on isotope systems.

**Group layer: Swedish bedrock age**

Layers	Source	Selection
Selection based on age interpretation (symbolized by age, million years)		
All ages (symbolized by age, million years)	alder	APPROVED = 1
Magmatic age	alder	APPROVED = 1 AND AGE_INT_TX = 'Magmatic age'
Metamorphic age	alder	APPROVED = 1 AND AGE_INT_TX = 'Metamorphic age'
Hydrothermal ages	alder	APPROVED = 1 AND AGE_INT_TX = 'Hydrothermal age'
Cooling age	alder	APPROVED = 1 AND AGE_INT_TX = 'Cooling age'
Mineralization age	alder	APPROVED = 1 AND AGE_INT_TX = 'Mineralization age'
Maximum depositional age	alder	APPROVED = 1 AND AGE_INT_TX = 'Maximum depositional age'
Detrital age	alder	APPROVED = 1 AND AGE_INT_TX = 'Detrital age'
Inherited, Uncertain, Mixed ages	alder	APPROVED = 1 AND AGE_INT_TX = 'Inherited age' OR AGE_INT_TX = 'Uncertain age' OR AGE_INT_TX = 'Mixed age'
Not known	alder	APPROVED = 1 AND AGE_INT_TX = 'not known'
Selection based on isotopic system (symbolized by age interpretation)		
All ages (symbolized by age interpretation)	alder	APPROVED = 1
U-Pb	alder	APPROVED = 1 AND ISO_SYS_TX = 'U-Pb'
Pb-Pb	alder	APPROVED = 1 AND ISO_SYS_TX = 'Pb-Pb'
Sm-Nd	alder	APPROVED = 1 AND ISO_SYS_TX = 'Sm-Nd'
Lu-Hf	alder	APPROVED = 1 AND ISO_SYS_TX = 'Lu-Hf'
Rb-Sr	alder	APPROVED = 1 AND ISO_SYS_TX = 'Rb-Sr'
Ar-Ar	alder	APPROVED = 1 AND ISO_SYS_TX = 'Ar-Ar'
K-Ar	alder	APPROVED = 1 AND ISO_SYS_TX = 'K-Ar'
Re-Os	alder	APPROVED = 1 AND ISO_SYS_TX = 'Re-Os'
Fission track	alder	APPROVED = 1 AND ISO_SYS_TX = 'Fission track'

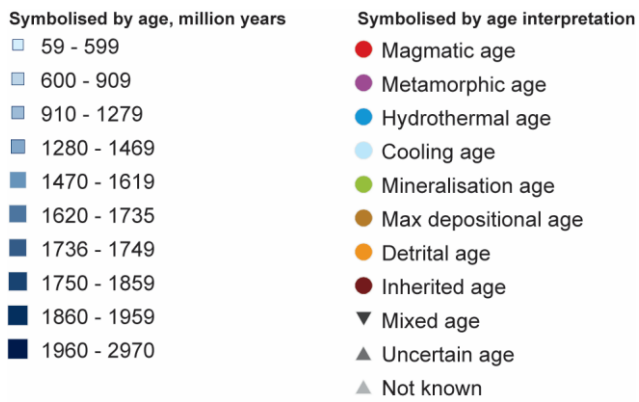


Figure 2. Symbolization used in lyrx- and qlr-files.

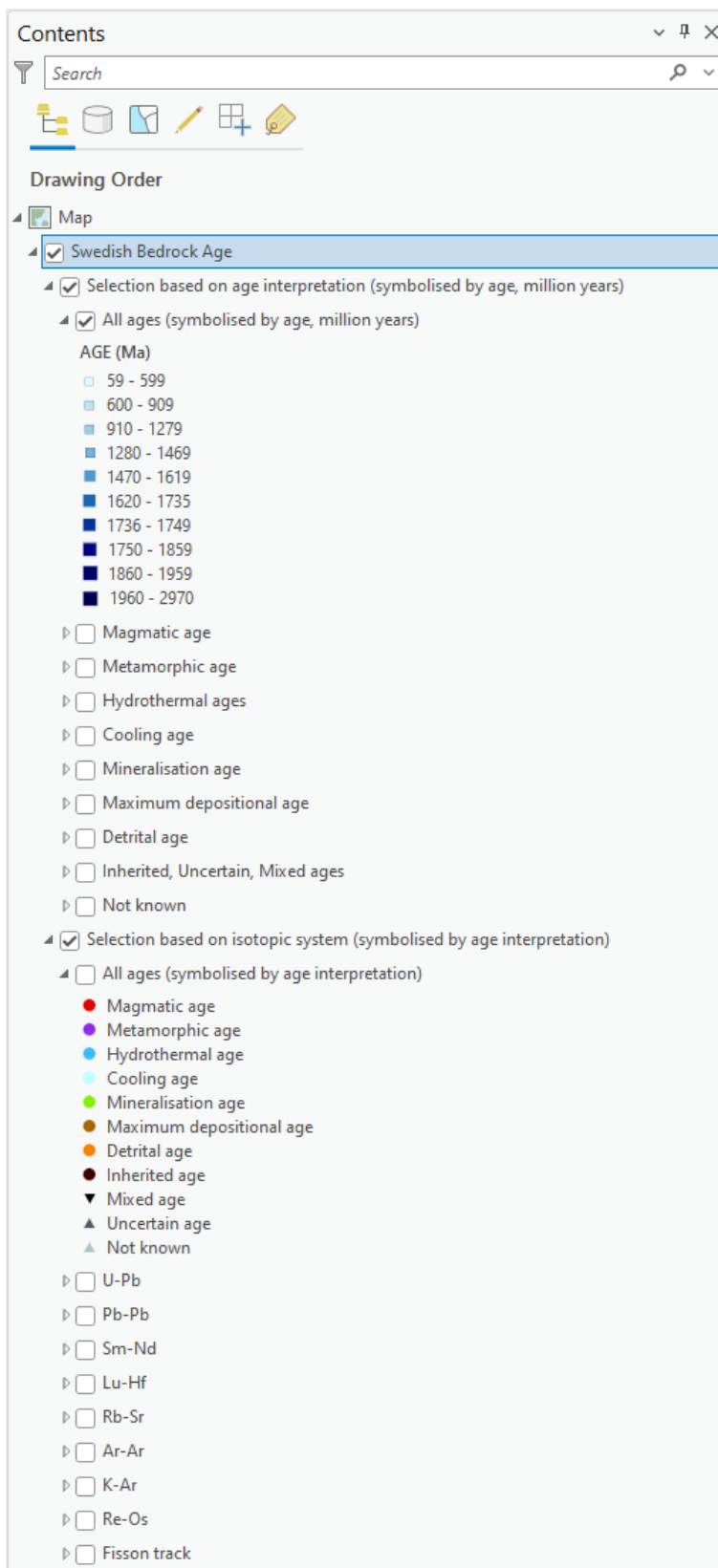


Figure. 3. Layer structure in layer files

## Tables included

### *Bedrock age*

Table: alder

Column name	Alias	Description	Domain
idnr_aldr	AGE DATABASE ID	Unique identification number for each post in the table "alder"	
id_sgu	SGU ID	Unique SGU id for bedrock sample connected to a bedrock observation	
id_alt	ALTERNATIVE ID	Alternative id for bedrock sample	
id_lab	LAB ID	Laboratory id for sample	
n_rt90	N (RT90)	N-S coordinate according to Swedish map projection Rikets Triangelnät år 1990 (RT 90 2.5 gon V)	
e_rt90	E (RT90)	E-W coordinate according to Swedish map projection Rikets Triangelnät år 1990 (RT 90 2.5 gon V)	
index_rt90	INDEX (RT90)	Map Index designation according to Swedish map projection Rikets Triangelnät år 1990 (RT 90 2.5 gon V)	
n_sweref	N (SWEREF)	N-S coordinate according to Swedish map projection SWEREF 99 TM	
e_sweref	E (SWEREF)	E-W coordinate according to Swedish map projection SWEREF 99 TM	
index_swe	INDEX (SWEREF)	Map Index designation according to Swedish map projection SWEREF 99 TM	
locality	LOCALITY	Name of sampling locality	
lithology	LITHOLOGY	Rock type code	bergart_aldr_lx
litho_txt	LITHOLOGY COMMENT	Description of rock	
lithodem	FORMATION/LITHODEM	Lithostratigraphic unit, formation/lithodem	
stratgroup	STRATIGRAPHIC GROUP/SUITE	Lithostratigraphic group/suite	
litho_sub	LITHOLOGICAL AREA	Lithological area	
tect_sub	LITHOTECTONIC SUBUNIT	Lithotectonic subarea	tekt_sub_lx
tect	LITHOTEKTONIC UNIT	Lithotectonic area	tekt_lx
lithostrat	LITHOSTRATIGRAPHIC POSITION	Lithostratigraphic position	litolage_lx
strat_pos	STRATIGRAFIC POSITION	Stratigraphic position	strat_lx
lab	LABORATORY	Name of Laboratory	

isot_syst		Isotopic system	isotop_syst_lx
iso_sys_tx	ISOTOPIC SYSTEM	Isotopic system	isotop_syst_lx
method	METHOD	Method of dating	method_aldr_lx
mat_dated	DATED MATERIAL	Dated material	material_dated_lx
age_type	AGE TYPE	Type of age determination	age_type_lx
age	AGE (Ma)	Calculated age in million years	
age_error	AGE ERROR (Ma)	Error limit (+/-) in million years for calculated age (two standard deviation)	
age_err_pl	UPPER AGE ERROR (Ma)	Upper error limit in million years for calculated age (two standard deviation)	
age_err_mi	LOWER AGE ERROR (Ma)	Lower error limit in million years for calculated age (two standard deviation)	
age_min	MIN AGE (Ma)	Calculated minimum age in million years	
age_max	MAX AGE (Ma)	Calculated maximum age in million years	
li_age	LI AGE (Ma)	Lower U-Pb concordia intercept age in million years	
li_age_err	LI AGE ERROR (Ma)	Error limit (+/-) in million years for lower U-Pb concordia intercept age in million years (two standard deviation)	
n_tot	N TOTAL	Total number of analyses	
n_calc	N CALC	Number of analyses used in calculation of age	
mstd	MSWD	Mean Standard Weighted Deviation	
probabilit	PROBABILITY	Probability	
age_int		Interpretation of calculated age	age_interpretation_lx
age_int_tx	AGE INTERPRETATION	Interpretation of calculated age	age_interpretation_lx
reliability	RELIABILITY	Quality classification of age determination (under development)	reliability_code_lx
comment_	COMMENT	Comment to age determination	
ref_short	REFERENCE SHORT	Short literature reference to age determination e.g. Andersson & Pettersson 2011	
reference	REFERENCE	Complete literature reference to age determination. Reference include detailed metadata with geologic background, aim of study, sample description, analytical methods, isotope chemical data, age calculations, interpretations etc.	
ref_link	REFERENCE LINK	URL download link to publication	
publ_year	PUBLICATION YEAR	Year of publication	
inputdate	DATE OF INPUT	Date of registration	
registrat	REGISTRATOR	Name of registrar	
rev_date	DATE OF REVISION	Date of revision	
reviewer	REVIEWER	Name of reviewer	



approved	APPROVED	Approved (=1), age is shown in map viewer etc, Not approved (=0) not used as age has been recalculated or updated.
geom		Geometry

## Dictionary tables (domains)

### Domain: age\_interpretation\_lx

age_interpretation	age_interpretation_txt	description
0	not known	
1	Metamorphic age	
2	Inherited age	
3	Detrital age	
4	Cooling age	
5	Magmatic age	
6	Hydrothermal age	
7	Uncertain age	
8	Mineralisation age	
9	Maximum depositional age	
10	Minimum age	
11	Maximum age	
12	Mixed age	

### Domain: age\_type\_lx

age_type	age_type_txt	description
0	Not known	
1	Upper intercept age	
2	Concordant age	
3	207Pb/206Pb age	
4	Plateau age	
5	Isochron age	
6	Model age	
7	206Pb/238U age	
8	Chemical U-Th-Pb age	
9	Lower intercept age	
10	Weighted average age	
11	Weighted average 207Pb/206Pb age	

12	Weighted average 206Pb/238U age
13	208Pb/232Th age

Domain: bergart\_aldr\_lx

bergart_id	lithology	bergart_txt
0	Unknown	Okänd
100	Acidic igneous rock	Sur bergart
200	Intermediate composition igneous rock	Intermediär bergart
300	Basic rock	Basisk bergart
400	Ultrabasic igneous rock	Ultrabasisk bergart
500	Ultramafic igneous rock	Ultramafisk bergart
1000	Intrusive rock	Intrusiv bergart
1051	Granitoid	Granitoid
1109	Quartzolite	Kvartsolit, kvartssten
11120	Quartz-rich granitoid	Kvartsrik granitoid
1100	Alkali-feldspar granite	Alkalifältspatgranit
11130	Alkaline rock	Alkalin bergart
1058	Granite	Granit
1062	Aplite	Aplit
1061	Pegmatite	Pegmatit
1060	Granophyre	Granofyr
1098	Pegmatite-granite	Pegmatitgranit
11145	Syenogranite	Syenogranit
11146	Monzogranite	Monzogranit
1056	Granodiorite	Granodiorit
1053	Tonalite	Tonalit
1055	Trondhjemite	Trondhjemit
1043	Syenitoid	Syenitoid
11210	Quartz alkali feldspar syenite	Kvartsalkalifältspatsyenit
11220	Alkali-feldspar syenite	Alkalifältspatsyenit
1049	Quartz syenite	Kvartssyenit
1048	Syenite	Syenit
1046	Quartz monzonite	Kvartsmonzonit
1045	Monzonite	Monzonit
11270	Foid bearing alkali feldspar syenite	Foidförande alkalifältspatsyenit
11280	Foid bearing syenite	Foidförande syenit
11290	Foid bearing monzonite	Foidförande monzonit
1030	Dioritoid	Dioritoid

1037	Quartz monzodiorite	Kvartsmonzodiorit
1036	Monzodiorite	Monzodiorit
1038	Quartz diorite	Kvartsdiorit
1033	Diorite	Diorit
11350	Foid bearing monzodiorite	Foidförande monzodiorit
11360	Foid bearing diorite	Foidförande diorit
1020	Gabbroid	Gabbroid
11410	Quartz monzogabbro	Kvartsmonzogabbro
1105	Monzogabbro	Monzogabbro
1034	Monzonorite	Monzonorit
1106	Quartz gabbro	Kvartsgabbro
1107	Quartz anorthosite	Kvartsanortosit
1022	Gabbro	Gabbro
1027	Doleritic rock	Diabas
1024	Norite	Norit
1025	Gabbronorite	Gabbronorit
1026	Toctolite	Troctolit
1039	Anorthosite	Anortosit
11470	Foid bearing monzogabbro	Foidförande monzogabbro
11480	Foid bearing gabbro	Foidförande gabbro
11490	Foid bearing anorthosite	Foidförande anortosit
11500	Foid syenitoid	Foidsyenitoid
11510	Foid syenite	Foidsyenit
1050	Nepheline syenite	Nefelinsyenit
11520	Foid monzosyenite	Foidmonzosyenit
11600	Foid dioritoid	Foiddioritoid
11610	Foid monzodiorite	Foidmonzodiorit
11620	Foid diorite	Foiddiorit
11700	Foid gabbroid	Foidgabbroid
11710	Foid monzogabbro	Foidmonzogabbro
11720	Foid gabbro	Foidgabbro
11800	Foidolitoid	Foidolitoid
11810	Foidolite	Foidolit
11830	Melteigite	Melteigit
11840	Ijolite	Ijolit
11850	Urtite	Urtit
1008	Peridotite	Peridotit
1007	Dunite	Dunit
11920	Pyroxene peridotite	Pyroxenperidotit
1103	Harzburgite	Harzburgit

1102	Lherzolite	Lherzolit
1104	Wehrlite	Wehrlit
1012	Pyroxenite	Pyroxenit
1013	Hornblendite	Hornbländit
11940	Melilitolite	Melilitolit
12200	Lamprophyric rock	Lamprofyrisk bergart
1003	Kimberlite	Kimberlit
1001	Lamprophyre	Lamprofyr
1002	Alnöite	Alnöit
12230	Lamproite	Lamproit
1101	Carbonatite	Karbonatit
12310	Sövite	Sövit
12320	Beforsite	Beforsit
12330	Alvikite	Alvikit
12350	Fenite	Fenit
12360	Uncompahgrite	Uncompahgrit
3000	Volcanic rock	Vulkanisk bergart
21100	Rhyolitoid	Ryolitoid
21110	Alkali-feldspar rhyolite	Alkalifältspatryolit
3088	Rhyolite	Ryolit
21200	Dacitoid	Dacitoid
3086	Dacite	Dacit
3104	Trachydacite	Trakydacit
21300	Trachytoid	Traktyoid
21310	Quartz alkali-feldspar trachyte	Kvarts-alkalifältspattrakyt
21320	Alkali-feldspar trachyte	Alkalifältspattrakyt
3106	Quartz-trachyte	Kvartstrakyt
3082	Trachyte	Trakyt
3090	Quartz-latite	Kvartslatit
3080	Latite	Latit
21370	Foid bearing alkali-feldspar trachyte	Foidförande alkalifältspattrakyt
3091	Foid-trachyte	Foidtrakyt
3092	Foid-latite	Foidlatit
22100	Andesitoid	Andesitoid
3074	Andesite	Andesit
3103	Trachyandesite	Trakyandesit
22121	Benmoreite	Benmoreit
22130	Basaltic andesite	Basaltisk andesit
22140	Basaltic trachyandesite	Basaltisk trakyandesit
22141	Mugearite	Mugearit

22142	Shoshonite	Shoshonit
22200	Boninite	Boninit
22300	Fonolitoid	Fonolitoid
3093	Fonolite	Fonolit
3094	Tefritic fonolite	Tefritisk fonolit
23100	Basaltoid	Basaltoid
3072	Basalt	Basalt
3102	Trachybasalt	Trakybasalt
23121	Hawaiiite	Hawaiiit
23122	K-trachybasalt	K-trakybasalt
23200	Tefritoid	Tefritoid
3096	Fonolitic tefrite	Fonolitisk tefrit
3095	Fonolitic basanite	Fonolitisk basanit
24100	Picro-basalt	Pikrobasalt
24200	Ultramafic tefritoid	Ultramafisk tefritoid
3097	Basanite	Basanit
3098	Tefrite	Tefrit
24250	Melanephelinite	Melanefelinit
24300	Foiditoid	Foiditoid
3101	Foidite	Foidit
3099	Fonolitic foidite	Fonolitisk foidit
3100	Tefritic foidite	Tefritisk foidit
24340	Basanitic foidite	Basanitisk foidit
1014	Picrite	Pikrit
3065	Komatiite	Komatiit
3071	Basaltic komatiite	Basaltisk komatiit
24420	Meimechite	Meimechit
24500	Melilitic rock	Melilitisk bergart
24510	Melilitite	Melilitit
24520	Olivine melilitite	Olivinmelilitit
6000	Sedimentary rock	Sedimentär bergart
6001	Conglomerate	Konglomerat
6005	Breccia	Breccia
6006	Tillite	Tillit
6007	Sandstone	Sandsten
6058	Feldspathic sandstone	Fältspatrik sandsten
6009	Arenite	Arenit
6011	Quartzarenite	Kvartsarenit
6087	Subarkose	Subarkos
6013	Arkosic arenite	Arkosisk arenit

6015	Arkose	Arkos
6017	Litharenite	Litisk arenit
6088	Sublitharenite	Sublitisk arenit
6018	Wacke, greywacke	Vacka, gråvacka
6020	Quartz wacke	Kvartsvacka
6021	Feldspathic graywacke	Fältspatvacka
6022	Lithic greywacke	Litisk vacka
6033	Siltstone	Siltsten
6034	Mudstone	Slamsten
6031	Argillite	Argillit
6063	Claystone	Lersten
6035	Shale	Lerskiffer
6059	Alum shale	Alunskiffer
6060	Marlstone	Märgelsten
6045	Limestone	Kalksten
6047	Dolomite	Dolomit
6049	Magnesite	Magnesit
6066	Anthraconite	Orsten
6067	Reef limestone	Revkalksten
6068	Limestone in an algal mound	Mound-kalksten
6069	Calcirudite	Kalcirudit
6070	Calcarenite	Kalkarenit
6071	Calclutite	Kalclutit
6072	Biosparite	Biosparit
6073	Oosparite	Oosparit
6074	Pelsparite	Pelsparit
6075	Intrasparite	Intrasparit
6076	Biolithite	Biolitit
6077	Biomicrite	Biomikrit
6078	Oomicrite	Oomikrit
6079	Pelmicrite	Pelmikrit
6080	Intramicroite	Intramikrit
6081	Dismicrite	Dismikrit
6051	Chemical rock	Kemisk sedimentbergart
6052	Chert	Chert, silix
6053	Jasper, jaspilite	Jaspis, jaspilit
6082	Evaporite	Evaporit
6092	Pisolite	Pisolit
6083	Sediment	Sediment
6085	Cobble	Sten

6061	Sand	Sand
6064	Clay	Lera
6065	Marl	Märgel
9078	Bentonite	Bentonit
6089	Encrinite	Krinoideekalksten
6090	Stromatoporoid limestone	Stromatoporoidkalksten
6091	Algal limestone	Algkalksten
8100	Schist	Skiffer (schist)
8101	Gneiss	Gnejs
8102	Granofels	Granofels
5078	Orthogneiss	Ortognejs
7056	Paragneiss	Paragnejs
8103	Phyllite	Fyllit
8104	Slate	Skiffer (slate)
8105	Mica schist	Glimmerskiffer
8106	Greenschist	Grönskiffer
8107	Greenstone	Grönsten
8108	Amphibolite	Amfibolit
8109	Serpentinite	Serpentinit
8110	Soapstone	Täljsten
8111	Quartzite	Kvartsit
7044	Marble	Marmor
7046	Calcitic marble	Kalcitmarmor
7048	Dolomitic marble	Dolomitmarmor
7050	Magnesitic marble	Magnesitmarmor
8112	Carbonate-silicate rock	Kalksilikatbergart
8113	Skarn	Skarn
8018	Hornfels	Hornfels
8007	Granulite	Granulit
8060	Mafic granulite	Mafisk granulit
8061	Felsic granulite	Felsisk granulit
5091	Eclogite	Eklogit
8064	Tourmalite	Turmalinit
8114	Migmatite	Migmatit
8004	Mylonite	Mylonit
8005	Phyllonite	Fyllonit
8001	Blastomylonite	Blastomylonit
8003	Cataclasite	Kataklasit
8002	Fault breccia	Förkastningsbreccia
8055	Quartz cemented fault breccia	Kvartsläkt förkastningsbreccia

8006	Pseudotachylite	Pseudotachylit
8020	Hydrothermal dyke or segregation	Hydrotermal gång eller segregation
8056	Hydrothermal vein or segregation of epidote	Epidotdominerad hydrotermal gång eller segregation
8023	Metasomatic rock	Hydrotermal omvandlingsbergart
8054	Oxidized rock (red-coloured)	Oxiderad bergart (rödfärgad)
8016	Supracrustal rock	Ytbergart
5000	Magmatic rock	Magmatisk bergart
8000	Metamorphic rock	Metamorf bergart
5105	Hybrid rock	Hybridbergart
6093	Clastisk sedimentary rock	Klastisk sedimentär bergart
6094	Calcareous sedimentary rock	Karbonatisk sedimentär bergart
9000	Mineral occurrence	Mineralförekomst
9100	Metallic mineral occurrence	Metallisk mineralförekomst
9101	Platinum group metal mineralisation	Platinagruppermetallmineralisering
9200	Sulphide mineralisation	Sulfidmineralisering
9201	Copper mineralisation	Kopparmineralisering
9202	Zinc mineralisation	Zinkmineralisering
9203	Lead mineralisation	Blymineralisering
9204	Iron sulphide mineralisation	Järnsulfidmineralisering
9205	Cobalt mineralisation	Koboltmineralisering
9206	Molybdenum mineralisation	Molybdenmineralisering
9207	Nickel mineralisation	Nickelmineralisering
9300	Oxide mineralisation	Oxidmineralisering
9301	Iron oxide mineralisation	Järnoxidmineralisering
9302	Skarn iron ore	Skarnjärnmalm
9303	Quartz-banded iron ore	Kvartsbandad järnmalm
9304	Apatite iron ore	Apatitjärnmalm
9305	Iron titanium oxide mineralisation	Järn-titanoxidmineralisering
9306	Chromium mineralisation	Krommineralisering
9307	Manganese mineralisation	Manganmineralisering
9308	Niobium mineralisation	Niobmineralisering
9309	Tin mineralisation	Tennmineralisering
9310	Titanium mineralisation	Titanmineralisering
9311	Uranium mineralisation	Uranmineralisering
9312	Tungsten mineralisation	Volframmineralisering
9400	Precious metal mineralisation	Ädelmetallmineralisering
9401	Silver mineralisation	Silvermineralisering
9402	Gold mineralisation	Guldmineralisering
9500	Non-metallic mineral occurrence	Ickemetallisk mineralförekomst



9501	Diatomite	Diatomit (kiselgur)
9502	Coal	Kol (stenkol)
9503	Rock salt	Salt (stensalt)
9504	Gemstone	Ädelsten

Domain: isotop\_syst\_lx

isot_syst	isot_syst_txt	description
0	Not known	
1	U-Pb	
2	Rb-Sr	
3	Sm-Nd	
4	Re-Os	
5	K-Ar	
6	Ar-Ar	
7	Fission track	
8	Pb-Pb	
9	U-Th_Pb	
10	Lu-Hf	
11	(U-Th)/He	

Domain: material\_dated\_lx

material_dated	material_dated_txt	description
0	Not known	
1	Whole rock	
2	Zircon	
3	Monazite	
4	Titanite	
5	Apatite	
6	Garnet	
7	Biotite	
8	Hornblende	
9	Muscovite	
10	Baddeleyite	
11	Molybdenite	
12	Allanite	
13	K-feldspar	
14	Adularia	
15	Scheelite	

16	Xenotime
17	Columbite-Tantalite
18	Multi mineral
19	Uraninite
21	Sphalerite
22	Pyrite
23	Calcite
24	Haiweeite
25	Uranophane
26	Eudialyte
27	Illite
20	Other phase (see comment)

Domain: method\_aldr\_lx

method	method_txt	description
0	Not known	
1	ID-TIMS	
2	N-TIMS	
3	SIMS	
4	Kober Pb-Pb evaporation	
5	ICP-MS	
6	Laser ICP-MS	
7	Step-wise heating	
8	Total fusion	
9	UV-laser 40Ar/39Ar dating	
10	EMP U-Th total-Pb	
11	Multicollector noble gas MS	

Domain: reliability\_code\_lx (under development, not implemented)

reliability	reliability_txt
0	Not classified
1	High reliability
2	Medium reliability
3	Low reliability
4	Data and Metadata is not presented

Domain: litolage\_lx

lithostrat	lithostrat_txt
0	
1	Killerödsformationen
2	Sularpsformationen
3	Mossenformationen
4	Almelundaskiffer
5	Lindegårdsslamsten
6	Björkåsholmenformationen
7	Dalasadsten
8	Undre Visbyformationen
9	Övre Visbyformationen
10	Högklintsformationen
11	Toftaformationen
12	Hangvarformationen
13	Slite gruppen
14	Fröjelfformationen
15	Hallaformationen
16	Klintebergsformationen
17	Hemsegruppen
18	Ethelhemsformationen
19	Närformationen
20	Sudretgruppen
21	Ekeformationen
22	Burgsviksformationen
23	Hamraformationen
24	Sundreformationen
25	Petesformationen
26	Levideformationen
27	Visbygruppen
28	Hallgruppen
29	Katrinelundsformationen
30	Fleringeformationen
31	Eskelhemformationen
32	Buttlegruppen
33	Lännaformationen
100	Hardebergaformationen
110	Lunkabergsledet
120	Vikledet
130	Branteviksledet

140	Tobisviksledet
200	Norretorpformationen
300	Rispebergsandsten
400	Gislövsformationen
450	File Haidarformationen
475	Borgholmformationen
500	Alunskifferformationen
510	Exulanskalksten
520	Andrarumskalksten
530	Paradoxideskiffer
540	Olenidskiffer
550	Dictyonemaskiffer
600	Ceratopygekalksten
700	Töyenskiffer
800	Komstadkalksten
850	Kvarneformationen
875	Klasenkalksten
900	Övre Didymograptusskiffer
1000	Dicellograptusskiffer
1100	Jerrestadslager
1200	Tommarpslager
1300	Rastritesskiffer
1400	Cyrtograptusskiffer
1500	Colonuskiffer
1600	Buntsandsten
1610	Ljunghusensandsten
1620	Buntsandsten
1700	Maglarpformationen
1710	Maglarp C
1720	Maglarp B
1730	Maglarp A
1800	Kågerödsformationen
1810	Kågerödsarkos
1820	Kågerödslera
1900	Röddingformationen
2000	Höörformationen
2010	Stanstorpsledet
2020	Vittserödsledet
2100	Höganäsformationen
2110	Vallåkraledet

2120	Bjuvsledet
2130	Helsingborgsledet
2200	Ryaformationen
2210	Döshultsledet
2220	Pankarpsledet
2230	Katslösaletet
2240	Rydebäcksledet
2250	Rödningformationen
2300	Mariedalsformationen
2310	Fuglundaledet
2320	Glassand ledet
2400	Vilhelmsfältformationen
2500	Anneroformationen
2510	Fortunaledet
2520	Fyledalsledet
2530	Nytorpsledet
2540	Vitabäcksledet
2600	Vombformationen
2610	Tosterupskonglomerat
2620	Lyckåsmärgel
2630	Köpingesandsten
2710	Aptskiffer
2720	Arnagergrönsand
2800	Höllvikenformationen
2810	Arnagerkalksten
2820	Granviksledet
2830	Lundaledet
2840	Kyrkheddingeledet
2850	Hansaledet
2860	Krusebergsledet
2870	Limhamnsledet
2880	Köpenhamnsledet
2910	Lellingegrönsand
2920	Svedalamärgel
2930	Bosarplersten
3005	Östbergsporfy
3030	Vemdalskvartsit
3050	Moskiffer
3060	Kläppeskiffer
3065	Töyenskiffer

3070	Brunflokalksten
3075	Locknebreccia
3080	Isökalksten
3090	Andersökiffer
3095	Öråskiffer
3100	Föllingeturbidit
3115	Kullsberg kalkstenskropp
3120	Slandromkalksten
3130	Furulundskalksten
3140	Fjäckaskiffer
3145	Boda kalkstenskropp
3150	Kogstaskiffer
3160	Kyrkåskvartsit
3170	Edekvartsit
3180	Bergekalksten
3190	Bångåsenskiffer
3200	Ekebergturbidit (gråvacka)
3210	Rödeformationen (sandsten)
3500	Visingsögruppen
3510	Lermundasandsten
4100	Torneträskformationen
4110	Gärdsjöformationen
4120	Fjällbrännaformationen
4130	Norråkerformationen
4140	Långmarkbergsformationen
4150	Kalvbergsformationen
4160	Risbäcksggruppen
4170	Grammajukkaformationen
4171	Lejaren
4173	Avardo
4175	Daunasvaggeheten
4177	Tjdtjakvulkaniten
4179	Juronkvartsit
4180	Såvvovareformationen
4190	Sjoutälvgruppen
5300	Ceratopyge-, Latorp- och Lannakalksten
5400	Holenkalksten
5500	Segerstad-, Skärlöv- och Sebykalksten
5600	Folkeslund-, och Furudalkalksten
5700	Dalbykalksten

10000	Öved-Ramsåsa grupp
10100	Klintaformationen
10110	Lunnarnaledet
10120	Bjärleledet
10130	Bjärsjöledet
10140	Bjärsjölagårdsledet
10200	Övedsformationen
20501	Filipstadstyp
20502	Hagforstyp
20503	Tvingsgranit
21100	Utös lägre sedimentära formation
21200	Sången-/Vasslandformationen
21300	Älgen-/Uskenformationen
21310	Bredsjös vulkaniska silt- sandstensled
21320	Sikfors vulkaniska siltstensled
21330	Hälgsnäs svartskiffer-gråvacke-konglomerat-tuffiled
21400	Storsjöformationen
21500	Torrvarpen-/Mårdshytteformationen
21510	Grythyttans svartskifferled
21520	Hällefors gråskifferled
21610	Älvestorpskonglomeratet
21700	Skelleftegruppen
21800	Arvidsjaurgruppen
21810	Pertitmonzonitsviten, Jörn G IV (ca 1,88-1,86 Ga)
21900	Vargforsgruppen
22100	Bottniska gruppen
22400	Ca 1,95 Ga intrusivbergarter i Skelleftefältet
22500	Ca 1,90 Ga intrusivbergarter i Skelleftefältet
22600	Kalkalkalina intrusivbergarter (1,89-1,85 Ga) i Skelleftefältet
22610	Kalkalkalina intrusivbergarter (1,95-1,85 Ga) i Skelleftefältet, Jörn G II
23000	Hyperitdiabas
23100	Suumi 2,5-2,39 Ga
23200	Intrusivbergarter ca 2,44 Ga
23300	Sariol 2,39-2,33 Ga
23400	Jatul 2,33-2,06 Ga
23500	Ludikow 2,06- 1,95
23600	Intrusivbergarter av Pingisvaaratyp ca 1,85 Ga
23700	Snavva-Sjöfallsgruppen, Maatavaara kvartsitgrupp mfl
30000	Visingsögruppen

Domain: strat\_lx

strat_code	stratigraphic_position
0	Stratigraphic position unknown
1	Precambrian >0.54 Ga
10	Archean >2.5 Ga
50	Archean to Paleoproterozoic >1.6 Ga
55	Proterozoic 2.5-0.54 Ga
60	Basalt-andesite formation (Kovogroup )
80	Supracrustal rock c. 2.4-1.96 Ga (Karelian)
100	Paleoproterozoic 2.5-1.6 Ga
101	Blekinge Coastal (ortho-) Gneiss
102	Västana Group
104	Supracrustal rock c. 2.5-2.39 Ga
105	Intrusive rock c. 2.44 Ga
106	Supracrustal rock c. 2.39-2.33 Ga
107	Supracrustal rock c. 2.33-2.06 Ga
108	Supracrustal rock c. 2.06-1.96 Ga
110	Supracrustal rock c. 1.96-1.86 Ga (Svecofennian)
120	Intrusive rock GDG/GSDG c. 1.96-1.87 Ga (Early Svecokarelian)
122	Intrusive rocks in the Skellefte field (c. 1.95 Ga)
123	Intrusive rocks in the Skellefte field (c. 1.90 Ga)
124	Calc-alkaline intrusive rocks in the Skellefte field (c. 1.95-1.85 Ga)
126	Calc-alkaline intrusive rocks in the Skellefte field. Jörn G II (c. 1.95-1.85 Ga)
128	Perthite Monzonite Suite. Jörn G IV (c. 1.88-1.86 Ga)
130	Intrusive rock GSDG c. 1.88-1.86 Ga
136	Intrusive rocks of Pingisvaara type (c. 1.85 Ga)
140	Intrusive rock GP c. 1.83-1.75 Ga
141	Migmatite granite
142	Fellingsbro type Granite
146	Intrusive rock GP c. 1.87-1.82 Ga
148	Calc-alkaline granitoids (c. 1.83-1.82 Ga )
150	Intrusive rock GSDG c. 1.87-1.66 Ga
152	Intrusive rock GSDG c. 1.87-1.82 Ga



153	Intrusive rock GSDG c. 1.81-1.66 Ga
154	Intrusive rock GSDG c. 1.81-1.76 Ga
156	Intrusive rock GSDG c. 1.71-1.66 Ga
158	Intrusive rock GSDG c. 1.87-1.76 Ga
159	TIB (c. 1.81-1.75 and c. 1.70-1.65 Ga)
160	Sedimentary rock related to TMB (c. 1.81-1.65 Ga)
170	Metamorphic rock 1.87-1.84 Ga
199	Stratigraphic position unknown
200	Paleo- and Mesoproterozoic rock west of the MZ
210	Supracrustal rock (> 1.6 Ga?)
220	A-group intrusive rock (> 1.6 Ga)
230	Supracrustal rock (c. 1.68-1.60 Ga)
240	B-group intrusive rock (c. 1.68-1.53 Ga)
250	Intrusive rock of crustal origin related to B-group
300	Meso- to Neoproterozoic 1.6-0.54 Ga
302	Meso- and Neoproterozoic dyke rock
310	Rapakivi intrusive and associated rock (c. 1.58-? Ga)
320	Dyke rock (c. 1.55 Ga)
330	Intrusive rock (c. 1.40 Ga)
335	Dyke rock (c. 1.37 Ga)
340	Supracrustal rock > c. 1.27 Ga (Jotnic)
350	Dyke rock (c. 1.25-1.20 Ga)
360	Syenite (c. 1.25-1.20 Ga)
362	Charnockite (c. 1.2 Ga; AMCG group )
366	Mangerite and jotunite (c. 1.2 Ga; AMCG group )
368	Anorthosite (c. 1.2 Ga; AMCG group)
370	Dyke rock (c. 1.18 Ga)
380	Dyke rock (c. 1.0-0.9 Ga)
385	Alkaline dyke
390	Dyke rock (0.9 or 1.2 Ga)
400	Meso- to Neoproterozoic rock west of MZ
410	C-group magmatic rock (c. 1.51-1.18 Ga)
411	C1-intrusive rock
414	C2-intrusive rock
417	C3-intrusive rock
430	C3-intrusive rock
450	Supracrustal rock 1.13-1.11 Ga
451	Sedimentary rock
454	Volcanic rock
457	Sedimentary rock

460	D-group intrusive rock (c. 1.1-0.9 Ga)
600	Neoproterozoic to Phanerozoic <1.0 Ga
601	Neoproterozoic 1.0-0.54 Ga
602	Rifeikum 1.60-0.650 Ga
603	Vendian 0.650-0.545 Ga
604	Vendian-Cambrian 0.650-0.495 Ga
605	Phanerozoic < 0.545 Ga
606	Palaeozoic 0.545-0.250 Ga
607	Early Palaeozoic 0.545-0.417 Ga
608	Cambrian 0.545-0.495 Ga
609	Early Cambrian 0.545-0.520 Ga
610	Middle Cambrian 0.520-0.500 Ga
611	Late Cambrian 0.500-0.495 Ga
612	Ordovician 0.495-0.440 Ga
613	Oeland (Early Ordovician)
614	Viru (Middle Ordovician)
615	Harju (Late Ordovician)
616	Silurian 0.440-0.417 Ga
617	Llandovery (Early Silur) 0.440-0.428 Ga
618	Wenlock (Middle Silurian) 0.428-0.423 Ga
619	Ludlow/Pridoli (Late Silurian) 0.423-0.417 Ga
620	Late Palaeozoic 0.417-0.250 Ga
621	Devonian 0.417-0.354 Ga
622	Carboniferous 0.354-0.292 Ga
623	Permian 0.292-0.250 Ga
624	Early Permian
625	Late Permian
626	Mesozoic 0.250-0.066 Ga
627	Triassic 0.250-0.205 Ga
628	Early Triassic 0.250-0.242 Ga
629	Middle Triassic 0.242-0.227 Ga
630	Late Triassic 0.227-0.205 Ga
631	Jurassic 0.205-0.142 Ga
632	Early Jurassic 0.205-0.180 Ga
633	Middle Jurassic 0.180-0.159 Ga
634	Late Jurassic 0.159-0.142 Ga
635	Cretaceous 0.142-0.066 Ga
636	Early Cretaceous 0.142-0.099 Ga
637	Late Cretaceous 0.099-0.066 Ga
638	Cenozoic < 0.066 Ga

639	Tertiary 0.066-0.002 Ga
640	Paleogene 0.066-0.024 Ga
641	Paleocene (Early Paleogene) 0.066-0.055 Ga
642	Oligocene (Late Paleogene) 0.034-0.024 Ga
643	Neogene 0.024-0.002 Ga
644	Miocene (Early Neogene) 0.024-0.005 Ga
645	Pliocene (Late Neogene) 0.005-0.002 Ga
650	Quaternary < 0.002 Ga
660	Cambrian-Ordovician 0.545-0.440 Ga
661	Sinian 0.800-0.545 Ga
662	Sturtian 0.800-0.650 Ga
663	Early Devonian 0.417-0.391 Ga
664	Middle Devonian 0.391-0.370 Ga
665	Late Devonian 0.370-0.354 Ga
666	Early Carboniferous 0.354-0.320 Ga
667	Late Carboniferous 0.320-0.292 Ga
668	Middle Permian
669	Eocene (Middle Paleogene) 0.055-0.034 Ga
670	Pridoli 0.419-0.416 Ga
672	Harju-Llandovery
674	Ludlow 0.423-0.419 Ga
676	Furongian 0.501-0.488 Ga
678	Cisuralian 0.299-0.270 Ga
680	Guadalupian 0.270-0.260 Ga
682	Lopingian 0.260-0.251 Ga
684	Pleistocene 1.8-0.0115 Ma
686	Holocene < 0.0115 Ma
688	Mississippian 0.359-0.318 Ga
690	Pennsylvanian 0.318-0.299 Ga
692	Ediacaran c. 0.630-0.542 Ga
694	Ediacaran-Cambrian c. 0.630-0.495 Ga
700	Paleoproterozoic rock east of MZ and west of PZ
710	Supracrustal rock (> c. 1.7 Ga?)
720	Intrusive rock (orthogneiss c. 1.7-1.6 Ga)
721	Intrusive rock (orthogneiss c. 1.7-1.6 Ga. probably of TMB origin)
730	Intrusive rock (c. 1.58-1.47 Ga)
750	Paleo- and Mesoproterozoic rock east of the MZ and west of the PZ
800	Meso- and Neoproterozoic rock east of the MZ and west of the PZ

810	Supracrustal rock c. 1.60 Ga
824	Intrusive rock (c. 1.4 Ga)
850	Paleo- to Mesoproterozoic c. 1.62-1.59 Ga
852	Paleoproterozoic c. 1.66-1.61 Ga
854	Paleoproterozoic c. 1.87-1.66 Ga
856	Paleoproterozoic c. 1.87-1.75 Ga
858	Paleoproterozoic c. 1.88-1.86 Ga
860	Paleoproterozoic c. 1.96-1.86 Ga
862	Paleoproterozoic c. 2.4-1.96 Ga
864	Paleoproterozoic c. 2.44 Ga
866	Paleoproterozoic c. 2.5-2.39 Ga
868	Meso- to Neoproterozoic 1.59-0.92 Ga
870	Mesoproterozoic 1.6-1.0 Ga
872	Mesoproterozoic 1.13-1.11 Ga
900	Paleo- to Mesoproterozoic 2.5-1.0 Ga
901	Intrusive rock c. 2.4-1.96 Ga (Karelian)
902	Intrusive rock GDG c. 1.87-1.82 Ga
903	Supracrustal rock 1.86-1.82 Ga
904	Supracrustal rock c. 1.82-1.78 Ga
905	Intrusive rock GDG c. 1.81-1.76 Ga
906	Supracrustal rock c. 1.71-1.69 Ga
907	Intrusive rock GDG c. 1.73-1.66 Ga
908	Intrusive rock GDG c. 1.87-1.66 Ga
909	Intrusive rock GDG c. 1.87-1.76 Ga
910	Intrusive rock GDG c. 1.81-1.66 Ga
911	Supracrustal rock c. 1.66-1.61 Ga
912	Intrusive rock GDG c. 1.62-1.59 Ga
913	Intrusive rock c. 1.53-1.45 Ga
914	Intrusive rock c. 1.46-1.29 Ga
915	Intrusive rock c. 1.27-1.20 Ga
916	Intrusive rock c. 1.59-1.20 Ga
917	Intrusive rock c. 1.20-1.17 Ga
918	Intrusive rock c. 1.00-0.92 Ga
919	Intrusive rock c. 1.20-0.92 Ga
920	Intrusive rock c. 1.59-1.53 Ga
921	Intrusive rock c. 1.59-0.92 Ga
922	Terreneuvian 0.542-0.521 Ga
923	Cambrian Serie 2 0.521-0.510 Ga
924	Cambrian Serie 3 0.510-0.499 Ga
925	Precambrian 4.60-0.542 Ga

926	Hadean (informal) 4.60-4.00 Ga
927	Eoarchean 4.00-3.60 Ga
928	Paleoarchean 3.60-3.20 Ga
929	Mesoarchean 3.20-2.80 Ga
930	Neoarchean 2.80-2.50 Ga
931	Neoarchean 1 2.80-2.65 Ga
932	Neoarchean 2 2.65-2.50 Ga

Domain: tekt\_lx

tekt	tekt_unit
0	Unknown
87	Caledonian Orogen
337	Svecokarelian Orogen
346	Post-Svecokarelian, Proterozoic rocks
368	Blekinge-Bornholm orogen
378	Sveconorwegian Orogen
394	Neoproterozoic and Phanerozoic platformal cover and igneous rocks

Domain: tekt\_sub\_lx

tekt_sub	tekt_subunit
0	unknown
72	Seve Nappe Complex
79	Köli Nappe Complex
86	Rödingsfjället Nappe Complex
346	Post-Svecokarelian, Proterozoic rocks
368	Blekinge-Bornholm orogen
387	Eastern Segment, upper unit
388	Eastern Segment, middle unit
389	Eastern Segment, lower unit
390	Idefjorden Terrane
394	Neoproterozoic and Phanerozoic platformal cover and igneous rocks
1749	Jämtlandian, Offerdal and Särsv Nappes
1750	Överkalix lithotectonic unit
1751	Norrbottnen lithotectonic unit
1752	Bothnia-Skellefteå lithotectonic unit
1753	Ljusdal lithotectonic unit

1754	Bergslagen lithotectonic unit
1755	Småland lithotectonic unit

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