Product: Swedish Mineral- and Bedrock occurrences

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		2014-04-10	First published version
1.1		2016-06-22	New structure of ArcGIS layer file
1.2		2023-08-24	New fields in attribute data are added. Description is modified. Map showing distribution of data and symbolization 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

Short information about the product

Swedish Mineral- and Bedrock occurrences is a nationwide product and contains point data with information on Sweden's mineral and rock occurrences, as well as subordinately also occurrences of natural gas and oil. There is currently information on approximately 20,000 occurrences. The data includes everything from small occurrences such as mineralized outcrops to abandoned and active mines or quarries as well as mineral deposits known through core drilling. For all occurrences there is information on name, location, location accuracy, economic status, and which metal, mineral or rock type is of interest at the location, as well as literature references to the information. For a large part of the occurrences, there is also information on the size of the mine hole, host rock, mineral composition, and age of formation.

See also SGU's product "Ores and concentrators" for information on ore production at mines/mining areas, as well as information on reported reserves and resources at Swedish deposits.

Licens	CC0 1.0 universell
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).

Bulk download	
Format	OGC GeoPackage
URL	https://resource.sgu.se/data/oppnadata/mineralresurser/mineralresurser.zip

Direct access OGC API - Features	
Format	GeoJSON
URL	https://api.sgu.se/oppnadata/mineralresurser/ogc/features/v1

Content of delivery

Files included in delivery

Filnamn	Filformat	Innehåll
mineralresurser.gpkg	OGC GeoPackage	mineralresurser (points) referenslista
mineralresurser.lyrx	ArcGIS Pro Layer Definition file	Symbology of file for use with ArcGIS Pro
mineralresurser.qlr	QGIS Layer definition file	Symbology of file for use with QGIS
mineral-resources-description-eng.pdf	PDF	Short description of the content and structure of the product (in English)
mineralresurser-beskrivning.pdf	PDF	Short description of the content and structure of the product (in Swedish)

Creation history and purpose

The information has been built up over many years by compilation information from geological literature, bedrock maps, exploration reports, ongoing SGU bedrock mapping and county-wise inventories of mineral- and bedrock occurrences.

The information is in English and is primarily aimed at professional users such as geologists, prospectors and decision-makers in physical planning and environmental issues but can of course also be of interest for others.

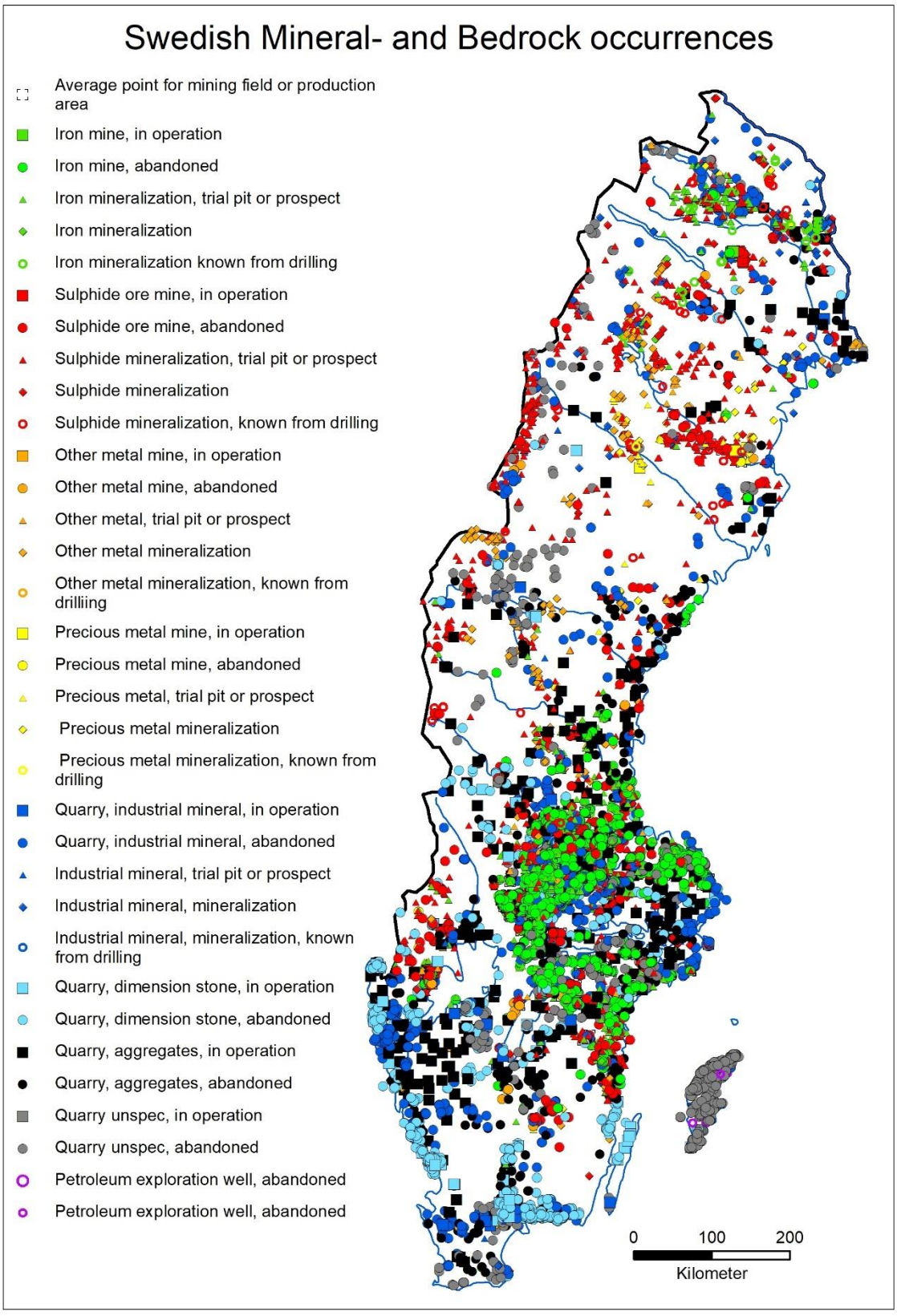
Maintenance

Data is updated continuously. New occurrences and information are added in connection with SGU's ongoing mapping and inventory projects. Older information is updated when inaccuracies are identified.

Data quality

All occurrences are positioned in the SWEREF99 TM coordinate system and each occurrence has a specified estimated location accuracy depending on the information source. The location accuracy is

given in four fixed categories, where the accuracy varies from 10 m to 500 m. For traceability to the information source and the stored information, at least one literature reference is given for each occurrence. A list of complete references is supplied in delivery.


Swedish Mineral- and Bedrock occurrences
Average point for mining field or production area
Iron mine, in operation
Iron mine, abandoned
Iron mineralization, trial pit or prospect
Iron mineralization
Iron mineralization known from drilling
Sulphide ore mine, in operation
Sulphide ore mine, abandoned
Sulphide mineralization, trial pit or prospect
Sulphide mineralization
Sulphide mineralization, known from drilling
Other metal mine, in operation
Other metal mine, abandoned
Other metal, trial pit or prospect
Other metal mineralization
Other metal mineralization, known from drilliing
Precious metal mine, in operation
Precious metal mine, abandoned
Precious metal, trial pit or prospect
Precious metal mineralization
Precious metal mineralization, known from drilling
Quarry, industrial mineral, in operation
Quarry, industrial mineral, abandoned
Industrial mineral, trial pit or prospect
Industrial mineral, mineralization
Industrial mineral, mineralization, known from drilling
Quarry, dimension stone, in operation
Quarry, dimension stone, abandoned
Quarry, aggregates, in operation
Quarry, aggregates, abandoned
Quarry unspec, in operation
Quarry unspec, abandoned
Petroleum exploration well, abandoned
Petroleum exploration well, abandoned
0
100
200
Kilometer

Symbolisation

Group layer: Mineralresurser

Layers	Comment
Mineralresurser	
Mineral- och bergartsförekomster, svensk legend	
Alla förekomster	
Urval per typ av förekomst	
Järnoxid (Fe, Fe-Mn)	Selection: SYMB_CODE in (5484,5488,5492,5494)
Sulfid (Cu, Zn, Pb, Co, Ni, Mo etc.)	Selection: SYMB_CODE in (5496,5500,5504,5506,48)
Annan metall (W, REE, Mn, U etc.)	Selection: SYMB_CODE in (5509,5510,5511,5513)
Ädelmetall (Au, Ag, PGE)	Selection: SYMB_CODE in (5514,5515,5517,5518)
Industrimineral	Selection: SYMB_CODE in (4040,4041,4036,4038)
Blocksten	Selection: SYMB_CODE in (4010,4011)
Krossberg	Selection: SYMB_CODE in (4020,4021)
Stenbrott ospec.	Selection: SYMB_CODE in (4030,4031)
Olja och gas	Selection: SYMB_CODE in (5524)
Medelvärdespunkt	Selection: SYMB_CODE in (4026)
Mineral- and bedrock occurrences, english legend	
All occurrences	
Selection per occurrence type	
Iron oxide (Fe, Fe-Mn)	Selection: SYMB_CODE in (5484,5488,5492,5494)
Sulphide (Cu, Zn, Pb, Co, Ni, Mo etc.)	Selection: SYMB_CODE in (5496,5500,5504,5506,48)
Other metal (W, REE, Mn, U etc.)	Selection: SYMB_CODE in (5509,5510,5511,5513)
Precious metal (Au, Ag, PGE)	Selection: SYMB_CODE in (5514,5515,5517,5518)
Industrial mineral	Selection: SYMB_CODE in (4040,4041,4036,4038)
Dimension stone	Selection: SYMB_CODE in (4010,4011)
Aggregate	Selection: SYMB_CODE in (4020,4021)
Bedrock quarry unspec.	Selection: SYMB_CODE in (4030,4031)

Tables included

Mineral resources

Information on Sweden's mineral and rock occurrences, as well as subordinately also occurrences of natural gas and oil.

Table: mineralresurser

Column name	Alias	Description	Domain
name	Name	Name of deposit	
id_code	Id-code	Database id (ORED- or OREC-number)	
alt_id	Alt id	Alternative id	
fodd_id	Fodd id	Id code in Fennoscandian Ore Deposit Database	
alt_name	Alternative name 1	Alternative name 1	

alt_name2	Alternative name 2	Alternative name 2	
ore_field	Ore field	Name of field	
coord_qlt	Coordinate quality	Estimated coordinate quality based on reference source. 1= Precision better than 500 m. 2= Precision better than 200 m. 3= Precision better than 50 m. 4= Precision better than 10 m.	q_coord_lx
n_sweref	N Sweref	Northing, SWEREF 99TM	
e_sweref	E Sweref	Easting, SWEREF 99TM	
sq_sweref	Square Sweref	Map sheet SWEREF 99TM	
n_rt90	N RT90	Northing, Swedish Coordinate System RT90	
e_rt90	E RT90	Easting, Swedish Coordinate System RT90	
map_rt90	Map RT90	Map sheet RT 90	
sq_rt90	Square RT90	Square in map sheet RT90	
county	County	County	
municipal	Municipality	Municipality	
type_o_dep	Type of deposit	Type of deposit, e.g. Fe-oxide, sulphide, precious metal, other metal, industrial mineral, aggregate, dimension stone	type_dep_lx
main_type	Main type	Dominating mineralization type in complex occurrence	
main_t_cde	Main type code	Integer code for dominant mineralization type in complex occurrence	main_type_lx
main_commo	Main commodity	The most important metals, industrial minerals or rocks of economic interest in the occurrence	commo_lx
othr_commo	Other commodity	Other metal, industrial mineral or rock of economic interest in the occurrence	commo_lx
mode_o_occ	Mode of occurrence	Mode of occurrence of mineralization	mode_occ_lx
host_rock	Host rock	Host rock of mineralization	rock_name_lx
dep_min	Deposit minerals	Deposit minerals	min_name_lx
other_min	Other minerals	Other minerals associated with the mineralization	min_name_lx
wall_rock	Wall rock	Wall rock	rock_name_lx
alteration	Alteration	Type of alteration in host rock	type_alt_lx
age	Age	Age of mineralization or host rock	main_age_gr_lx
ref_abbrev	Ref abbreviated	Abbreviation of associated references	
ref_id_pge	Ref id page	ID-number of associated reference in attached reference list	
comments	Comments	Comment field with additional information	
date_o_rev	Date of revision	Date of revision	
name_o_rev	Name of reviewer	Name of reviewer	
econ_stat	Economic status	Economic status of deposit i.e. mine/quarry in operation or closed. Hierarchic order of occurrences: significant prospect> prospect> anomaly> mineralized outcrop.	
e_stat_cde	Economic status code	Integer code for economic status	eco_stat_lx

tonn_mton	Tonnage (Mton)	Estimated total tonnage. Million tons. Based on literature reference, production or calculated size based on drillings (is not updated, see SGU:s ore database).	
prod_mton	Production (Mton)	Production in million tons (is not updated, see SGU:s ore database)	
prod_ini	Prod initiated	Production initiated, year	
prod_compl	Prod completed	Production completed, year	
type_sampl	Type of sample	Type of sample for reported chemical analysis	samp_type_lx
nat_inter	National interest	Occurrence of national interest according to SGU (is not updated, see SGU national interest database)	
length_m	Length (m)	Length of open pit/mine or quarry in meter (ground level)	
width_m	Width (m)	Width of open pit/mine or quarry in meter (ground level)	
depth_m	Depth (m)	Depth of open pit/mine or quarry in meter	
symb_txt	Symbol text	Text for legend attached to SGU codes for symbolising the layers, Swedish/English legend	
symb_code	Symbol code	SGU codes for symbolising the layers, Swedish/English legend	symb_code
size_cat	Size category	Size of symbols in FODD database (not used)	size_cat_lx
dep_sub_cd	Deposit subtype code	Integer code for subtype classification of dominant mineralization type in complex occurrence	deposit_subtype_lx
dep_sub_tx	Deposit subtype	Subtype classification of dominant mineralization type in complex occurrence	
m4eu_deptp	M4EU Deposit type	M4EU deposit type	m4eu_deposittypetype
m4eu_depgr	M4EU Deposit group	M4EU deposit group	m4eu_depositgrouptype
ag_ppm	Ag (ppm)	Chemical content of silver in ppm	
al2o3_pct	Al2O3 (%)	Chemical content of aluminium oxide in percent (%)	
as_pct	As (%)	Chemical content of arsenic in percent (%)	
au_ppm	Au (ppm)	Chemical content of gold in ppm	
ba_pct	Ba (%)	Chemical content of barium in percent (%)	
bi_ppm	Bi (ppm)	Chemical content of bismuth in ppm	
co_pct	Co (%)	Chemical content of cobalt in percent (%)	
cr_pct	Cr (%)	Chemical content of chromium in percent (%)	
cu_pct	Cu (%)	Chemical content of copper in percent (%)	
fe_pct	Fe (%)	Chemical content of iron in percent (%)	
mg_pct	Mg (%)	Chemical content of magnesium in percent (%)	
mn_pct	Mn (%)	Chemical content of manganese in percent (%)	
mo_pct	Mo (%)	Chemical content of molybdenum in percent (%)	
ni_pct	Ni (%)	Chemical content of nickel in percent (%)	
p_pct	P (%)	Chemical content of phosphorus in percent (%)	
pb_pct	Pb (%)	Chemical content of lead in percent (%)	
pd_ppm	Pd (ppm)	Chemical content of palladium in ppm	
pt_ppm	Pt (ppm)	Chemical content of platinum in ppm	
s_pct	S (%)	Chemical content of sulphur in percent (%)	

sn_ppm	Sn (ppm)	Chemical content of tin in ppm
th_ppm	Th (ppm)	Chemical content of thorium in ppm
ti_pct	Ti (%)	Chemical content of titanium in percent (%)
u_ppm	U (ppm)	Chemical content of uranium in ppm
v_ppm	V (ppm)	Chemical content of vanadium in ppm
w_pct	W (%)	Chemical content of tungsten in percent (%)
y_ppm	Y (ppm)	Chemical content of yttrium in ppm
zn_pct	Zn (%)	Chemical content of zinc in percent (%)
geom		Geometry

Reference list

The reference list is used together with the information in the attribute field REF_ID_PGE in mineralresurser.gpkg to provide complete information about references linked to an occurrence.

Table: referenslista

Column name	Description
r_ref_id	Unique id for reference in reference list
r_author	Author
r_title	Title
r_publ	Publisher/publication
r_year	Publication year
r_id	Abbreviated reference
georegister_id	ID i SGU:s reference database Georegister
mapinfo_id	Mapinfo ID (not used)
url	Link to publication
total_pages	Number of pages in publication
page_int	Page interval in publication
ser	Series
vol	Volume
ref_short	Short reference structured like Bergman 2023; Bergman & Hellström 2023, Bergman et al 2023

Dictionary tables (domains)

Domain: symb_code

symb_code	symb_txt
5484	01 Järnmalmsgruva, i drift / Iron mine, in operation
5488	02 Järnmalmsgruva, nedlagd / Iron mine, abandoned
5492	03 Skärpning på järnmalm, järnmineralisering / Iron ore prospect or mineralization
5093	04 Järnmineralisering / Iron mineralization
5494	05 Järnmineralisering känd genom borrning / Iron mineralization known from drilling
5496	06 Sulfidmalmsgruva, i drift / Sulphide mine, in operation
5500	07 Sulfidmalmsgruva, nedlagd / Sulphide mine, abandoned
5504	08 Skärpning på sulfidmalm, sulfidmineralisering / Sulphide ore prospect or mineralization
5506	09 Sulfidmineralisering / Sulphide mineralization
48	10 Sulfidmineraliserng, känd genom borrning / Sulphide ore prospect or mineralization, known from drilling
5509	11 Gruva, på annan metalloxid, i drift / Other metal oxide mine, in operation
5510	12 Gruva, på annan metall, nedlagd / Other metal mine, abandoned
5511	13 Annan metallskärpning eller uppslag / Other metal mineralization, trial pit or prospect
5513	14 Mineralisering på annan metall / Other metal mineralization
5512	15 Mineralisering på annan metall identifierad genom borrning /Other metal mineralization known from drilling
5514	16 Ädelmetallgruva, i drift / Precious metal mine, in operation
5515	17 Ädelmetallgruva, nedlagd / Precious metal mine, abandoned
5517	18 Ädelmetallskärpning eller uppslag / Precious metal mineralization, trial pit or prospect
5518	19 Ädelmetallmineralisering / Precious metal mineralization
5519	20 Ädelmetallmineralisering, känd genom borrning/Precious metal mineralization, known from drilling
4040	21 Industrimineral, täkt i drift / Quarry, industrial mineral, in operation
4041	22 Industrimineral, nedlagd täkt / Quarry, industrial mineral, abandoned
4036	23 Industrimineral, skärpning / Industrial mineral, trial pit or prospect
4038	24 Industrimineral, mineralisering/ Industrial mineral, mineralization
4039	25 Industrimineral, mineralisering, känd genom borrning/Industrial mineral, mineralization known from drilling
4010	26 Blocksten, täkt i drift / Quarry, dimension stone, in operation
4011	27 Blocksten, nedlagd täkt / Quarry, dimension stone, abandoned
4020	28 Krossberg, täkt i drift / Quarry, aggregates, in operation
4021	29 Krossberg, nedlagd täkt / Quarry, aggregates, abandoned
4030	30 Stenbrott, producerande / Quarry, in operation
4031	31 Stenbrott, nedlagt / Quarry, abandoned
5520	32 Borrhål vid petroleumprospektering / Petroleum exploration well
5524	33 Borrhål vid petroleumprospektering, nedlagt / Petroleum exploration well, abandoned

4026	34 Medelvärdespunkt för gruvområde eller produktionsområde / Average point for mining field or production area
15	35 Uppborrad och beräknad mineralisering / Drilled mineralization estimated for tonnage
5508	36 Gruva, i drift / Mine, in operation
5516	38 Skärpning, mineralisering / Prospect or mineralization
5592	39 Borrning / Drilling
36	40 Oljekälla producerande/ Petrolium well in production
37	41 Oljekälla, nedlagd/ Petrolium well, abandoned
33	42 Borrhål vid petroleumprospektering, oljeförande / Petroleum exploration well, oil bearing
34	43 Borrhål vid petroleumprospektering, gasförande / Petroleum exploration well, gas bearing
35	44 Borrhål vid petroleumprospektering, olje- och gasförande / Petroleum exploration well, oil and gas bearing

Domain: deposit_subtype_lx (under development)

dep_sub_cd	dep_sub_tx
200	Iron-oxide mineralisation unspecified
205	Iron-oxide mineralisation, skarn hosted, Mn-rich (>1% Mn)
210	Iron-oxide mineralisation, skarn hosted, Mn-poor (<1% Mn)
215	Iron-oxide mineralisation, skarn-carbonate hosted, Mn-rich (>1% Mn)
220	Iron-oxide mineralisation, skarn-carbonate hosted, Mn-poor (<1% Mn)
225	Iron-oxide mineralisation, skarn hosted, Mg-rich
230	Iron-oxide mineralisation, skarn hosted, quartz-rich
235	Iron-oxide mineralisation, skarn hosted, unspecified
240	Iron-oxide mineralisation (BIF), quartz-banded/quartz-rich (+/-skarn)
245	Iron-oxide mineralisation (BIF), quartz-banded/quartz-rich, Mn-silicate banded
250	Iron-oxide mineralisation, felsic volcanic hosted
255	Iron-oxide-apatite mineralisation
260	Titaniferrous iron-oxide mineralisation (Fe-Ti +/- V), mafic igneous hosted
265	Iron-oxide mineralisation, chamosite-limonite, sediment hosted (Minette type)
999	Unspecified

Domain: q_coord_lx

coord_qlt
Precision better than 500m.
Precision better than 200m.
Precision better than 50m.
Precision better than 10m.

Domain: type_dep_lx

type_o_dep
Sulphide
Iron oxide
Other metal
Precious metal
Industrial mineral
Industrial rock
Dimension stone
Hydrocarbon deposit

Domain: main_type_lx

main_t_cde	main_type
6	Aggregate
7	Dimension stone
8	Hydrocarbon deposit
5	Industrial mineral
2	Iron oxide
3	Other metal
4	Precious metal
1	Sulphide

Domain: commo_lx

commo
Ag
alum shale
amphibolite
andalusite
andesite
anorthosite
apatite
As
asbestos
Au
barite
basalt
Be
bentonite
beryl
Bi

biotite
calcite
Cd
cerit
chalk
charnockite
clay
clay mineral
Co
coal
condensate
conglomerate
corundum
Cr
Cs
Cu
dacite
diabase (dolerite)
diamond
diatomite
dimension stone
diorite
dolomite
dunite
eclogite
euxenite
Fe
feldspar
felsic metavolcanite
Fe-sulphides
fluorite
Ga
gabbro
garnet
gas
Ge
gneiss
granite
granodiorite
graphite

greenstone
grindstone/whetstone
Hg
HREE
In
kaolinite
kyanite
Li
limestone
LREE
magnesite
marble
marl
metaarkose
metagreywacke
Mg-silicate
mica
migmatite
Mn
Mo
monzonite
muscovite
Nb
nepheline
Ni
oil
olivine
other hydrocarbon
other metal
other mineral
other rock
Pb
Pd
pegmatite
peridotite
PGE
phosphorite
porphyry
primary aggregate
Pt

pyrite
quartz
quartz breccia
quartz monzonite
quartz sand
quartzdiorite
quartzite
Rb
Re
REE
rhyodacite
rhyolite
sandstone
Sb
Sc
schist
Se
serpentinite
sillimanite
slate
Sn
soapstone
Sr
supracrustal rock
syenite / quartzsyenite
sövite
Ta
talc
Te
Th
Ti
Tl
tonalite
tourmaline
U
ultramafic rock
V
W
wollastonite
Y

Zn
Zr

Domain: mode_occ_lx

mode_o_occ
banded/layered
breccia fill (exclusive of fault breccia)
complex
conglomerate boulders
dike
dissemination in host rock
gradual contact
host = ore
impregnation
irregular massive mineralization
layer in layered intrusion
lenses
lenticular massive, relation to host uncertain
massive
multiple veins Or stockwork
occupying fault or shear zone
other
pipe
placer
residual
semimassive
sharp contact
stratabound -Stratiform
stringer
vein

Domain: rock_name_lx

rock_tx
agglomerate
albite altered rock
alnöite
alum shale
amphibolite
andesite

anorthosite
apatite iron ore
aplite
arenite
argillite
arkose
arkosic arenite
basalt
biotite schist
black shale
breccia
calc -silicate / skarn
calcareous metasediment
calcareous sandstone
calcite vein
calcitic marble
carbonate rock
carbonatite
chalk
charnockite
chemical percipitates
chert
chlorite schist
clay shale
coal
conglomerate
contact metamorphic rock
dacite
diabase (dolerite)
diatomite
diorite
dioritic gneiss
dioritoid rock
dolomite
dolomitic marble
dunite
dunite/peridotite
dynamic metamorphic rock
eclogite
evaporite

fault breccia
feldspar quartzite
feldspar wacke
felsic intrusive rocks
felsic volcanic rock
Fe-Mn-silica rock/ eulysite
gabbro
gabbroid
gabbronorite
gneiss
granite
granitic gneiss
granitoid
granitoid intrusive rock
granodiorite
granodioritic gneiss
granulite
graphitic gneiss
graphitic schist
greenschist
greenstone
hornblendite
hornfels
ignimbrite
intermediate volcanic rock
iron formation
jasper/jaspilite
keratophyre
kimberlite
komatiite
lamprophyre
latite
latite/trachyte
layered mafic intrusion
limestone
lithic arenite
lithic wacke
mafic intrusive rock
mafic rock
mafic sill

mafic volcanic rock
magnesitic marble
marble
marl
massive ore
metadiabase
metagreywacke
metasedimentary rock
metavolcanite
Mg-skarn
mica schist
migmatite
monzodiorite
monzonite
mudstone
mylonite
nepheline syenite
norite
olivine dolerite
orthogneiss
other
paragneiss
pegmatite
peridotite
phonolite
phosphorite
phyllite
phyllites(hw)
picrite
porphyrite
porphyry
pyroxenite
pyroxenite/hornblendite
quartz arenite
quartz -feldspar gneiss
quartz keratophyre
quartz sand
quartz wacke
quartz-carbonate vein
quartzdiorite

quartzite
quartzitic gneiss
quartzmonzodiorite
quartzmonzonite
quartz-sillimanite gneiss
regional metamorphic rock
rhyodacite
rhyolite
sandstone
scapolite altered rock
schist
schist / gneiss
sericite quartzite
sericite schist
serpentinite
siltstone
slate
soapstone
supracrustal rock
syenite / quartzsyenite
syenitoid
sövite
tillite
tonalite
tonalitic gneiss
tourmalite
trachyandesite
trachyte
tractolite
trondhjemite
tuff
tuffite
ultramafic intrusive rock
ultramafic rock
ultramafic volcanic rock
unknown
unspecified altered rocks
unspecified intrusive rock
unspecified supracrustal rocks
wacke/greywacke

vein quartz
veined gneiss
volcanic breccia
volcanic conglomerate
volcanic rock
volcanoclastic rock

Domain: min_name_lx

min_tx
acanthite
actinolite
aegirin
albite
allanite
amazonite
amblygonite
amphibole
anatase
andalusite
anderbergite
ankerite
anorthite
anthophyllite
apatite
aragonite
arrojadite
arsenic
arsenopyrite
asbestos
augite
autunite
azurite
baryte
bastnaesite
bentonite
bertrandite
beryl
betafite
biotite
bismuth

bismuthinite
bixbyite
bornite
boulangerite
braunite
bravoite
breithauptite
brucite
calcite
carbonate
cassiterite
celestine
cerit
cerite
chabazite
chalcocite
chalcopyrite
chlorite
chromite
chrysotile
clay mineral
cleavelandite
clinozoisite
cobaltite
columbite
copper
cordierite
corundum
covellite
cubanite
cummingtonite
cuprite
curite
cyrtolite
dannemorite
diamond
digenite
diopside
dollaseite
dolomite

enargite
epidote
erythrite
eudialyte
euxenite
fahlertz
feldspar
fergusonite
fluorapatite
fluorite
freibergite
gadolinite
galena
garnet
gersdorffite
glauconite
goethite
gold
graphite
grunerite
gudmundite
gypsum
hausmannite
hedenbergite
hematite
hercynite
hollandite
hornblende
hyperstene
högbomite
ilmenite
iron
jacobsite
jamesonite
K -feldspar
kaolinite
kasolite
knebelite
kyanite
lepidolite

leucite
leucoxene
limonite
linnaeite
loellingite
löllingite
mackinawite
maghemite
magnesite
magnetite
malachite
mangan oxides
manganite
marcasite
maucherite
Mg-silicate
mica
microcline
microlite
millerite
Mn-silicates
molybdenite
monazite
montmorillonite
muscovite
nepheline
Ni-arsenide
niccolite
norbergite
oligoclase
olivine
orthoclase
other
pentlandite
pertite
petalite
phlogopite
phosphate
piemontite
pitchblende

plagioclase
platinum
pollucite
psilomelane
pyrite
pyrolusite
pyrophyllite
pyroxene
pyrrhotite
quartz
rammelsbergite
REE carbonate
REE mineral
REE silicate
rhodonite
roquesite
rutile
safflorite
samarskite
scapolite
scheelite
sericite
serpentine
siderite
sillimanite
silver sulphides
skutterudite
smaltite
smectite
sphalerite
sphene
spinel
spodumene
stannite
staurolite
stibnite
sulfosalts
sulphur
Svallsediment, grus--block
talc

tantalite
telluride
tengerite
tetradymite
tetrahedrite
thortveitite
titanomagnetite
topaz
torbernite
Torv
tourmaline
tremolite
triphylite
ulvöspinel
uraninite
uranophane
valleriite
vanadinite
vesuvianite
violarite
vivianite
wolframite
wollastonite
västmanlandite
xenotime
yttrotantalite
zeolite
zircon

Domain: type_alt_lx

alteration
actinolite
albite
albitization
amphibole
analcime
andalusite
andalusite -quartz
ankerite
anthophyllite -quartz

argillitization
barite
biotite
calcite
carbonate
carbonatization
chlorite
chloritization
cordierite
cordierite -quartz
diopside
epidot
epidote
epidotization
fluorite
galena
garnet
gedrite
graphite
greisen
greisenization
hematite
hornblende
kaolinite
K-feldspar
magnetite
malakite
microcline
muscovite
olivine
orthite
propylitization
pyrite
quartz
scapolite
sericitization
serpentine
silicification
sillimanite
skarn

sodic
steatitization
talc
topaz
tourmaline
tremolite
uralitization
zoisite

Domain: main_age_gr_lx

age
Archaean
Cambrian
Carboniferous
Cenozoic
Creataceous
Devonian
Jurassic
Mesoproterozoic
Mesozoic
Neoproterozoic
Ordovician
Palaeoproterozoic
Palaeozoic
Permian
Proterozoic
Quaternary
Silurian
Tertiary
Triassic

Domain: eco_stat_lx

e_stat_cde	**econ_stat**

1	mine/quarry
3	closed mine/quarry
4	significant prospect
5	prospect
6	anomaly
7	mineralized outcrop
8	historical mine/quarry
99	mine/quarry?

Domain: samp_type_lx

type_sampl
boulder
boulders
bulk sample
concentrate
drill core
drill cores
mineral
mineral(microprobe analysis)
ore body
outcrop sample
random sample
resources
section
sections/part of orebody
selected sample
set of samples
unspecified

Domain: size_cat_lx (not used)

size_cat
Large
Potentially large
Medium
Small
Showing

Domain: m4eu_deposittypetype

m4eu_deptp	m4eu deposit type
aggregate	aggregate
alluvialPlacer	alluvial placer
graphiteAmorphous	amorphousGraphite
anorthosite	anorthosite
anthropogenicDeposit	anthropogenic deposit
bandedIronFormation	banded iron formation (BIF)
bauxite	bauxite
bimodalFelsicVolcanism	bimodal and felsic volcanism Cu-Pb-Zn VMS and transitional magmatic deposits
brine	brine
calcrete	calcrete
carbonateHosted	carbonate-hosted
carbonatite	carbonatite
CarlinTypeCarbonateHosted	Carlin-type carbonate-hosted Au-Ag
clay	Clay deposit
dimensionStone	dimension stone
eluvialPlacer	eluvial placer
eolianPlacer	eolian placer
evaporite	evaporite
graphiteFlake	flakeGraphite
gossan	gossan
graniticIgneousRocksAndPegmatites	granitic igneous rocks and pegmatites
greisen	greisen
highSulphidation	high-sulphidation
hornfels	hornfels
industrialRock	Industrial Rock
ironOxideApatite	iron oxide apatite (IOA)
ironOxideCopperGold	iron oxide copper gold (IOCG)
kimberliteAndLamproite	kimberlite and lamproite
komatiite	komatiite
laterite	laterite
layeredComplex	layered complex
liquid	liquid containing a commodity
lithiumPhosphateQuartzVein	LithiumPhosphateQuartzVein
lowSulphidation	low-sulphidation
maficToUltramaficEffusiveVolcanism	mafic to ultramafic effusive volcanism
maficToUltramaficIntrusion	mafic to ultramafic intrusion
maficVolcanismMassiveSulphide	mafic volcanism Cu–Zn massive sulphide deposits

magmaticHydrothermal	MagmaticHydrothermal
metamorphic	Metamorphic
meteoriteImpact	meteorite impact
nonOrganic	non-organic (incl. U)
ooliticIronOrIronstone	oolitic iron / ironstone
ophiolite	ophiolite
organic	organic
orogenicGold	orogenic gold
paleoplacer	paleoplacer
pegmatiteAplite	PegmatiteAplite
phosphorite	phosphorite
polymetallicManto	polymetallic manto
porphyry	porphyry
rareMetalGranite	RareMetalGranite
sandstoneHosted	sandstone-hosted
sedimentary	sedimentary
sedimentaryManganese	sedimentary manganese
sedimentHostedCopper	SedimentHostedCopper
shaleHosted	shale-hosted (incl. SEDEX)
shorelineOrMarinePlacer	shoreline / marine placer
skarnAndCarbonateReplacement	skarn and carbonate replacement
stratiformBarite	stratiform barite
unsaturatedAndSaturatedSyeniticAlkaliGraniticIgneo	unsaturated and saturated syenitic and alkali granitic igneous rocks and pegmatites
veinPolymetallic	vein, including polymetallic and 5 element vein (Bi, Co, Ni, Ag, U)
graphiteVein	VeinGraphite
volcanogenicMassiveSulphide	VolcanogenicMassiveSulphide (VMS)

Domain: m4eu_depositgrouptype

m4eu_depgr	**m4eu deposit group**
alkalineIgneousRocks	Alkaline igneous rocks
brine	brine
bulkRockMaterial	bulk rock material
carbonatite	carbonatites
chemicalSediment	chemical sediment
contactMetamorphism	contact metamorphism
continentalSedimentAndVolcanics	continental sediments and volcanics
energy	energy
epithermal	epithermal

felsicIntermediateIgneousRockRelated	felsic-intermediate igneous rock related
gemsOrSemipreciousStones	gems and semi-precious stones
industrialRocks	industrialRocks
liquid	liquid containing a commodity
manto	manto
marineVolcanicAssociation	marine volcanic association
metamorphic	metamorphic
metamorphicHosted	metamorphic-hosted
metasomaticReplacementOrHydrothermalShearOrVein	metasomatic replacement or hydrothermal shear or vein
organic	organic
other	Other
pegmatite	pegmatite
placer	placer
porphyry	porphyry
residualOrSurficial	residual/surficial
sedimentary	sedimentary
sedimentHosted	sediment-hosted
skarn	skarn
ultramaficOrMafic	ultramafic / mafic
veinBrecciaStockwork	vein, breccia and stockwork