Preliminary Metallogenic Belt and Mineral Deposit Maps for Northeast Asia

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Introduction and Companion Studies

The metallogenic belts and locations of major mineral deposits of Northeast Asia are portrayed on Sheets 1-4. Sheet 1 portrays the location of significant lode deposits and placer districts at a scale of 1:7,500,000. Sheets 2-4 portray the metallogenic belts of the region in a series of 12 time-slices from the Archean through the Quaternary at a scale of 1:15,000,000. For all four map sheets, a generalized geodynamics base map, derived from a more detailed map by Parfenov and others (2003), is used as an underlay for the metallogenic belt maps. This geodynamics map underlay permits depicts the major host geologic units and structures that host metallogenic belts. Four tables are included in this report. A hierarchial ranking of mineral deposit models is listed in Table 1. And summary features of lode deposits, placer districts, and metallogenic belts are described in Tables 2, 3, and 4, respectively.

The metallogenic belts for Northeast Asia are synthesized, compiled, described, and interpreted with the use of modern concepts of plate tectonics, analysis of terranes and overlap assemblages, and synthesis of mineral deposit models. The data supporting the compilation are: (1) comprehensive descriptions of mineral deposits; (2) compilation and synthesis of a regional geodynamics map the region at 5 million scale with detailed explanations and cited references; and (3) compilation and synthesis of metallogenic belt maps at 15 million scale with detailed explanations and cited references. These studies are part of a major international collaborative study of the *Mineral Resources, Metallogenesis, and Tectonics of Northeast Asia* that is being conducted from 1997 through 2002 by geologists from earth science agencies and universities in Russia, Mongolia, Northeastern China, South Korea, Japan, and the USA. Companion studies and previous publications are: (1) a detailed geodynamics map of Northeast Asia (Parfenov and 2003); (2) a compilation of major mineral deposit models (Rodionov and Nokleberg, 2000; Rodionov and others, 2000; Obolenskiy and others, 2003); and (3) a database on significant metalliferous and selected nonmetalliferous lode deposits, and selected placer districts (Ariunbileg and others, 2003).

Concepts and Problems for Synthesis of Metallogenic Belts

Metallogenic belts are characterized by a narrow age of formation, and include districts, deposits, and occurrences. The metallogenic belts are synthesized and described for the main structural units of the North Asian Craton and Sino-Korean Craton, framing orogenic belts that consist of collage of accreted tectonostratigraphic terranes, younger overlap volcanic and sedimentary rock sequences, and younger stitching plutonic sequences. The major units in the region are the North Asian Craton, exterior passive continental margin units (Baikal-Patom, Enisey Ridge, Southern Taymir, and Verkhoyansk passive continental margin units), the early Paleozoic Central Asian orogenic belt, and various Mesozoic and Cenozoic continental margin arcs. Metallogenic belts are interpreted according to specific geodynamic environments including cratonal, active and passive continental margin, continental-margin arc, island arc, oceanic or continental rift, collisional, transform-continental margin, and impact.

Previous metallogenic units published by various authors for studies of metallogenic zonation include (Bilibin, 1955; Itsikson and others, 1965; Shatalov, 1965; Itsikson, 1973, 1979; Guild, 1978; Scheglov, 1980; Mitchell and Garson, 1981; Radkevich, 1982; Tomson, 1988; Zonenshain and others, 1992; Koroteev, 1996; Parfenov and others, 1999; Sukhov and others, 2000; Plyuschev, 2001): (1) planetary deposit-hosting province or planetary metallogenic belt (≥1000 by 10^3 km^2); (2) deposit-hosting belt or metallogenic belt (150 to 1000 by 10^3 km^2); (3) deposit-hosting system or metallogenic system (40 to 150 by 10^3 km^2); (4) deposit-hosting zone or metallogenic zone (20 to 40 by 10^3 km^2); (5) deposit-hosting subzone or metallogenic subzone (2 to 20 by 10^3 km^2); and (6) ore district (0.4 to 2.0 by 10^3 km^2).

However, often determination of differences between some of these metallogenic units is difficult. Examples are metallogenic system versus metallogenic zone, or ore district versus deposit-hosting subzone. For this study, only a two simple terms are employed: metallogenic belt and contained district. Generally, the size of metallogenic belts is partly a function of the scale of the analysis. For this study, metallogenic belts are synthesized and compiled at 5 M scale.

In this study, a metallogenic belt is essentially the synonymous with the term *mineral resource tract* as originally defined by Pratt (1981) and used for assessment of mineral resource potential in the USA, as in exemplified in Luddington and Cox (1996). The metallogenic belt maps and underlying regional geologic (terrane and overlap assemblage maps) constitute a basic part of the three-part methodology of quantitative mineral resource assessment as described by Cox (1993) and Singer (1993, 1994).

The following concepts are employed for the synthesis of metallogenic belts.

Mineral Deposit Association. Each mineral resource tract (or metallogenic belt) includes a single mineral deposit type or a group of coeval, closely-located and genetically-related mineral deposits types.

Geodynamic Event for Deposit Formation. Each metallogenic belt contains a group of coeval and genetically related deposits that were formed in a specific geodynamic event. Examples are collision, continental-margin arc, accretion, rifting, and others.

Favorable Geological Environment. Each metallogenic belt is underlain by a geological host rock and (or) structure that is favorable for a particular suite of mineral deposit types.

Tectonic or Geological Boundaries. Each mineral resource tract (or metallogenic belt) is usually bounded by favorable either stratigraphic or magmatic units, or by major faults (sutures) along which substantial translations have occurred.

Relation of Features of Metallogenic Belt to Host Unit. The name, boundaries, and inner composition of each metallogenic belt corresponds to previously define characteristics of rocks or structures hosting the deposits, and to a suite of characteristics for the group of deposits and host rocks.

With these definitions and principles, the area defined for a metallogenic belt is predictive or prognostic for undiscovered deposits. Consequently, the synthesis and compilation of metallogenic belts is a powerful tool for mineral exploration, land-use planning, and environmental studies.

For modern metallogenic analysis, three interrelated problems exist.

(1) What is the relation of geodynamics to regional or global metallogeny? As discussed by Zonenshain and others (1992) and Dobretsov and Kirdyashkin (1994), this problem includes the role of convective processes in mantle and mantle plumes, the global processes of formation of the continents and oceans, the dynamics of development of major tectonic units of the earth's crust, metallogenic evolution of the earth, and the role mantle processes in the origin of major-belts of deposits.

(2) What is relation of regional metallogeny to individual lithosphere blocks? As discussed by Guild (1978), Mitchell and Garson (1981), and Koroteev (1996), this problem includes the genesis of specific metallogenic belts as a function of specific geodynamic environments using the modem concepts of plate tectonics.

And (3) what is the relation of metallogeny to individual tectonostratigraphic terranes and overlap assemblages? As discussed by Nokleberg and others (1993, 1998) and Parfenov and others (1999), this problem includes the genesis of specific metallogenic belts in individual fault-bounded units of distinctive stratigraphy, defined as tectonostratigraphic terranes, and in younger overlapping assemblages often containing igneous rocks formed in continental margin or island arcs, along rift systems in continents, or along transform continental margins.

Methodology of Metallogenic Analysis, Key Definitions, Geologic Time Scale, and Time Spans

Methodology of Metallogenic and Tectonic Analysis

The compilation, synthesis, description, and interpretation of metallogenic belts of Northeast Asia is part of a intricate process to analyze the complex metallogenic and tectonic history of the region. The methodology for this type of analysis of consists of the following steps. (1) The major lode deposits are described and classified according to defined mineral deposit models. (2) Metallogenic belts are delineated. (3) Tectonic environments for the cratons, craton margins, orogenic collages of terranes, overlap assemblages, and contained metallogenic belts are assigned from regional compilation and synthesis of stratigraphic, structural, metamorphic, isotopic, faunal, and provenance data. The tectonic environments include cratonal, passive continental margin, metamorphosed continental margin, continental-margin arc, island arc, transform continental-margin arc, oceanic crust, seamount, ophiolite, accretionary wedge, subduction zone, turbidite basin, and metamorphic. (4) Correlations are made between terranes, fragments of overlap assemblages, and fragments of contained metallogenic belts. (5) Coeval terranes and their contained metallogenic belts are grouped into a single

metallogenic and tectonic origin, for instance, a single island arc or subduction zone. (6) Igneous-arc and subduction-zone terranes, which are interpreted as being tectonically linked, and their contained metallogenic belts, are grouped into coeval, curvilinear arc-subduction-zone-complexes. (7) By use of geologic, faunal, and paleomagnetic data, the original positions of terranes and their metallogenic belts are interpreted. (8) The paths of tectonic migration of terranes and contained metallogenic belts are constructed. (9) The timings and nature of accretions of terranes and contained metallogenic belts are determined from geologic, age, and structural data; (10) The nature of collision-related geologic units and their contained metallogenic belts are determined from geologic data. And (11) the nature and timing of post-accretionary overlap assemblages and contained metallogenic belts are determined from geologic and age data.

Key Metallogenic and Tectonic Definitions

For the compilation, synthesis, description, and interpretation of metallogenic belts, the following and mineral deposit, metallogenic, and tectonic definitions are employed. The definitions are adapted from Coney and others (1980), Jones and others (1983), Howell and others (1985), Monger and Berg (1987), Nokleberg and others (1994a, b, 2001), Wheeler and others (1988), and Scotese and others (2001).

Accretion. Tectonic juxtaposition of two or more terranes, or tectonic juxtaposition of terranes to a craton margin. Accretion of terranes to one another or to a craton margin also defines a major change in the tectonic evolution of terranes and craton margins.

Accretionary wedge and subduction-zone terrane. Fragment of a mildly to intensely deformed complex consisting of varying amounts of turbidite deposits, continental-margin rocks, oceanic crust and overlying units, and oceanic mantle. Divided into units composed predominantly of turbidite deposits or predominantly of oceanic rocks. Units are interpreted to have formed during tectonic juxtaposition in a zone of major thrusting of one lithosphere plate beneath another, generally in zones of thrusting along the margin of a continent or an island arc. May include large fault-bounded units with a coherent stratigraphy. Many subduction-zone terranes contain fragments of oceanic crust and associated rocks that exhibit a complex structural history, occur in a major thrust zone, and possess blueschist-facies metamorphism.

Collage of terranes. Groups of tectonostratigraphic terranes, generally in oceanic areas, for which insufficient data exist to separate units.

Craton. Chiefly regionally metamorphosed and deformed shield assemblages of Archean and Early Proterozoic sedimentary, volcanic, and plutonic rocks, and overlying platform successions of Late Proterozoic, Paleozoic, and local Mesozoic and Cenozoic sedimentary and lesser volcanic rocks.

Craton margin. Chiefly Late Proterozoic through Jurassic sedimentary rocks deposited on a continental shelf or slope. Consists mainly of platform successions. Locally has, or may have had an Archean and Early Proterozoic cratonal basement.

Cratonal terrane. Fragment of a craton.

Continental-margin arc terrane. Fragment of an igneous belt of coeval plutonic and volcanic rocks, and associated sedimentary rocks that formed above a subduction zone dipping beneath a continent. Inferred to possess a sialic basement.

Deposit. A general term for any lode or placer mineral occurrence, mineral deposit, prospect, and (or) mine.

Island-arc terrane. Fragment of an igneous belt of plutonic rocks, coeval volcanic rocks, and associated sedimentary rocks that formed above an oceanic subduction zone. Inferred to possess a simatic basement.

Metallogenic belt. A geologic unit (area) that either contains or is favorable for a group of coeval and genetically-related, significant lode and placer deposit models. With this definition, a metallogenic belt is a predictive for undiscovered deposits.

Metamorphic terrane. Fragment of a highly metamorphosed or deformed assemblage of sedimentary, volcanic, or plutonic rocks that cannot be assigned to a single tectonic environment because the original stratigraphy and structure are obscured. Includes intensely-deformed structural melanges that contain intensely-deformed fragments of two or more terranes.

Metamorphosed continental margin terrane. Fragment of a passive continental margin, in places moderately to highly metamorphosed and deformed, that cannot be linked with certainty to the nearby craton margin. May be derived either from a nearby craton margin or from a distant site.

Mine. A site where valuable minerals have been extracted.

Mineral deposit. A site where concentrations of potentially valuable minerals for which grade and tonnage estimates have been made.

Mineral occurrence. A site of potentially valuable minerals on which no visible exploration has occurred, or for which no grade and tonnage estimates have been made.

Oceanic crust, seamount, and ophiolite terrane. Fragment of part or all of a suite of *eugeoclinal* deep-marine sedimentary rocks, pillow basalt, gabbro, and ultramafic rocks that are interpreted as oceanic sedimentary and volcanic rocks and the upper mantle. Includes both inferred offshore oceanic and marginal ocean basin rocks, minor volcaniclastic rocks of magmatic arc derivation, and major marine volcanic accumulations formed at a hotspot, fracture zone, or spreading axis.

Overlap assemblage. A postaccretion unit of sedimentary or igneous rocks deposited on, or intruded into, two or more adjacent terranes. The sedimentary and volcanic parts either depositionally overlie, or are interpreted to have originally depositionally overlain, two or more adjacent terranes, or terranes and the craton margin. Overlapping plutonic rocks, which may be coeval and genetically related to overlap volcanic rocks, link or stitch together adjacent terranes, or a terrane and a craton margin.

Passive continental margin terrane. Fragment of a craton margin.

Post-accretion rock unit. Suite of sedimentary, volcanic, or plutonic rocks that formed in the late history of a terrane, after accretion. May occur also on adjacent terranes or on the craton margin either as an overlap assemblage or as a basinal deposit. A relative-time term denoting rocks formed after tectonic juxtaposition of one terrane to an adjacent terrane.

Pre-accretion rock unit. Suite of sedimentary, volcanic, or plutonic rocks that formed in the early history of a terrane, before accretion. Constitutes the stratigraphy and igneous geology inherent to a terrane. A relative-time term denoting rocks formed before tectonic juxtaposition of one terrane to an adjacent terrane.

Prospect. A site of potentially valuable minerals in which excavation has occurred.

Significant mineral deposit. A mine, mineral deposit, prospect, or occurrence that is judged as important for the metallogenesis of a geographic region.

Subterrane. A fault-bounded unit within a terrane that exhibit similar, but not identical geologic history relative to another fault bounded unit in the same terrane.

Superterrane. An aggregate of terranes that is interpreted to share either a similar stratigraphic kindred or affinity, or a common geologic history after accretion (Moore, 1992). An approximate synonym is *composite terrane*.

Tectonic linkage. The interpreted association of a suite of coeval tectonic units that formed in the same region and as the result of the same tectonic processes. An example is the linking of a coeval continental-margin arc, forearc deposits, a back-arc rift assemblage, and a subduction-zone complex, all related to the underthrusting of a continental margin by oceanic crust.

Tectonostratigraphic terrane. A fault-bounded geologic entity or fragment that is characterized by a distinctive geologic history that differs markedly from that of adjacent terranes (Jones and others, 1983; Howell and others, 1985).

Transform continental-margin arc. An igneous belt of coeval plutonic and volcanic rocks, and associated sedimentary rocks that formed along a transform fault that occurs along the margin of a craton, passive continental margin, and (or) collage of terranes accreted to a continental margin.

Turbidite basin terrane. Fragment of a basin filled with deep-marine clastic deposits in either an orogenic forearc or backarc setting. May include continental-slope and continental-rise turbidite deposits, and submarine-fan turbidite deposits deposited on oceanic crust. May include minor epiclastic and volcaniclastic deposits.

Geologic Time Scale and Time Spans

Geologic time scale units are according to the IUGS Global Stratigraphic Chart (Remane, 1998). For this study, for some descriptions of metallogenic belt and geologic units, the term *Riphean* is used for the Mesoproterozoic through Middle Neoproterozoic (1600 to 650 Ma), and the term *Vendian* is used for Neoproterozoic III (650 to 540 Ma).

According to the main geodynamic events and the major deposit-forming and metallogenic belt-forming events for Northeast Asia, the following twelve time spans are used for groupings of metallogenic belts.

Archean (> 2500 Ma)
Paleoproterozoic (2500 to 1600 Ma)
Mesoproterozoic (1600 to 1000 Ma)
Neoproterozoic (1000 to 540 Ma)
Cambrian through Silurian (540 to 410 Ma)
Devonian through Early Carboniferous (Mississippian) (410 to 320 Ma)

Late Carboniferous (Pennsylvanian) through Middle Triassic (320 to 230 Ma)
Late Triassic through Early Jurassic (230 to 175 Ma)
Middle Jurassic through Early Cretaceous (175 to 96 Ma)
Cenomanian through Campanian (96 to 72 Ma)
Maastrichnian through Oligocene (72 to 24 Ma)
Miocene through Quaternary (24 to 0 Ma)

Mineral Deposit Models

For descriptions of metallogenic belts, lode mineral deposits are classified into various models or types. Detailed descriptions are provided in the companion paper by Obolenskiy and others (2003). The following three main principles are employed for synthesis of mineral deposit models for this study. (1) Deposit forming processes are close related to rock forming processes (Obruchev, 1928) and mineral deposits originate as the result of mineral mass differentiation under their constant circulation in sedimentary, magmatic, and metamorphic circles of formation of rocks and geological structures (Smirnov, 1969). (2) The classification must be as more comfortable and understandable for appropriate user as possible. And (3) the classification must be open so that new types of the deposits can be added in the future (Cox and Singer, 1986).

In this classification for this study, lode deposits are grouped into the hierarchic levels of metallogenic taxons according to such their stable features as: (a) environment of formation of host and genetically-related rocks, (b) genetic features of the deposit, and (c) mineral and (or) elemental composition of the ore. The six hierarchial levels are as follows.

Group of deposits
  Class of deposits
    Clan of deposits
      Deposit types (models)

The deposit models are subdivided into the following four large groups according to major geological rock-forming processes (Table 1): (1) deposits related to magmatic processes; (2) deposits related to hydrothermal-sedimentary processes; (3) deposits related to metamorphic processes; (4) deposits related to surficial processes and (6) exotic deposits. Each group includes several classes. For example, the group of deposits related to magmatic processes includes two classes: (1) those related to intrusive rocks; and (2) those related to extrusive rocks. Each class includes several clans, and so on. The most detailed subdivisions are for magmatic-related deposits because they are the most abundant in the project area. In the below classification, lode deposit types models that share a similar origin, such as magnesian and (or) calcic skarns, or porphyry deposits, are grouped together under a single genus with several types (or species) within the genus.

Some of the below deposit models differ from cited descriptions. For example, the Bayan Obo type was described previously as a carbonatite-related deposit. However, modern isotopic, mineralogical, and geological data recently obtained by Chinese geologists have resulted in a new interpretation of the deposit origin. These new data indicate that the deposit consists of ores that formed during Mesoproterozoic sedimentary-exhalative process, and along with coeval metasomatic activity, sedimentary diagenesis of dolomite, and alteration. The sedimentary-exhalative process consisted of both sedimentation and metasomatism. Later deformation, especially during the Caledonian orogeny, further enriched the ore. Consequently, the Bayan Obo deposit type is herein described as related to sedimentary-exhalative processes, not to magmatic processes. However, magmatic processes also played an important role in deposit formation. Consequently, this deposit model is part of the family of polygenetic carbonate-hosted deposits. Similar revisions are made for carbonate-hosted Hg-Sb and other deposit models.

Table 1. Hierarchial ranking of mineral deposit models.

Deposits related to magmatic processes
  Deposits related to intrusive magmatic rocks
    I. Deposits related to mafic and ultramafic intrusions
      A. Deposits associated with differentiated mafic-ultramafic complexes
        Mafic-ultramafic related Cu-Ni-PGE
        Mafic-ultramafic related Ti-Fe (±V)
        Zoned mafic-ultramafic Cr-PGE
      B. Deposits associated with ophiolitic complexes

Podiform chromite
Serpentinite-hosted asbestos
C. Deposits associated with anorthosite complexes
Anorthosite apatite-Ti-Fe-P
D. Deposits associated with kimberlite
Diamond-bearing kimberlite
II. Deposits related to intermediate and felsic intrusions
A. Pegmatite
Muscovite pegmatite
REE-Li pegmatite
B. Greisen and quartz vein
Fluorite greisen
Sn-W greisen, stockwork, and quartz vein
W-Mo-Be greisen, stockwork, and quartz vein
C. Alkaline metasomatite
Ta-Nb-REE alkaline metasomatite
D. Skarn (contact metasomatic)
Au skarn
Boron (datolite) skarn
Carbonate-hosted asbestos
Co skarn
Cu (±Fe, Au, Ag, Mo) skarn
Fe skarn
Fe-Zn skarn
Sn skarn
Sn-B (Fe) skarn (ludwigite)
W±Mo±Be skarn
Zn-Pb (±Ag, Cu) skarn
E. Porphyry and granitoid pluton-hosted deposit
Cassiterite-sulfide-silicate vein and stockwork
Felsic plutonic U-REE
Granitoid-related Au vein
Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork
Porphyry Au
Porphyry Cu (±Au)
Porphyry Cu-Mo (±Au, Ag)
Porphyry Mo (±W, Bi)
Porphyry Sn
III. Deposits related to alkaline intrusions
A. Carbonatite-related deposits
Apatite carbonatite
Fe-REE carbonatite
Fe-Ti (±Ta, Nb, Fe,Cu, apatite) carbonatite
Phlogopite carbonatite
REE (±Ta, Nb, Fe) carbonatite
B. Alkaline-silisic intrusions related deposits
Alkaline complex-hosted Au
Peralkaline granitoid-related Nb-Zr-REE
Albite syenite-related REE
Ta-Li ongonite
C. Alkaline-gabbroic intrusion-related deposits
Charoite metasomatite
Magmatic and metasomatic apatite
Magmatic graphite
Magmatic nepheline
Deposits related to extrusive rocks
IV. Deposits related to marine extrusive rocks

- A. Massive sulfide deposits
  - Besshi Cu-Zn-Ag massive sulfide
  - Cyprus Cu-Zn massive sulfide
  - Korean Pb-Zn massive sulfide
  - Volcanogenic Cu-Zn massive sulfide (Urals type)
  - Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai types)
- B. Volcanogenic-sedimentary deposits
  - Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)
  - Volcanogenic-sedimentary Fe
  - Volcanogenic-sedimentary Mn

V. Deposits related to subaerial extrusive rocks

- A. Deposits associated with mafic extrusive rocks and dike complexes
  - Ag-Sb vein
  - Basaltic native Cu (Lake Superior type)
  - Hg-Sb-W vein and stockwork
  - Hydrothermal Iceland spar
  - Ni-Co arsenide vein
  - Silica-carbonate (listvenite) Hg
  - Trap related Fe skarn (Angara-Ilim type)
- B. Deposits associated with felsic to intermediate extrusive rocks
  - Au-Ag epithermal vein
  - Ag-Pb epithermal vein
  - Au potassium metasomatite (Kuranakh type)
  - Barite vein
  - Be tuff
  - Carbonate-hosted As-Au metasomatite
  - Carbonate-hosted fluorspar
  - Carbonate-hosted Hg-Sb
  - Clastic sediment-hosted Hg±Sb
  - Epithermal quartz-alunite
  - Fluorspar vein
  - Hydrothermal-sedimentary fluorite
  - Limonite from spring water
  - Mn vein
  - Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite
  - Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite
  - Rhyolite-hosted Sn
  - Sulfur-sulfide (S, FeS_2)
  - Volcanic-hosted Au-base-metal metasomatite
  - Volcanic-hosted Hg
  - Volcanic-hosted U
  - Volcanic-hosted zeolite

Deposits related to hydrothermal-sedimentary sedimentary processes

VI. Stratiform and stratabound deposits

- Bedded barite
- Carbonate-hosted Pb-Zn (Mississippi valley type)
- Sediment-hosted Cu
- Sedimentary exhalative Pb-Zn (SEDEX)

VII. Sedimentary rock-hosted deposits

- Chemical-sedimentary Fe-Mn
- Evaporate halite
- Evaporate sedimentary gypsum
- Sedimentary bauxite
- Sedimentary celestite
- Sedimentary phosphate
- Sedimentary Fe-V
- Sedimentary siderite Fe

Stratiform Zr (Algama Type)
VIII. Polygenic carbonate-hosted deposits
Polygenic REE-Fe-Nb deposits (Bayan-Obo type)
Deposits related to metamorphic processes
IX. Sedimentary-metamorphic deposits
Banded iron formation (BIF, Algoma Fe)
Banded iron formation (BIF, Superior Fe)
Homestake Au
Sedimentary-metamorphic borate
Sedimentary-metamorphic magnesite
X. Deposits related to regionally metamorphosed rocks
Au in black shale
Au in shear zone and quartz vein
Clastic-sediment-hosted Sb-Au
Cu-Ag vein
Piezoquartz
Rhodusite asbestos
Talc (magnesite) replacement
Metamorphic graphite
Metamorphic sillimanite
Phlogopite skarn
Deposits related to surficial proceses
XI. Residual deposts
Bauxite (karst type)
Laterite Ni
Weathering crust Mn (±Fe)
Weathering crust and karst phosphate
Weathering crust carbonatite REE-Zr-Nb-Li
XII. Depositional deposits
Placer and paleoplacer Au
Placer diamond
Placer PGE
Placer Sn
Placer Ti-Zr
REE and Fe oolite
Exotic deposits
Impact diamond

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References Cited

Ariunbileg, Sodov, Biryul'kin, G.V., Byamba, Jamba, Davydov, Y.V., Dejidmaa, Gunchin, Distanov, E.G., Dorjgotov, Gamyanin, G.N., Gerel, Ochir, Fridovskiy, V.Yu., Gotovsuren, Ayurzana, Hwang, Duk Hwan, Kochnev, A.P., Kostin, A.V., Kuzmin, M.I., Letunov, S.A., Li, Jiliang, Li, Xujun, Malceva, G.D., Melnikov, V.D., Nikitin, V.M., Obolenskiy, A.A., Ogasawara, Masatsugu, Orolmaa, Demberel, Parfenov, L.M.,. Popov, N.V., Prokopiev, A.V., Ratkin, V.V., Rodionov, S.M., Seminskiy, Z.V., Shpikerman, V.I., Smelov, A.P., Sotnikov, V.I., Spiridonov, A.V., Stogniy, V.V., Sudo, Sadahisa, Sun, Fengyue, Sun, Jiapeng, Sun, Weizhi,. Supletsov, V.M., Timofeev, V.F., Tyan, O.A., Vetluzhskikh, V.G., Xi, Aihua, Yakovlev, Y.V., Yan, Hongquan, Zhizhin, V.I., Zinchuk, N.N., and Zorina, L.M., 2003, Databases on significant metalliferous and selected non-metalliferous lode deposits, and selected placer districts for Northeast Asia, *in* Nokleberg, W.J., and 10 others, eds., Preliminary Publications Book 2 from Project on Mineral Resources, Metallogenesis, and Tectonics of

Northeast Asia: U.S. Geological Survey Open-File Report 03-203 (CD-ROM).

Bilibin, Yu.A., 1955, Metallogenic provinces and metallogenic epochs: Moscow, Gosgeoltechizdat, 356 p. (in Russian).

Coney, P.J., Jones, D.L., and Monger, J.W.H., 1980, Cordilleran suspect terranes: Nature, v. 288, p. 329-333.

Cox, D.P., 1993, Estimation of undiscovered deposits in quantitative mineral resource assessments—examples from Venezuela and Puerto Rico: Nonrenewable Resources, v. 2, no. 2, p. 82–91.

Cox, D.P. and Singer, D.A., eds., 1986, Mineral deposit models: U.S. Geological Survey Bulletin 1693, 379 p.

Dobretsov, N.L., and Kirdyashkin, A.G., 1994, Deep level geodynamics. Siberian Branch, Russian Academy of Sciences Press, Novosibirsk, 299 p. (in Russian).

Guild, P.W., 1978, Metallogenic maps; principles and progress: Global Tectonics Metallogeny, v. 1, no. 10, p. 10-15.

Howell, D.G., Jones, D.L., and Schermer, E.R., 1985, Tectonostratigraphic terranes of the Circum-Pacific region: Principles of terrane analysis, *in* Howell, D.G., ed., Tectonostratigraphic terranes of the Circum-Pacific region: Circum-Pacific Council for Energy and Mineral Resources, Houston, Texas, p. 3-31.

Itsikson, M.I., 1973, Metallogeny of planetary volcanogenic belts of Circum-Pacific: Evolution of volcanism in Earth's history: Nauka, Moscow, p.230-232 (in Russian).

Itsikson, M.I., 1979, Metallogenic zoning of Circum-Pacific: Nauka, Moscow, 232 p. (in Russian).

Itsikson, M.I., Krasny, L.I., and Matveenko, V.T., 1965, Volcanic belts of Circum-Pacific and their Metallogeny, *in* Ore-bearing Capacity of Volcanogenic Formations: Nedra, Moscow, p.181-196 (in Russian).

Jones, D.L., Howell, D.G., Coney, P.J., and Monger, J.W.H., 1983, Recognition, character, and analysis of tectonostratigraphic terranes in western North America, *in* Hashimoto, M., and Uyeda, S., eds., Accretion tectonics in the circum-Pacific regions; Proceedings of the Oji International Seminar on Accretion Tectonics, Japan, 1981: Advances in Earth and Planetary Sciences, Tokyo, Terra Scientific Publishing Company, p. 21-35.

Koroteev, V.A., ed., 1996, Metallogeny of fold system with respect to plate tectonics: Urals Branch, Russian Academy of Sciences Press, Ekaterinburg, 248 p. (in Russian).

Ludington, S., and Cox, D., 1996, Data base for a national mineral-resource assessment of undiscovered deposits of gold, silver, copper, lead, and zinc in the conterminous United States by U.S. Geological Survey Minerals Team: U.S. Geological Survey Open-File Report 96-96, CD-ROM.

Mitchell, A.G., and Garson, M.S., 1981, Mineral deposits and global tectonic settings: Academic Press, London, 421 p.

Monger, J.W.H., and Berg, H.C., 1987, Lithotectonic terrane map of western Canada and southeastern Alaska: U. S. Geological Survey Miscellaneous Field Studies Map MF-1874-B, 1 sheet, scale 1:2,500,000, 12 p.

Nokleberg, W.J., Bundtzen, T.K., Berg, H.C., Brew, D.A., Grybeck, Donald, Robinson, M.S., Smith, T.E., Yeend, Warren, 1994a, Metallogeny and major mineral deposits of Alaska, *in* Plafker, G. and Berg, H.C., eds., The Geology of Alaska: Boulder, Colorado, Geological Society of America: The Geology of North America, v. G1, p. 855-904.

Nokleberg, W.J., Parfenov, L.M., Monger, J.W.H., Baranov, B.V., Byalobzhesky, S.G. Bundtzen, T.K., Feeney, T.D., Fujita, Kazuya, Gordey, S.P., Grantz, A., Khanchuk, A.I., Natal'in, B.A. Natapov, L.M., Norton, 1.0., Patton, W.W. Jr., Planer, G., Csholl, D.W., Sokolov, S.D., Sosunov, G.M., Stone, D.B., Tabor, R.W., Tsukanov, N.V., Vallier, T.L. and Wakita, Koji, 1994b, Circum-North Pacific tectonostratigraphic terrane map: U.S. Geological Survey Open-File Report 94-714, 221 pages, 2 sheets, scale 1:5, 000,000; 2 sheets, scale 1: 10,000,000.

Nokleberg, W.J., Parfenov, L.M., Monger, J.W.H., Norton, I.0. Khanchuk, A.I., Stone, D.B., Scotese, C.R., Scholl. D.W., and Fujita, K., 2001, Phanerozoic tectonic evolution of the Circum-North Pacific: U.S. Geological Survey Professional Paper 1626, 122 p.

Nokleberg, W.J., Bundtzen, T.K., Grybeck, D., Koch, R.D., Eremin, R.A., Rozenblum, I.S., Sidorov, A.A., Byalobzhesky, S.G., Sosunov, G.M., Shpikennan, V.I., and Gorodinsky, M.E., 1993, Metallogenesis of mainland Alaska and the Russian Northeast: Mineral deposit maps, models, and tables, metallogenic belt maps and interpretation, and references cited: U.S. Geological Survey Open-File Report 93-339, 222 pages, 1 map, scale 1:4, 000,000, 5 maps, scale 1:10,000,000.

Nokleberg, W.J., West, T.D., Dawson, K.M., Shpikerman, V.I., Bundtzen, T.K., Parfenov, L.M., Monger, J.W.H., Ratkin, V.V., Baranov, B.V., Byalobzhesky, S.G., Diggles, M.F., Eremin, R.A., Fujita, K., Gordey, S.P., Gorodinskiy, M.E., Goryachev, N.A., Feeney, T.D., Frolov, Y.F., Grantz, A., Khanchuk, A.I., Koch, R.D., Natalin, B.A., Natapov, L.M., Norton, I.O., Patton, W.W. Jr., Plafker, G., Pozdeev, A.I., Rozenblum, I.S., Scholl, D.W., Sokolov, S.D., Sosunov, G.M., Stone, D.V., Tabor, R.W., Tsukanov, N.V., and Vallier, T.L., 1998, Summary terrane, mineral deposit, and metallogenic belt maps of the Russian Far East, Alaska, and the Canadian Cordillera: U.S. Geological Survey Open-File Report 98-136, CD-ROM.

Obolenskiy, A.A., Rodionov, S.M., Ariunbileg, Sodov, Dejidmaa, Gunchin, Distanov, E.G., Dorjgotov, Dangindorjiin, Gerel, Ochir, Hwang, Duk Hwan, Sun, Fengyue, Gotovsuren, Ayurzana, Letunov, S.N., Li, Xujun, Nokleberg, W.J., Ogasawara, Masatsugu, Seminsky, Z.V., Smelov, A.P., Sotnikov, V.I., Spiridonov, A.A., Zorina, L.V., and Yan, Hongquan, 2003, Mineral deposit models for Northeast Asia, *in* Nokleberg, W.J., and 10 others, eds.,: Preliminary Publications Book 2 from Project on Mineral Resources, Metallogenesis, and

Tectonics of Northeast Asia: U.S. Geological Survey Open-File Report 03-203 (CD-ROM), 47 p.

Obolenskiy, A.A., Rodionov, S.M., Parfenov, L.M., Kuzmin, M.I., Distanov, E.G., Sotnikov, V.I., Seminskiy, Zh.V., Spiridonov, A.M., Stepanov, V.A., Khanchuk, A.I., Nokleberg, W.J., Tomurtogoo, O., Dejidmaa, G., Hongquan, Y., Fengyue, S., Hwang, D.H., and Ogasawara, M., 2001, Metallogenic belt map of Northeast Asia [abs.]: Joint 6th Biennial SGA-SEG Meeting Program with abstracts, *in* Piestrzynski, Adam., and others, eds., Mineral Deposits at the Beginning of the 21st Century: Proceedings of Joint Sixth Biennial SGA-SEG Meeting, Krakow, Poland, A.A. Balkema Publishers, p.1133-1135.

Obruchev, V.V., 1928, Various investigations on ore deposit systematics: Journal of Mineralogy, Geology, and Paleontology, v. A., no. 4, p. 143-146 (in German).

Parfenov, L.M., Vetluzhskikh, V.G., Gamyanin, G.N., Davydov, Yu.V., Deikunenko, A.V., Kostin, A.V., Nikitin, V.M., Prokopyev, A.V., Smelov, A.P., Supletsov, V.M., Timofeev, V.F., Fridovsky, V.YU., Kholmogorov, A.I., Yakovlev, Ya.V., 1999, Metallogenic zonation of the territory of Sakha Republic: Pacific Ocean Geology, no. 2, p. 8-40.

Parfenov, L.M., Vetluzhskikh, V.G., Gamyanin, G.N., Davydov, Yu.V., Deikunenko, A.V., Kostin, A.V., Nikitin, V.M., Prokopyev, A.V., Smelov, A.P., Supletsov, V.M., Timofeev, V.F., Fridovsky, V.YU., Kholmogorov, A.I., Yakovlev, Ya.V., 1999, Metallogenic zonation of the territory of Sakha Republic: Pacific Ocean Geology, no. 2, p. 8-40.

Plyuschev, E.V., ed., 2001, Ore knots of Russia: VSEGEI, Saint-Petersburg, 416 p. (in Russian).

Pratt, W.P., ed., 1981, Metallic mineral-resource potential of the Rolla quadrangle, Missouri, as appraised in September 1980: U.S. Geological Survey Open-File Report 81-518, 77 p., 11 plates, scale 1:250,000.

Radkevich, E.A., 1982, Metallogeny of Circum-Pacific ore belt, *in* Metallogeny of Circum-Pacific: Far Eastern Branch, U.S.S.R. Academy of Sciences, p.3-16 (in Russian).

Remane, Jurgen, 1998, Explanatory note to global stratigraphic chart, *in* Circular of International Subcommission on Stratigraphic Classification (ISSC) of IUGS Commission on Stratigraphy, Appendix B: International Union of Geological Sciences (IUGS) Commission on Stratigraphy, v. 93, 11 p.

Rodionov, S.M., and Nokleberg, W.J., 2000, Mineral deposit models for Northeast Asia [abs.], *in* Mineral Resources and Tectonics of Northeast Asia: ITIT International Symposium June 8-9, Abstracts, AIST Research Center, Tsukuba, Japan, p. 51-53.

Rodionov, S.M., Obolenskiy, A.A., Khanchuk, A.I., Dejidmaa, G., Hongquan, Y., Hwang, D.H., and Nokleberg, W.J., 2000, Metallogenic belts of Northeast Asia: Definitions, principles, and examples [abs.], *in* Mineral Resources and Tectonics of Northeast Asia: ITIT International Symposium, June 8-9, Abstracts. AIST Research Center, Tsukuba, Japan, p. 82-83.

Scheglov, A.D., 1980, Basis of metallogenic analyses: Nedra, Moscow, 431p (in Russian).

Shatalov, E.G., 1965, Principles of metallogenic map compilation, *in* Questions of Metallogeny: Nedra, Moscow, p.45-61 (in Russian).

Singer, D.A., 1993, Development of grade and tonnage models for different deposit types, *in* Kirkham, R.V., Sinclair, R.V., Thorpe, W.D., and Duke, J.M., eds., Mineral deposit modeling: Geological Association Canada Special Paper 40, 27 p. 21–30.

Singer, D.A., 1994, The relationship of estimated number of undiscovered deposits to grade and tonnage models in three–part mineral resource assessments: 1994 Intern. Assoc Math. Geology Annual Conference, Papers and Entended Abstracts, Oct. 3–5, 1994, Mount Tremblant, Quebec, Canada, p. 325–326.

Scotese, C.R., Nokleberg, W.J., Monger, J.W.H., Norton, I.O., Parfenov, L.M., Bundtzen, T.K., Dawson, K.M., Eremin, R.A., Frolov, Y.F., Fujita, Kazuya, Goryachev, N.A., Khanchuk, A.I., Pozdeev, A.I., Ratkin, V.V., Rodinov, S.M., Rozenblum, I.S., Shpikerman, V.I., Sidorov, A.A., and Stone, D.B., 2001, in Nokleberg, W..J. and Diggles, M.F., eds., Dynamic Computer Model for the Metallogenesis and Tectonics of the Circum-North Pacific: U.S. Geological Survey Open-File Report 01-161, CD-ROM.

Smirnov, V.I., 1969, Geology of useful minerals: Nedra, Moscow, 687 p. (in Russian).

Sukhov, V.I., Bakulin, Yu.I., Loshak, N.P., Khitrunov, A.T., Rodionova, L.N., and Karas, N.A., 2000, Metallogeny of Russian Far East: DVIMS Publishing House, Khabarovsk, 217p (in Russian).

Tomson, I.N., 1988, Metallogeny of ore regions. Nedra, Moscow, 215 p (in Russian).

Wheeler, J.O., Brookfield, A.J., Gabrielse, H., Monger, J.W.H., Tipper, H.W., and Woodsworth, G.J., 1988, Terrane map of the Canadian Cordillera: Geological Survey of Canada Open File Report 1894, scale 1:2,000,000, 9 p.

Zonenshain, L.P., Kuzmin, M.I. and Natapov, L.M. 1992, Plate tectonics and ore deposits in Northern Eurasia (the former USSR) [abs.]: Colorado School of Mines Quarterly Review, v. 92, no. 2, p. 13.

Table 2. Summary table for significant metalliferous and selected nonmetalliferous lode deposits of Northeast Asia. Deposits listed in numerical order by map row and map column for quadrants of latitude and longitude.

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
H	52	1	Shika	Ag-Sb vein	Sb	Outer Zone Southwest Japan
H	52	2	Yamagano	Au-Ag epithermal vein	Au	Kyushu
H	52	3	Kushikino	Au-Ag epithermal vein	Au, Ag	Kyushu
H	52	4	Suzuyama	Sn-W greisen, stockwork, and quartz vein	Sn	Outer Zone Southwest Japan
H	52	5	Akeshi	Au-Ag epithermal vein	Au, Ag	Kyushu
H	52	6	Iwato	Au-Ag epithermal vein	Au, Ag	Kyushu
H	52	7	Kasuga	Au-Ag epithermal vein	Au, Ag	Kyushu
H	52	8	Nitta-Yakushima	W-Mo-Be greisen, stockwork, and quartz vein	W	Outer Zone Southwest Japan
I	52	1	Kyeongju	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Mo	Gyeongpuk
I	52	10	Mulkum	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Fe	Gyeongnam
I	52	11	Dongbogwang	W-Mo-Be greisen, stockwork, and quartz vein	W	Gyeongnam
I	52	12	Yongho	Cu-Ag vein	Cu	Gyeongnam
I	52	13	Akimoto	Volcanogenic-sedimentary Mn	Mn	Sambagawa-Chichibu-Shimanto
I	52	13	Dongjin	Au in shear zone and quartz vein	Au, Ag	Sannae
I	52	14	Masan	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Cu, Pb, Zn	Gyeongnam
I	52	15	Kuryong	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Fe, Cu	Gyeongnam
I	52	16	Jinju	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Gyeongnam
I	52	17	Haman-Gunpuk	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Cu, Pb, Zn	Gyeongnam
I	52	18	Sannae	Ni-Co arsenide vein	Ni, Co	Sannae
I	52	19	Yungchang 1	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu, Pb, Zn	Gyeongnam
I	52	2	Ulsan	Fe skarn	Fe	Gyeongnam
I	52	20	Goseong	Cu-Ag vein	Cu, Au, Ag	Gyeongnam
I	52	21	Koksung	Metamorphic graphite	Graphite	Koksung
I	52	22	Tongyoung	Au in shear zone and quartz vein	Au, Ag	Gyeongnam
I	52	23	Samdong	Porphyry Mo (±W, Sn, Bi)	Mo, Cu	Gyeongnam
I	52	24	Taishu	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Zn, Pb	Hokuriku-Sanin
I	52	25	Hoshino	Au-Ag epithermal vein	Au	Kyushu
I	52	26	Taio	Au-Ag epithermal vein	Au, Ag	Kyushu
I	52	27	Hoei	Sn skarn	Sn	Outer Zone Southwest Japan
I	52	28	Shinkiura	Sn skarn	Sn	Outer Zone Southwest Japan
I	52	29	Obira	Cassiterite-sulfide-silicate vein and stockwork	Sn, As	Outer Zone Southwest Japan
I	52	3	Darak	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Gyeongpuk
I	52	30	Mitate	Sn skarn	Sn	Outer Zone Southwest Japan
I	52	31	Toroku	Sn skarn	Sn, As	Outer Zone Southwest Japan
I	52	32	Makimine	Besshi Cu-Zn-Ag massive sulfide	Cu	Sambagawa-Chichibu-Shimanto
I	52	34	Miyazaki-Matsuo	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	As	Outer Zone Southwest Japan
I	52	35	Saeki district	Volcanogenic-sedimentary Mn	Mn	Sambagawa-Chichibu-Shimanto
I	52	36	Itsuki district	Volcanogenic-sedimentary Mn	Mn	Sambagawa-Chichibu-Shimanto
I	52	37	Fuke	Au-Ag epithermal vein	Au, Ag	Kyushu
I	52	38	Ohkuchi	Au-Ag epithermal vein	Au, Ag	Kyushu

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
I	52	39	Hishikari	Au-Ag epithermal vein	Au, Ag	Kyushu
I	52	4	Wolak	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Wolak
I	52	5	Sasagatani	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Zn	Inner Zone Southwest Japan
I	52	6	Donggok	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Gyeongnam
I	52	7	Yanggudong	Cu-Ag vein	Cu, Pb, Zn	Gyeongnam
I	52	8	Gwymyeong	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn	Gyeongnam
I	52	9	Cheolma	Au in shear zone and quartz vein	Au, Ag	Gyeongnam
I	53	1	Hamayokokawa	Volcanogenic-sedimentary Mn	Mn	Mino-Tamba-Chugoku
I	53	10	Yaei	Volcanogenic-sedimentary Mn	Mn	Mino-Tamba-Chugoku
I	53	11	Tamba district	Volcanogenic-sedimentary Mn	Mn	Mino-Tamba-Chugoku
I	53	12	Kaneuchi	W-Mo-Be greisen, stockwork, and quartz vein	W	Inner Zone Southwest Japan
I	53	13	Tonoda district	Volcanogenic-sedimentary Mn	Mn	Mino-Tamba-Chugoku
I	53	14	Iwami	Au-Ag epithermal vein	Cu	Hokuriku-Sanin
I	53	15	Nakase	Ag-Sb vein	Sb, Au, Ag	Hokuriku-Sanin
I	53	16	Otani	W-Mo-Be greisen, stockwork, and quartz vein	W, Cu, Sn	Inner Zone Southwest Japan
I	53	17	Akenobe	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Zn, Cu, Sn	Inner Zone Southwest Japan
I	53	18	Ikuno	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag, Au, Cu, Zn, Sn, Pb	Inner Zone Southwest Japan
I	53	19	Ningyotoge	Clastic-sediment-hosted U	U	Hokuriku-Sanin
I	53	2	Nakatatsu	Zn-Pb (Ag, Cu, W) skarn	Zn, Ag, Pb	Inner Zone Southwest Japan
I	53	20	Yamatosuigin	Hg-Sb-W vein and stockwork	Hg	Outer Zone Southwest Japan
I	53	21	Kamio	Volcanic-hosted Hg.	Hg	Outer Zone Southwest Japan
I	53	22	Yanahara	Besshi Cu-Zn-Ag massive sulfide	Pyrite	Mino-Tamba-Chugoku
I	53	23	Daito	W-Mo-Be greisen, stockwork, and quartz vein	Mo	Inner Zone Southwest Japan
I	53	24	Seikyu	Porphyry Mo (±W, Sn, Bi)	Mo	Inner Zone Southwest Japan
I	53	25	Niu	Hg-Sb-W vein and stockwork	Hg	Outer Zone Southwest Japan
I	53	26	Wakamatsu	Podiform chromite	Cr	Mino-Tamba-Chugoku
I	53	27	Hirose	Podiform chromite	Cr	Mino-Tamba-Chugoku
I	53	28	Komaki	W-Mo-Be greisen, stockwork, and quartz vein	Mo	Inner Zone Southwest Japan
I	53	29	Iimori	Besshi Cu-Zn-Ag massive sulfide	Cu	Sambagawa-Chichibu-Shimanto
I	53	3	Hiraiwa-Sasabora	Fluospar vein	Fluorite	Inner Zone Southwest Japan
I	53	30	Yoshioka	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu, Ag	Inner Zone Southwest Japan
I	53	31	Omori	Au-Ag epithermal vein	Ag, Au	Hokuriku-Sanin
I	53	32	Obie	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu, Ag	Inner Zone Southwest Japan
I	53	33	Kishu	Au-Ag epithermal vein	Ag, Au, Cu	Outer Zone Southwest Japan
I	53	34	Myoho	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu	Outer Zone Southwest Japan
I	53	35	Higashiyama	Besshi Cu-Zn-Ag massive sulfide	Cu, Pyrite	Sambagawa-Chichibu-Shimanto
I	53	37	Sazare	Besshi Cu-Zn-Ag massive sulfide	Cu	Sambagawa-Chichibu-Shimanto
I	53	38	Shirataki	Besshi Cu-Zn-Ag massive sulfide	Cu, Pyrite	Sambagawa-Chichibu-Shimanto
I	53	39	Besshi	Besshi Cu-Zn-Ag massive sulfide	Cu, Au, Ag	Sambagawa-Chichibu-Shimanto
I	53	39	Kootsu	Besshi Cu-Zn-Ag massive sulfide	Cu, Pyrite	Sambagawa-Chichibu-Shimanto
I	53	4	Higashimino district	Volcanogenic-sedimentary Mn	Mn	Mino-Tamba-Chugoku
I	53	40	Ichinokawa	Clastic-sediment-hosted Sb-Au	Sb	Outer Zone Southwest Japan
I	53	41	Kawayama	Besshi Cu-Zn-Ag massive sulfide	Cu, Zn, Ag, S	Mino-Tamba-Chugoku
I	53	42	Ananai district	Volcanogenic-sedimentary Mn	Mn	Sambagawa-Chichibu-Shimanto
I	53	43	Kuga	W±Mo±Be skarn	W	Inner Zone Southwest Japan
I	53	44	Fujigatani	W±Mo±Be skarn	W	Inner Zone Southwest Japan
I	53	45	Iwakuni district	Volcanogenic-sedimentary Mn	Mn	Mino-Tamba-Chugoku
I	53	46	Okuki	Cyprus Cu-Zn massive sulfide	Cu	Sambagawa-Chichibu-Shimanto
I	53	47	Uwajima district	Volcanogenic-sedimentary Mn	Mn	Sambagawa-Chichibu-Shimanto

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
I	53	48	Fujinokawa	Ag-Sb vein	Sb	Outer Zone Southwest Japan
I	53	5	Nishimino district	Volcanogenic-sedimentary Mn	Mn	Mino-Tamba-Chugoku
I	53	7	Kune	Besshi Cu-Zn-Ag massive sulfide	Cu	Sambagawa-Chichibu-Shimanto
I	53	8	Minenosawa	Besshi Cu-Zn-Ag massive sulfide	Cu, Zn, Au, Ag	Sambagawa-Chichibu-Shimanto
I	53	9	Kitatamba district	Volcanogenic-sedimentary Mn	Mn	Mino-Tamba-Chugoku
I	54	1	Takara	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Cu	Northeast Japan
I	54	2	Seikoshi	Au-Ag epithermal vein	Ag, Au	Northeast Japan
I	54	3	Mochikoshi	Au-Ag epithermal vein	Au, Ag	Northeast Japan
I	54	4	Toi	Au-Ag epithermal vein	Au, Ag	Northeast Japan
J	49	1	Yixingzai, Fanshi, Shanxi Province	Volcanic-hosted Au-base-metal metasomatite	Au	Yanshan
J	49	10	Guopanliang, Baode County, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	11	Taiyuan, Shanxi Province	Evaporate sedimentary gypsum	Gypsum	Jinzhong
J	49	12	Yuanjiachun, Shanxi Province	Banded iron formation (BIF, Superior Fe)	Fe	Luliangshan
J	49	13	Sitou, Shaxi Province	Banded iron formation (BIF, Superior Fe)	Fe	Luliangshan
J	49	14	Lingshi, Shanxi Province	Evaporate sedimentary gypsum	Gypsum	Jinzhong
J	49	15	Shigong, Xiaoyi, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	16	Xiangwang, Xiaoyi, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	17	Re'er, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	18	Xihedi, Xiaoyi, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	19	Duchun, Xiaoyi, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	2	Baizhiyan, Shanxi Province	Banded iron formation (BIF, Algoma Fe)	Fe	Wutai
J	49	20	Yangjiashan, Lishi County, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	21	Xiangyi, Jiaokou County, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	22	Ke'er, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	23	Shanyangping, Daixian County,Shanxi Province	Banded iron formation (BIF, Algoma Fe)	Fe	Wutai
J	49	3	Jingangku, Shaxi Province	Banded iron formation (BIF, Algoma Fe)	S	Witai
J	49	4	Yangchaoping, Daixian County, Shanxi Province	Banded iron formation (BIF, Algoma Fe)	Fe	Wutain
J	49	5	Tianqiao, Baode County, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	6	Hulishan, Shanxi Province	Au in shear zone and quartz vein	Au	Luliangshan
J	49	7	Baiquan, Yangquan, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	8	Taihushi, Yangquan County, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	49	9	Qianmuping, Yangquan County, Shanxi Province	Sedimentary bauxite	Al	Shanxi
J	50	1	Sijiaying, Hebei Province	Banded iron formation (BIF, Algoma Fe)	Fe	Jidong
J	50	10	Xishimen, Wu'an, Hebei	Fe skarn	Fe	Hanxing

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
			Province			
J	50	11	Zhongguan, Wu'an, Hebei Province	Fe skarn	Fe	Hanxing
J	50	2	Dawan, Laiyuan County, Hebei Province	Porphyry Cu-Mo (±Au, Ag)	Mo	Yanshan
J	50	3	Pingxingguan, Shanxi Province	Banded iron formation (BIF, Algoma Fe)	Fe	Wutai
J	50	4	Tuling-Shihu, Lishou, Hebei Province	Granitoid-related Au vein	Au	Yanshan
J	50	5	Jinling, Shandong Province	Fe-Zn skarn	Fe	Laiwu
J	50	6	Zihe (Heiwang), Shandong Province	Fe skarn	Fe	Laiwu
J	50	7	Zibe, Shandong Province	Sedimentary bauxite	Al	Zibe 1
J	50	8	Xishimen, Wuan, Hebei Province	Fe skarn	Fe	Hanxing
J	50	9	Yushiwa, Wuan, Hebei Province	Fe skarn	Fe	Hanxing
J	51	1	Huatong, Liaoning Province	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Jiliaolu
J	51	10	Sanshandao, Shandong Province	Granitoid-related Au vein	Au	Jiliaolu
J	51	11	Jiaojia, Shandong Province	Granitoid-related Au vein	Au	Jiliaolu
J	51	12	Nanshu, Shandong Province	Metamorphic graphite	Graphite	Jiliaojiao
J	51	2	Fuxian, Liaoning Province	Diamond kimberlite	Diamond	East Liaoning
J	51	3	Soyonpyong-do	Mafic-ultramafic related Ti-Fe (V)	Fe, Cr, Ti	Gyeonggi
J	51	4	Xiangkuang, Shandong Province	Zn-Pb (Ag, Cu, W) skarn	Pb Zn	Jiliaolu
J	51	5	Linglong, Shandong Province	Granitoid-related Au vein	Au	Jiliaolu
J	51	6	Jiehe, Shandong Province	Granitoid-related Au vein	Au	Jiliaolu
J	51	7	Xincheng, Shandong Province	Granitoid-related Au vein	Au	Jiliaolu
J	51	8	Jinqingding, Shandong Province	Granitoid-related Au vein	Au	Jiliaolu
J	51	9	Shilipu, Shandong Province	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Ag	Jiliaolu
J	52	1	Yangyang	Banded iron formation (BIF, Superior Fe)	Fe	Taebaegsan
J	52	10	Chulam	Au skarn	Au, Ag	Taebaegsan
J	52	11	Uirim-Samwon	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Cu, Pb, Zn	Taebaegsan
J	52	12	Yomisan (Sinyemi)	Zn-Pb (Ag, Cu, W) skarn	Zn, Fe	Taebaegsan
J	52	13	Soonkyong	Sn-W greisen, stockwork, and quartz vein	Sn	Taebaegsan
J	52	14	Kumsan	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Gyeongpuk
J	52	15	Wangpiri	Sn-W greisen, stockwork, and quartz vein	Sn	Gyeongpuk
J	52	16	Chilbo	W±Mo±Be skarn	W, Fe	Gyeonggi
J	52	17	Kumjang	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu, Pb, Zn	Gyeongpuk
J	52	18	Eungok	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb,Zn	Eungok
J	52	19	Daejang	Fe-Zn skarn	Fe ,Cu	Gyeongpuk
J	52	2	Kangwon	Fe skarn	Fe	Taebaegsan

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
J	52	20	Bupyoung	Volcanic-hosted Au-base-metal metasomatite	Ag, Pb	Gyeonggi
J	52	21	Oryu-dong	Metamorphic graphite	Graphite	Gyeonggi
J	52	22	Youngdeog	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Wolak
J	52	23	Jesamuk	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Pb, Zn	Wolak
J	52	24	Susan	Fe skarn	Fe, Mn	Wolak
J	52	25	Seojom	Au in shear zone and quartz vein	Au, Ag	Taebaegsan
J	52	26	Seosan	Banded iron formation (BIF, Superior Fe)	Fe, Cu	Chungnam
J	52	27	Yungchang 2	Ni-Co arsenide vein	Co, Ni	Eungok
J	52	28	Chilgok	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Gyeongpuk
J	52	29	Samkwang	Polymetaliic Ni vein	Ni	Gyeongpuk
J	52	3	Hongcheon-Jaun	Polygenic REE-Fe-Nb deposit (Bayan-Obo type)	Fe, SrO	Taebaegsan
J	52	30	Kongju	Metamorphic graphite	Graphite	Chungnam
J	52	31	Samgoe-Soryong	Clastic-sediment-hosted U	U	Chungnam
J	52	32	Sangdong	W±Mo±Be skarn	W	Taebaegsan
J	52	4	Susuk	Fe skarn	Fe	Taebaegsan
J	52	5	Seongdong	Fe skarn	Fe	Gyeonggi
J	52	6	Samchok	Banded iron formation (BIF, Superior Fe)	Fe	Taebaegsan
J	52	7	Wondong	W±Mo±Be skarn	W, Fe, Pb.	Taebaegsan
J	52	8	Dongnam	Fe-Zn skarn	Fe, Mo	Taebaegsan
J	52	9	Gapyeong	Metamorphic graphite	Graphite	Gyeonggi
J	53	1	Sennotani	Metamorphic graphite	Graphite	Inner Zone Southwest Japan
J	53	2	Kamioka Mozumi	Zn-Pb (Ag, Cu, W) skarn	Zn, Pb, Ag	Inner Zone Southwest Japan
J	53	3	Koshimizu	Metamorphic graphite	Graphite	Inner Zone Southwest Japan
J	53	4	Kamioka Tochibora	Zn-Pb (Ag, Cu, W) skarn	Zn, Pb, Ag	Inner Zone Southwest Japan
J	53	5	Amo	Metamorphic graphite	Graphite	Inner Zone Southwest Japan
J	53	6	Hokuriku	Au-Ag epithermal vein	Cu, Zn, Pb, Ag	Hokuriku-Sanin
J	53	7	Hirase	Porphyry Mo (±W, Sn, Bi)	Mo	Inner Zone Southwest Japan
J	53	8	Bandojima	Cu (±Fe, Au, Ag, Mo) skarn	Pb, Zn, Cu	Inner Zone Southwest Japan
J	54	1	Taro	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu, Zn, Pb	North Kitakami
J	54	10	Unekura	Au-Ag epithermal vein	Cu	Northeast Japan
J	54	11	Oya	Granitoid-related Au vein	Au, Ag	Kitakami
J	54	12	Yoshino	Volcanogenic Zn, Pb, Cu massive sulfide (Kuroko, Altai type)	Cu, Ag	Northeast Japan
J	54	13	Hosokura	Au-Ag epithermal vein	Zn, Pb, Cu	Northeast Japan
J	54	14	Nagamatsu	Au-Ag epithermal vein	Cu	Northeast Japan
J	54	15	Koyama	Au-Ag epithermal vein	Au, Ag, Cu	Northeast Japan
J	54	16	Oizumi	Au-Ag epithermal vein	Zn, Pb, Cu	Northeast Japan
J	54	17	Zao	Sulfur-sulfide (S, FeS2)	S	Northeast Japan
J	54	18	Asahi (Budo)	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Zn, Pb	Northeast Japan
J	54	19	Yamagata-Yoshino	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu, Zn	Northeast Japan
J	54	2	Matsuo	Sulfur-sulfide (S, FeS2)	S	Northeast Japan
J	54	20	Yatani	Au-Ag epithermal vein	Zn, Pb, Ag	Northeast Japan
J	54	21	Numajiri	Sulfur-sulfide (S, FeS2)	S	Northeast Japan
J	54	22	Iide	Zn-Pb (Ag, Cu, W) skarn	Zn, Pb	Inner Zone Southwest Japan
J	54	23	Takatama	Au-Ag epithermal vein	Au, Ag	Northeast Japan
J	54	24	Yaguki	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Fe	Kitakami
J	54	25	Sado	Au-Ag epithermal vein	Au, Ag, Cu	Northeast Japan
J	54	26	Yasou	Au-Ag epithermal vein	Cu	Northeast Japan
J	54	27	Hitachi	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai	Cu	Hitachi

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
				type)		
J	54	28	Nan'etsu	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Zn, Pb	Inner Zone Southwest Japan
J	54	29	Tochigi	Au-Ag epithermal vein	Cu	Northeast Japan
J	54	3	Yamada district	Volcanogenic-sedimentary Mn	Mn	North Kitakami
J	54	30	Nebazawa	Au-Ag epithermal vein	Ag, Au	Northeast Japan
J	54	31	Takatori	W-Mo-Be greisen, stockwork, and quartz vein	W	Inner Zone Southwest Japan
J	54	32	Ashio	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu, Zn, Au, Ag	Northeast Japan
J	54	33	Awano district	Volcanogenic-sedimentary Mn	Mn	Mino-Tamba-Chugoku
J	54	34	Watarase district	Volcanogenic-sedimentary Mn	Mn	Mino-Tamba-Chugoku
J	54	35	Gumma	Limonite from spring water	Fe	Northeast Japan
J	54	36	Kusatsu-Shirane district	Sulfur-sulfide (S, FeS2)	S	Northeast Japan
J	54	37	Yonago	Sulfur-sulfide (S, FeS2)	S	Northeast Japan
J	54	38	Chichibu	Zn-Pb (±Ag, Cu, W) skarn	Ag, Au, Zn, Pb, Fe	Outer Zone Southwest Japan
J	54	39	Omine	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Au, Ag	Kitakami
J	54	4	Ani	Au-Ag epithermal vein	Cu, Au, Ag	Northeast Japan
J	54	5	Kamaishi	Cu (±Fe, Au, Ag, Mo) skarn	Fe, Cu	Kitakami
J	54	6	Arakawa	Au-Ag epithermal vein	Cu	Northeast Japan
J	54	7	Akagane	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Fe, Au	Kitakami
J	54	8	Tsuchihata	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu	Northeast Japan
J	54	9	Washiaimori	Au-Ag epithermal vein	Cu, Ag	Northeast Japan
K	47	1	Khatansuudal	Clastic-sediment-hosted Sb-Au	Au	Tomortein Nuruu .
K	47	2	Qiyishan, Inner Mongolia	W±Mo±Be skarn	Rb, W, Sn	Hartolgoi-sulinheer
K	47	3	East Khatansuudal	Clastic-sediment-hosted Sb-Au	Au	Tomortein Nuruu
K	47	4	Talynmeltes	Clastic-sediment-hosted Sb-Au	Au	Tomortein Nuruu
K	47	5	Liusashan, Inner Mongolia	Porphyry Mo (±W, Sn, Bi)	Mo	Hartolgoi-Sulinheer
K	47	6	Guut hudag	Au-Ag epithermal vein	Au	Unassigned
K	48	1	Shuteen	Au-Ag epithermal vein	Au	Harmagtai-Hongoot-Oyut
K	48	10	Huogeqi, Inner Mongolia	Sedimentary exhalative Pb-Zn (SEDEX)	Cu, Pb, Zn	Langshan-Bayan Obo
K	48	12	Dongshengmiao, Inner Mongolia	Sedimentary exhalative Pb-Zn (SEDEX)	Zn,Pb,Cu	Langshan-Bayan Obo
K	48	13	Tanyaokou, Inner Mongolia	Sedimentary exhalative Pb-Zn (SEDEX)	Zn Cu	Langshan-Bayan Obo
K	48	2	Khan Bogd	Ta-Nb-REE alkaline metasomatite	Nb, REE	Harmorit-Hanbogd-Lugiingol
K	48	3	Oyu Tolgoi	Porphyry Cu (±Au)	Cu	Tsagaansuvarga
K	48	4	Zuun Togoo Uul	Carbonate-hosted Hg-Sb	Sb	Hartolgoi-Sulinheer
K	48	5	Alag tolgoi	Granitoid-related Au vein	Au	Tsagaansuvarga
K	48	6	Suhayt	Au-Ag epithermal vein	Au	Unassigned
K	48	7	Khartolgoi	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Ag, Sb	Hartolgoi-Sulinheer
K	48	8	Zurkh	Barite vein	Ag, Pb	Unassigned
K	48	9	Khar morit	Sn-W greisen, stockwork, and quartz vein	Sn, W	Harmorit-Hanbogd-Lugiingol
K	49	1	Wenduermiao, Inner Mongolia	Volcanogenic-sedimentary Fe	Fe	Wunduermiao
K	49	10	Khoit Barjin	Au-Ag epithermal vein	Au	Hartolgoi-Sulinheer
K	49	11	Saiyinwusu, Inner Mongolia	Granitoid-related Au vein	Au	Wulashan-Zhangbei
K	49	12	Sulinheer group	Podiform chromite	Cr	Sulinheer
K	49	13	Bayan Obo, Inner Mongolia	Polygenic REE-Fe-Nb deposit (Bayan-Obo type)	REE, Fe, Nb	Langshan-Bayan Obo

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
K	49	14	Sanheming, Inner Mongolia	Banded iron formation (BIF, Algoma Fe)	Fe	Yinshan
K	49	15	Donghuofuang, Inner Mongolia	Alkaline complex-hosted Au	Au	Wulashan-Zhangbei
K	49	16	Houshihua, Inner Mongolia	Granitoid-related Au vein	Au	Wulashan-Zhangbei
K	49	17	Jiashengpan, Inner Mongolia	Sedimentary exhalative Pb-Zn (SEDEX)	Pb Zn	Langshan-Bayan Obo
K	49	18	Hadamengou, Inner Mongolia	Au potassium metasomatite (Kuranakh type)	Au	Wulashan-Zhangbei
K	49	19	Wulashan, Baotou City, Inner Mongolia	Au potassium metasomatite (Kuranakh type)	Au	Wulashan-Zhangbei
K	49	2	Sumochaganaobao, Inner Mongolia	Hydrothermal-sedimentary fluorite	fluorite	Sumochaganaobo
K	49	3	Bieluwutu, Inner Mongolia	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Cu	Bieluwutu
K	49	4	Aobaotu, Inner Mongolia	Hydrothermal-sedimentary fluorite	Fluorite	Sumochaganaobo
K	49	5	Hadamiao, Inner Mongolia	Granitoid-related Au vein	Au	Wulashan-Zhangbei
K	49	6	Tsagaan Suvarga	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Tsagaansuvarga
K	49	7	Bainaimiao, Inner Mongolia	Porphyry Cu-Mo (±Au, Ag)	Cu	Bainaimiao
K	49	8	Horgo uul	Sedimentary celestite	Sr	Govi-Tamsag
K	49	9	Lugingol	REE (±Ta, Nb, Fe) carbonatite	REE	Harmorit-Hanbogd-Lugiingol
K	50	1	Dajing,Inner Mongolia	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag, Sn	Daxinganling
K	50	10	Honghuagou, Inner Mongolia	Granitoid-related Au vein	Au	Yanshan
K	50	11	Xiaotazhigou, Liaoning Province	Granitoid-related Au vein	Au	Yanshan
K	50	12	Anjiayingzhi, Inner Mongolia	Granitoid-related Au vein	Au	Yanshan
K	50	13	Reshui, Ningcheng, Inner Mongolia	Granitoid-related Au vein	Au	Yanshan
K	50	14	Xiaojiayingzi, Liaoning Province	W±Mo±Be skarn	Mo	Yanshan
K	50	15	Xiaokouhuaying, Weichang, Hebei Province	Au-Ag epithermal vein	Ag	Yanshan
K	50	16	Taipinggou, Liaoning Province	Chemical-sedimentary Fe-Mn	Mn	Yanliao-2
K	50	17	Xiaosigou, Pingquan County, Hebei Province	Porphyry Cu-Mo (±Au, Ag)	Cu	Yanshan
K	50	18	Gaositai, Hebei Province	Zoned mafic-ultramafic Cr-PGE	Cr	Damiao
K	50	19	Baizhangzhi, Liaoning Province	Granitoid-related Au vein	Au	Yashan
K	50	2	Anle, Inner Mongolia	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Sn	Daxinganling
K	50	20	Niujuan, Fengning, Hebei Province	Au-Ag epithermal vein	Ag	Yanshan
K	50	21	Damiao, Hebei Province	Mafic-ultramafic related Ti-Fe (V)	Fe, Ti, V	Damiao
K	50	22	Luoguozigou, Hebei Province	Mafic-ultramafic related Ti-Fe (V)	P	Luoguozigou
K	50	23	Xiazhangzhi, Hebei	Au-Ag epithermal vein	Au	Yanshan

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
			Province			
K	50	24	Jiaodingshan, Chengde, Hebei Province	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb	Yanshan
K	50	25	Heishan, Hebei Province	Mafic-ultramafic related Ti-Fe (V)	Ti Fe	Damiao
K	50	26	Yingfang, Fengning, Hebei Province	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag	Yanshan
K	50	27	Yu'erya, Hebei Province	Granitoid-related Au vein	Au	Yanshan
K	50	28	Qinglonghe, Qinglong County, Hebei Province	Clastic-sediment-hosted Sb-Au	Au	Qinglong
K	50	29	Miaogou, Hebei Province	Banded iron formation (BIF, Algoma Fe)	Fe	Qinglong
K	50	3	Huanggan, Inner Mongolia	Sn skarn	Sn	Daxinganling
K	50	30	Zhalanzhangzhi, Hebei Province	Banded iron formation (BIF, Algoma Fe)	Fe	Qinglong
K	50	31	Guantangzhi, Hebei Province	Sedimentary exhalative Pb-Zn (SEDEX)	Pyrite	Yanliao-2
K	50	32	Niuxinshan, Hebei Province	Granitoid-related Au vein	Au	Yanshan
K	50	33	Wanquansi, Chicheng, Hebei Province	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Ag	Yanshan
K	50	34	Jinchangyu, Hebei Province	Au in shear zone and quartz vein	Au	Jidong
K	50	35	Shouwangfen, Hebei Province	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Yanshan
K	50	36	Caijiaying, Hebei Province	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Yanshan
K	50	37	Gaobanhe, Hebei Province	Sedimentary exhalative Pb-Zn (SEDEX)	Pb, Zn	Yanliao-2
K	50	38	Naobaogou, Wulateqianqi, Inner Mongolia	Alkaline complex-hosted Au	Au	Wulashan-Zhangbei
K	50	39	Shuichang, Hebei Province	Banded iron formation (BIF, Algoma Fe)	Fe	Jidong
K	50	4	Aobaoshan,Inner Mongolia	Zn-Pb (Ag, Cu, W) skarn	Pb, Zn	Daxinganling
K	50	40	Qingyanggou, Hebei Province	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag	Yanshan
K	50	41	Fengjiayu, Miyun, Beijing	Banded iron formation (BIF, Algoma Fe)	Fe	Jidong
K	50	42	Mengjiagou, Hebei Province	Banded iron formation (BIF, Algoma Fe)	Fe	Jidong
K	50	43	Donjiagou, Beijing	Porphyry Cu-Mo (±Au, Ag)	Mo	Yanshan
K	50	44	Shuijingtun, Chongli County, Hebei Province	Granitoid-related Au vein	Au	Yanshan
K	50	45	Pangjiapu, Hebei Province	Chemical-sedimentary Fe-Mn	Fe	Yanliao-1
K	50	46	Zhongxinchun, Beijing District	Chemical-sedimentary Fe-Mn	B, Mn	Yanliao-2
K	50	47	Xiaoyingpan, Hebei Province	Alkaline complex-hosted Au	Au	Wulashan-Zhangbei
K	50	48	Dazhuangke, Beijing	Porphyry Mo (±W, Sn, Bi)	Mo	Yanshan
K	50	49	Yantongshan, Hebei Province	Chemical-sedimentary Fe-Mn	Fe	Yanliao-1
K	50	5	Xiaoyingzi, Inner	Zn-Pb (Ag, Cu, W) skarn	Pb,Zn	Daxinganling

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
			Mongolia			
K	50	50	Fanshan, Hebei Province	Magmatic and metasomatic apatite	P	Fanshan
K	50	51	Xinghe, Inner Mongolia	Metamorphic graphite	Graphite	Yanbei
K	50	52	Gongdianzhi (Qian'an), Hebei Province	Banded iron formation (BIF, Algoma Fe)	Fe	Jidong
K	50	53	Dongshiuchang, Tiejin	Chemical-sedimentary Fe-Mn	B, Mn	Yanliao-2
K	50	54	Shirengou, Hebei Province	Banded iron formation (BIF, Algoma Fe)	Fe	Jidong
K	50	55	Guzhigou, Hebei Province	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Ag	Yanshan
K	50	56	Dongping, Hebei Province	Alkaline complex-hosted Au	Au	Wulashan-Zhangbei
K	50	57	Jinjiazhuang, Hebei Province	Granitoid-related Au vein	Au	Yanshan
K	50	58	Shachang, Miyun, Beijing	Banded iron formation (BIF, Algoma Fe)	Fe	Jidong
K	50	59	Hougou, Chicheng, Hebei Province	Alkaline complex-hosted Au	Au	Wulashan-Zhangbei
K	50	6	Dongzi,Inner Mongolia	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn	Daxinganling
K	50	7	Guandi, Inner Mongolia	Au-Ag epithermal vein	Ag	Daxinganling
K	50	8	Zhuanshanzi, Inner Mongolia	Granitoid-related Au vein	Au	Yanshan
K	50	9	Shaoguoyingzhi, Jianping County, Liaoning Province	Granitoid-related Au vein	Au	Yanshan
K	51	1	Fangniugou, Jilin Province	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Zn	Fangniugou
K	51	10	Hongtoushan, Liaoning Province	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu, Zn	Liaoji
K	51	11	Zihe, Liaoning Province	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Fanhe
K	51	12	Wangjiadagou, Liaoning Province	Granitoid-related Au vein	Au	Liaoji
K	51	13	Zhengcha, Jilin Province	Zn-Pb (Ag, Cu, W) skarn	Pb, Zn	Liaoji
K	51	14	Huanren, Liaonig Province	Zn-Pb (Ag, Cu, W) skarn	Pb, Zn	Jiliaolu
K	51	15	Yangmugan, Liaoning Province	Sedimentary-metamorphic borate	B	Jiliaojiao
K	51	16	Waitoushan, Liaoning Province	Banded iron formation (BIF, Algoma Fe)	Fe	Liaoji
K	51	17	Nanfen, Liaoning Province	Banded iron formation (BIF, Algoma Fe)	Fe	Liaoji
K	51	18	Rongguan, Liaoning Province	Evaporate sedimentary gypsum	Gypsum	Hunjuang-Taizihe
K	51	19	Zhuanmiao, Liaoning Province	Sedimentary-metamorphic borate	B	Jiliaojiao
K	51	2	Sanmen, Jilin Province	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Ag	North Jilin
K	51	20	Beidacheng, Aohan, Inner Mongolia	Au-Ag epithermal vein	Au	Yanshan
K	51	21	Baoguosi, Liaoning	Banded iron formation (BIF, Algoma Fe)	Fe	Liaoxi
K	51	22	Gongchangling, Anshan, Liaoning Province	Banded iron formation (BIF, Algoma Fe)	Fe	Liaoji
K	51	23	Daheishan 1, Aohan,	Granitoid-related Au vein	Au	Yanshan

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
			Inner Mongolia			
K	51	24	Jinchanggouliang, Inner Mongolia	Granitoid-related Au vein	Au	Yanshan
K	51	25	Qidashan, Anshan, Liaoning Province	Banded iron formation (BIF, Algoma Fe)	Fe	Liaoji
K	51	26	Erdaogou, Liaoning Province	Au-Ag epithermal vein	Au	Yanshan
K	51	27	Yingtaoyuan, Anshan, Liaoning Province	Banded iron formation (BIF, Algoma Fe)	Fe	Liaoji
K	51	28	Zhangjiagou, Liaoning Province	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Pyrrhotite	Jiliaojiao
K	51	29	Wengquangou, Liaoning Province	Sedimentary-metamorphic borate	B	Jiliaojiao
K	51	3	Xiangluwanzhi, Jilin Province	Au-Ag epithermal vein	Au	Liaoji
K	51	30	Baiyunshan, Liaoning Province	Au in shear zone and quartz vein	Au	Jiliaojiao
K	51	31	Qingchengzi, Liaoning Province	Korean Pb-Zn massive sulfide	Pb, Zn	Jiliaojiao
K	51	32	Fanjiapuzi, Liaoning Province	Talc (magnesite) replacement	Talc	Jiliaojiao
K	51	33	Xiafangshen, Liaoning Province	Sedimentary-metamorphic magnesite	Magnesite	Jiliaojiao
K	51	34	Wulong, Liaoning Province	Granitoid-related Au vein	Au	Jiliaolu
K	51	35	Sidaogou, Liaoning Province	Granitoid-related Au vein	Au	Jiliaolu
K	51	36	Houxianyu, Liaoning Province	Sedimentary-metamorphic borate	B	Jiliaojiao
K	51	37	Xiaoshengshuisi, Liaoning Province	Sedimentary-metamorphic magnesite	Magnesite	Jiliaojiao
K	51	38	Paishanlou, Liaoning Province	Au in shear zone and quartz vein	Au	Liaoxi
K	51	39	Xiuyuan 1, Liaoning Province	Granitoid-related Au vein	Au	Jiliaolu
K	51	4	Nanlongwangmiao, Liaoning Province	Au in shear zone and quartz vein	Au	Liaoji
K	51	40	Xiuyuan 2, Liaoning Province	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Jiliaolu
K	51	41	Lanjiagou, Liaoning Province	Porphyry Mo (±W, Sn, Bi)	Mo	Yanshan
K	51	42	Chaoyang, Liaoning Province	Carbonate-hosted asbestos	Asbestos	Yanliao-2
K	51	43	Maoling, Liaoning Province	Au in shear zone and quartz vein	Au	Jiliaojiao
K	51	44	Liutun, Liaoning Province	Granitoid-related Au vein	Au	Yanshan
K	51	45	Wafangzi, Liaoning Province	Chemical-sedimentary Fe-Mn	Mn	Yanliao-2
K	51	46	Yangjiazhangzi, Liaoning Province	W±Mo±Be skarn	Mo	Yanshan
K	51	47	Gadagou, Liaoning Province	Granitoid-related Au vein	Au	Yanshan

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
K	51	48	Bajiazi, Liaoning Province	Zn-Pb (Ag, Cu, W) skarn	Pb, Zn	Yanshan
K	51	5	Dahuanggou, Jilin Province	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Pyrite	Liaoji
K	51	6	Chaihe, Liaoning Province	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Fanhe
K	51	7	Xianjinchang, Qingyuan, Liaoning Province	Granitoid-related Au vein	Au	Liaoji
K	51	8	Chibaisong, Jilin Province	Mafic-ultramafic related Cu-Ni-PGE	Ni	Jiliaojiao
K	51	9	Ermi, Jilin Province	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu	Jiliaolu
K	52	1	Huangsongdianzhi, Hunchun City, Jilin Province	Placer and paleoplacer Au	Au	North Jilin
K	52	10	Naozhi, Jilin Province	Porphyry Au	Au	North Jilin
K	52	11	Tianbaoshan, Jilin Province	Zn-Pb (Ag, Cu, W) skarn	Cu, Pb, Zn	North Jilin
K	52	12	Wufeng, Jilin Province	Au-Ag epithermal vein	Au	North Jilin
K	52	13	Changren, Jilin Province	Mafic-ultramafic related Cu-Ni-PGE	Cu	Hongqiling
K	52	14	Jinjia, Rongji County, Jilin Province	Fluospar vein	Fluorite	North Jiling
K	52	15	Piaohechuan, Jilin Province	Mafic-ultramafic related Cu-Ni-PGE	Cu	Hongqiling
K	52	16	Erdaodianzhi, Jilin Province	Granitoid-related Au vein	Au	North Jilin
K	52	17	Haigou, Antu County, Jilin Province	Granitoid-related Au vein	Au	North Jilin
K	52	18	Daheishan 2, Jilin Province	Porphyry Mo (±W, Sn, Bi)	Mo	North Jilin
K	52	19	Laoniugou, Jilin Province	Banded iron formation (BIF, Algoma Fe)	Fe	Liaoji
K	52	2	Jinkuangtun, Antu County, Jilin Province	Au-Ag epithermal vein	Au	North Jilin
K	52	20	Jiapigou, Jilin Province	Au in shear zone and quartz vein	Au	Liaoji
K	52	21	Guanma, Jilin Province	Volcanic-hosted Au-base-metal metasomatite	Au	Hongqiling
K	52	22	Nanlishugou, Panshi County, Jilin Province	Fluospar vein	Fluorite	North Jilin
K	52	23	Sandaocha, Jilin Province	Au in shear zone and quartz vein	Au	Liaoji
K	52	24	Hongqiling, Jilin Province	Mafic-ultramafic related Cu-Ni-PGE	Cu, Ni	Hongqiling
K	52	25	Banshigou, Jilin Province	Banded iron formation (BIF, Algoma Fe)	Fe	Liaoji
K	52	26	Liujiapuzhi (Liu Daojiang), Jilin Province	Volcanic-hosted Au-base-metal metasomatite	Au	Jiliaolu
K	52	27	Erdaoyangca, Jilin Province	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu	Jiliaolu
K	52	28	Linjiang, Jilin Province	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Mo	Liaoji
K	52	29	Dalizi, Province	Banded iron formation (BIF, Superior Fe)	Fe	Jiliaojiao
K	52	3	Xiaoxinancha, Jilin Province	Porphyry Cu (±Au)	Cu, Au	North Jilin
K	52	30	Huanggoushan, Jilin Province	Korean Pb-Zn massive sulfide	Pb, Zn	Jiliaojiao
K	52	31	Nancha, Jilin Province	Au in shear zone and quartz vein	Au	Jiliaojiao
K	52	32	Qidaogou, Jilin Province	Banded iron formation (BIF, Superior Fe)	Fe	Jiliaojiao
K	52	33	Guojialing, Jilin Province	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted	Pb, Zn	Jiliaolu

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
				metasomatite		
K	52	4	Tadong, Jilin Province	Volcanogenic-sedimentary Fe	Fe	Tadong
K	52	5	Hongtaiping, Jilin Province	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Pb Zn	Yanbian
K	52	6	Ciweigou, Jilin Province	Au-Ag epithermal vein	Au, Ag	North Jilin
K	52	7	Nongping, Hunchun City, Jilin Province	Granitoid-related Au vein	Au	North Jilin
K	52	8	Slavyanovskoe	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	As	Laoeling-Grodekov
K	52	9	Sandaogang, Jilin Province	Mafic-ultramafic related Cu-Ni-PGE	Cu	Hongqiling
K	53	1	Fasolnoe	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn	Sergeevka-Taukha
K	53	10	Krinichnoe	Granitoid-related Au vein	Au	Sergeevka-Taukha
K	53	11	Askold	Granitoid-related Au vein	Au	Sergeevka-Taukha
K	53	2	Shcherbakovskoe	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Sergeevka-Taukha
K	53	3	Nizhnee	Cassiterite-sulfide-silicate vein and stockwork	Sn, Pb, Zn	Luzhkinsky
K	53	4	Soyuz	Au-Ag epithermal vein	Ag, Au	Sergeevka-Taukha
K	53	5	Skalistoe	Porphyry Mo (±W, Sn, Bi)	Mo	Samarka
K	53	6	Benevskoe	W±Mo±Be skarn	W	Benev
K	53	7	Porozhistoe	Granitoid-related Au vein	Au	Sergeevka-Taukha
K	53	8	Balykovskoe	Granitoid-related Au vein	Au	Sergeevka-Taukha
K	53	9	Progress	Granitoid-related Au vein	Au	Sergeevka-Taukha
K	54	1	Kitami	Au-Ag epithermal vein	Cu, Pb, Zn	Northeast Hokkaido
K	54	10	Oe	Mn vein	Mn	Northeast Japan
K	54	11	Inakuraishi	Mn vein	Mn	Northeast Japan
K	54	12	Toyoha	Au-Ag epithermal vein	Zn, Pb, Ag	Northeast Japan
K	54	13	Todoroki	Au-Ag epithermal vein	Au, Ag	Northeast Japan
K	54	14	Kunitomi	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Cu, Pb, Ag	Northeast Japan
K	54	15	Kucchan	Chemical-sedimentary Fe-Mn	Fe	Northeast Japan
K	54	16	Chitose	Au-Ag epithermal vein	Au, Ag	Northeast Japan
K	54	17	Minamishiraoi	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Ba	Northeast Japan
K	54	18	Tokushunbetsu	Limonite from spring water	Fe	Northeast Japan
K	54	19	Suttsu	Au-Ag epithermal vein	Zn, Pb	Northeast Japan
K	54	2	Tokoro	Clastic sediment-hosted Hg±Sb	Hg	Northeast Hokkaido
K	54	20	Horobetsu	Sulfur-sulfide (S, FeS2)	S	Northeast Japan
K	54	21	Shizukari	Au-Ag epithermal vein	Au	Northeast Japan
K	54	22	Pirika	Volcanogenic-sedimentary Mn	Mn	Northeast Japan
K	54	23	Shojingawa	Sulfur-sulfide (S, FeS2)	S	Northeast Japan
K	54	24	Yakumo	Mn vein	Mn, Zn, Pb	Northeast Japan
K	54	25	Kinjo	Volcanogenic-sedimentary Mn	Mn	Northeast Japan
K	54	26	Okushiri	Sulfur-sulfide (S, FeS2)	S	Northeast Japan
K	54	27	Jokoku	Mn vein	Mn	Northeast Japan
K	54	28	Imai-Ishizaki	Mn vein	Mn	Northeast Japan
K	54	29	Abeshiro	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu	Northeast Japan
K	54	3	Itomuka	Volcanic-hosted Hg	Hg	Northeast Hokkaido
K	54	30	Kamikita	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu, Zn	Northeast Japan
K	54	31	Kunohe district	Volcanogenic-sedimentary Mn	Mn	North Kitakami

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
K	54	32	Nodatamagawa	Volcanogenic-sedimentary Mn	Mn	North Kitakami
K	54	33	Funauchi	Au-Ag epithermal vein	Zn, Pb, Cu	Northeast Japan
K	54	34	Furutobe	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu, Zn, Pb, Ag	Northeast Japan
K	54	35	Ainai	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Cu, Pb, Ag	Northeast Japan
K	54	36	Kosaka	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu	Northeast Japan
K	54	37	Oppu	Au-Ag epithermal vein	Zn, Pb, Cu	Northeast Japan
K	54	38	Fujikura	Volcanogenic-sedimentary Mn	Mn	North Kitakami
K	54	39	Hanaoka-Fukasawa	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu, Ag, Au	Northeast Japan
K	54	4	Nitto	Podiform chromite	Cr	Kamuikotan
K	54	40	Shakanai	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Cu, Pb, Ag, Au	Northeast Japan
K	54	41	Hanaoka	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Cu, Pb, Ag, Au	Northeast Japan
K	54	42	Daira	Au-Ag epithermal vein	Zn, Pb, Cu	Northeast Japan
K	54	43	Hanaoka-Matsumine	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Cu, Pb, Ag, Au	Northeast Japan
K	54	44	Hanawa	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Cu, Pb, Ag, Au	Northeast Japan
K	54	45	Hassei	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Ag	Northeast Japan
K	54	46	Osarizawa	Au-Ag epithermal vein	Cu, Pb, Zn, Au, Ag	Northeast Japan
K	54	47	Tatemata	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu, Zn, Pb	Northeast Japan
K	54	5	Ganbi	Podiform chromite	Cr	Kamuikotan
K	54	6	Hatta	Podiform chromite	Cr	Kamuikotan
K	54	7	Teine	Au-Ag epithermal vein	Au, Ag, Cu	Northeast Japan
K	54	8	Yoichi	Au-Ag epithermal vein	Zn, Cu, Pb	Northeast Japan
K	54	9	Otarumatsukura	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Ba	Northeast Japan
L	45	1	Sagsai	W-Mo-Be greisen, stockwork, and quartz vein	W	Mongol Altai
L	45	2	Kelumute, Xinjiang	REE-Li pegmatite	Li, Be, Nb, Ta	Altay
L	45	3	Ayoubulake, Xingjiang	Muscovite pegmatite	Muscovite	Altay
L	45	4	Keketuohai, Xinjiang	REE-Li pegmatite	Be, Ta	Kelatongke
L	45	5	Kalatongke, Xinjiang	Mafic-ultramafic related Cu-Ni-PGE	Cu, Ni	Kelatongke
L	46	1	Uet Ondor	Mafic-ultramafic related Ti-Fe (V)	Fe	Zavhanmandal-Jargalant
L	46	10	Oyut tolgoi 1	Cassiterite-sulfide-silicate vein and stockwork	Sn, Cu	Deluun-Sagsai
L	46	11	Boorch	Ag-Pb epithermal vein	Pb, Ag	Kurai-Tolbo Nuur
L	46	12	Del Tsahir	Au in shear zone and quartz vein	Cu	Lake
L	46	13	Bor uul	Au in shear zone and quartz vein	Cu	Lake
L	46	14	Khardav	Sn-W greisen, stockwork, and quartz vein	W, Sn	Altay
L	46	15	Khargait 1	W-Mo-Be greisen, stockwork, and quartz vein	Be	Mongolian-Altai
L	46	16	Shoroot	REE-Li pegmatite	Be	Altay
L	46	17	Angirt	REE-Li pegmatite	Be, Ta, Nb	Altai
L	46	18	Bulgat	REE-Li pegmatite	Be	Altay
L	46	19	Khurdet	REE-Li pegmatite	Nb, REE	Altay
L	46	2	Khalzan uul	Podiform chromite	Cr	Zavhan
L	46	20	North Khuld	REE-Li pegmatite	Be	Altay

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
L	46	21	Bodonch	Muscovite pegmatite	Muscovite	Tseel
L	46	22	Uench	REE-Li pegmatite	Be	Altay
L	46	23	Buluket, Xinjiang	Muscovite pegmatite	Muscovite	Altay
L	46	24	Alatasi, Xinjiang	Granitoid-related Au vein	Au	Kelatongke
L	46	25	Khaltar-uul I	Au in shear zone and quartz vein	Au	Baruunkhuurai
L	46	26	Khaltar Uul II	Au in shear zone and quartz vein	Au	Baruunkhuurai
L	46	27	Ereen Uul	Au in shear zone and quartz vein	Au	Baruunkhuurai
L	46	28	Khuld	REE-Li pegmatite	Be	Altay
L	46	3	Olgoi Tsagaan	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu	Unassigned
L	46	4	Alag Uul	Serpentinite-hosted asbestos	Asbestos	Lake
L	46	5	Burged	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Cu, Zn, Pb	Deluun-Sagsai
L	46	6	Tsetserlegiin Nuruu	Au in shear zone and quartz vein	Cu	Lake
L	46	7	Aketishi, Aketishikan, Xijiang	Au-Ag epithermal vein	Au	Hovdgol
L	46	8	Jadat khar	Sn-W greisen, stockwork, and quartz vein	Sn	Mongol Altai
L	46	9	Yargait	Cassiterite-sulfide-silicate vein and stockwork	Sn	Deluun-Sagsai
L	47	1	Tomortolgoi	Banded iron formation (BIF, Superior Fe)	Fe	Hangai
L	47	10	Saran uul	Porphyry Cu (±Au)	Cu	Central Mongolia
L	47	11	Baidragiin gol	Banded iron formation (BIF, Superior Fe)	Fe	Baydrag
L	47	12	Asgat uul	Fe skarn	Fe	Gentral Mongolian
L	47	13	Buutsagaan	Au skarn	Cu, Au, Fe, Ag	Central Mongolian
L	47	14	Ondor Tsoohor uul	Volcanogenic-sedimentary Mn	Mn	Lake
L	47	15	Bayangol 2	Sedimentary phosphate	P	Tsagaanolom
L	47	16	Ulaan Argalant	Fe skarn	Fe	Central Mongolia
L	47	17	Bideriingol	Podiform chromite	Cr	Lake
L	47	18	Gegeenii ovoo uul	Podiform chromite	Cr	Ikh Bogd
L	47	19	Biderin gol	Sedimentary-metamorphic magnesite	Magnesite	Unassigned
L	47	2	Zoogiin	Volcanogenic-sedimentary Fe	Fe	Hangai
L	47	20	Nergui	Cyprus Cu-Zn massive sulfide	Cu	Lake
L	47	21	Nogoon tolgoi	Podiform chromite	Cr	Lake
L	47	22	Ikh nart	Serpentinite-hosted asbestos	Asbestos	Unassigned
L	47	23	Naran Davaa	Cyprus Cu-Zn massive sulfide	Cu	Lake
L	47	24	Taishir	Serpentinite-hosted asbestos	Asbestos	Lake
L	47	25	Tsakhir khudag	Cu (±Fe, Au, Ag, Mo) skarn	Cu-Au	Central Mongolia
L	47	26	Bayangovi district	Au in shear zone and quartz vein	Au	Bayangovi
L	47	27	Tsagaan gol	Talc (magnesite) replacement	Talc	Ikh Bogd
L	47	28	Sharturuutiin gol	Volcanogenic-sedimentary Mn	Mn	Govi-Altai
L	47	29	Tahilgat uul	Volcanogenic-sedimentary Mn	Mn	Govi-Altai
L	47	3	Khangai	Volcanogenic-sedimentary Fe	Fe	Hangai
L	47	30	Bayantsagaan 1	Besshi Cu-Zn-Ag massive sulfide	Cu	Bayanleg
L	47	31	Uhiin ovoo	Volcanogenic-sedimentary Fe	Fe	Govi-Altai
L	47	32	Bayan Undur	Bedded barite	Ba	Unassigned
L	47	33	Olgiibulag	Volcanogenic-sedimentary Mn	Mn	Edrengiin
L	47	34	Khadat Gunii khudag	Au in shear zone and quartz vein	Au	Edren-Zoolon
L	47	4	Bogdyn Arshaan	Fe skarn	Fe	Central Mongolia
L	47	5	Monhot	Volcanogenic-sedimentary Fe	Fe	Hangai
L	47	6	Khokhbulgiin khondii	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Au	Bayanhongor
L	47	7	Zuun-Arts	Sedimentary phosphate	P	Tsagaanolom
L	47	8	Baruun-Arts	Sedimentary phosphate	P	Tsagaanolom
L	47	9	Tsagaantsakhir Uul	Granitoid-related Au vein	Au	Bayanhongor

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
L	48	1	Ulaanburd	Cassiterite-sulfide-silicate vein and stockwork	Sn	Eastern Mongolian-Preargunskiy
L	48	10	Oortsog	Mafic-ultramafic related Cu-Ni-PGE	Cu, Ni	Bayangol
L	48	11	Suul-Undur	Fluospar vein	Fluorite	East Mongolian-Priargunskiy
L	48	12	Tamirgol	Volcanogenic-sedimentary Fe	Fe	Tamirgol-Yoroogol
L	48	13	Bayan Uul 2	Porphyry Cu-Mo (±Au, Ag)	Cu	Delgerhaan
L	48	14	Baga Gazar	Sn-W greisen, stockwork, and quartz vein	Sn	Central Hentii
L	48	15	Sharga Ovoo	Granitoid-related Au vein	Au	Battsengel-Uyanga-Erdenedalai
L	48	16	Bilkh-Uul	Fluospar vein	CaF2	East Mongolian-Priargunskiy
L	48	17	Zulegt	Metamorphic graphite	Graphite	Tsenhermandal-Modot
L	48	18	Kharmagtai 1	Serpentinite-hosted asbestos	Asbestos	Unassigned
L	48	19	Tumurtei	Fe-Zn skarn	Zn, Fe, Mo	Govi-Ugtaal-Baruun-Urt
L	48	2	Janchivlan (Buural khangai and Urt Gozgor)	Ta-Nb-REE alkaline metasomatite	Ta	Central Hentii
L	48	20	Modon-Us	Evaporate sedimentary gypsum	Gypsum	Govi-Tamsag
L	48	21	Khongoot	Porphyry Cu (±Au)	Cu	Harmagtai-Hongoot-Oyut
L	48	22	Taragt	Evaporate sedimentary gypsum	Gypsum	Govi-Tamsag
L	48	23	Shiree Uul (Taragt-2)	Evaporate sedimentary gypsum	Gypsum	Govi-Tamsag
L	48	24	Dugshih hudag	Sedimentary celestite	Sr	Govi-Tamsag
L	48	25	Kharmagtai 2	Porphyry Cu-Mo (±Au, Ag)	Cu	Harmagtai-Hongoot-Oyut
L	48	26	Dorvon Dert	Be tuff	Be	Mushgaihudag-Olgiihiid
L	48	27	Olon Ovoot	Au in shear zone and quartz vein	Au	Ulziit
L	48	28	Bayan Khoshuu	Barite vein	Ba	Unassigned
L	48	29	Mushgai hudag	REE (±Ta, Nb, Fe) carbonatite	REE	Mushgaihudag-Olgiihiid
L	48	3	Bayan Ovoo	Sn-W greisen, stockwork, and quartz vein	Sn, W	Central Hentii
L	48	30	Khorimt khudag	Au in shear zone and quartz vein	Au	Ulziit
L	48	31	Teg uul	Be tuff	Be	Mushgaihudag-Olgiihiid
L	48	32	Khotgor	REE (±Ta, Nb, Fe) carbonatite	REE	Mushgaihudag-Olgiihiid
L	48	4	Avdrant	Peralkaline granitoid-related Nb-Zr-REE	Ta	Central Hentii
L	48	5	Chuluut tsagaan del	Fluospar vein	CaF2	East Mongolian-Priargunskiy
L	48	6	Urt Gozgor	Ta-Nb-REE alkaline metasomatite	Li, Ta,	Central Hentii
L	48	7	Ikh Khairkhan	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Ikh-Hairhan
L	48	8	Ongon Khairhan	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Ikh Hairhan
L	48	9	Ongon Khairkhan	Ta-Li ongonite	Ta, Li	Ikh Hairhan
L	49	1	Aryn nuur	Porphyry Mo (±W, Sn, Bi)	Mo	Govi-Ugtaal-Baruun-Urt
L	49	10	Tumurtiin-Ovoo	Fe-Zn skarn	Zn, Fe	Govi-Ugtaal-Baruun-Urt
L	49	11	Mongon Ondor	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag	East Mongolian-Priargunskiy
L	49	12	Salaa	W-Mo-Be greisen, stockwork, and quartz vein	W	Central Mongolia
L	49	13	Tsagaan chuluut	Porphyry Mo (±W, Sn, Bi)	Mo	Eastern Mongolian-Preargunskiy
L	49	14	Zaan shiree	Cassiterite-sulfide-silicate vein and stockwork	Sn	Eastern Mongolian-Preargunskiy
L	49	15	Bees	W±Mo±Be skarn	W	Central Hentii
L	49	16	Modot	Sn-W greisen, stockwork, and quartz vein	Sn, W	Central Hentii
L	49	17	Khujkhan	Sn-W greisen, stockwork, and quartz vein	Sn, W	Central Hentii
L	49	18	Bayan Mod	Sn-W greisen, stockwork, and quartz vein	Sn, W	Central Hentii
L	49	19	Baruuntsogt	Ta-Nb-REE alkaline metasomatite	Ta	East Mongolian-Priargunskiy
L	49	2	Tumen Tsogt	W±Mo±Be skarn	W	Eastern Mongolian-Preargunskiy
L	49	20	Tugalgatain nuruu	Sn-W greisen, stockwork, and quartz vein	Zn, Pb, Sn, Ag	East Mongolian-Priargunskiy
L	49	21	Galshar	Fluospar vein	CaF2	East Mongolian-Priargunskiy
L	49	22	Itgel Naidvar	Metamorphic graphite	Graphite	Tsenhermandal-Modot
L	49	23	Khajuu Ulaan	Fluospar vein	CaF2	East Mongolian-Priargunskiy
L	49	24	Nars	Sediment-hosted U	U	Govi-Tamsag

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
L	49	25	Bor-Undur	Fluorspar vein	CaF2	East Mongolian-Priargunskiy
L	49	26	Khokh Del Uul	Ta-Nb-REE alkaline metasomatite	Ta, Nb	Eastern Mongolian-Preargunskiy
L	49	27	Khar Airag	Fluospar vein	CaF2	East Mongolian-Priargunskiy
L	49	28	Ikh Nartyn Khiid	Fluospar vein	CaF2	East Mongolian-Priargunskiy
L	49	29	Bujgar	Fluospar vein	CaF2	East Mongolian-Priargunskiy
L	49	3	Tumentsogt	W-Mo-Be greisen, stockwork, and quartz vein	W	Eastern Mongolian-Preargunskiy
L	49	30	Ikh Zelend	W-Mo-Be greisen, stockwork, and quartz vein	W	Central Hentii
L	49	31	Haraat	Sediment-hosted U	U	Govi-Tamsag
L	49	32	Urgen 1	Volcanic-hosted zeolite	Zeolite	Govi-Tamsag
L	49	33	Urgen 2	Carbonate-hosted fluorspar	Fluorite	Unassigned
L	49	34	Oortsog ovoo	Sn skarn	Sn, Pb, Zn	Govi-Ugtaal-Baruun-Urt
L	49	35	Tushleg	Volcanic-hosted zeolite	Zeolite	Govi-Tamsag
L	49	36	Tsagaantsav	Volcanic-hosted zeolite	Zeolite	Govi-Tamsag
L	49	37	Shine	Granitoid-related Au vein	Au-Ag-Cu	Harmagtai-Hongoot-Oyut
L	49	38	Oyuut Ulaan ovoo	Porphyry Cu (±Au)	Cu	Harmagtai-Hongoot-Oyut
L	49	39	Unegt Uul	Evaporate sedimentary gypsum	Gypsum	Govi-Tamsag
L	49	4	Anas	Fluospar vein	Fluorite	East Mongolian-Priargunskiy
L	49	40	Nariin khudag	Porphyry Cu (±Au)	Cu	Harmagtai-Hongoot-Oyut
L	49	5	Berkh 1	Fluospar vein	Fluorite	East Mongolian-Priargunskiy
L	49	6	Khol khudag	Fe-Zn skarn	Zn, Fe, Mo	Govi-Ugtaal-Baruun-Urt
L	49	7	Ondortsagan	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Eastern Mongolian-Preargunskiy
L	49	8	Omnodelger	Sn-W greisen, stockwork, and quartz vein	Sn	Central Khentii
L	49	9	Mungon-Ondur	Sn-W greisen, stockwork, and quartz vein	Zn, Pb, Sn, Ag	East Mongolian-Priargunskiy
L	50	1	Caobulen, Inner Mongolia	Zn-Pb (Ag, Cu, W) skarn	Pb Zn	Daxinganling
L	50	2	Modon	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Ag	Nuhetdavaa
L	50	3	Aonaodaba,Inner Mongolia	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag, Sn	Daxinganling
L	50	4	Haobugao,Inner Mongolia	Sn skarn	Sn	Daxinganling
L	50	5	Yugzer	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Nuhetdavaa
L	50	6	Baiyinnuoer, Inner Mongolia	Zn-Pb (Ag, Cu, W) skarn	Pb, Zn	Daxinganling
L	50	7	Hegenshan 3756, Inner Mongolia	Podiform chromite	Cr	Hegenshan
L	50	8	Hegenshan 620, Inner Mongolia	Podiform chromite	Cr	Hegenshan
L	50	9	Maodeng, Inner Mongolia	Cassiterite-sulfide-silicate vein and stockwork	Cu	Daxinganling
L	51	1	Lianhuashan,Inner Mongolia	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu, Ag	Daxinganling
L	51	2	Meng'entaolegai, Inner Mongolia	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag,Pb,Zn	Daxinganling
L	51	3	Baerzhe, Inner Mongolia	Peralkaline granitoid-related Nb-Zr-REE	Nb, Ta, Be	Daxinganling
L	52	1	Yunshan, Luobei County, Heilongjiang Province	Metamorphic graphite	Graphite	Jixi
L	52	10	Guangyi, Muling, HeilongJiang Province	Magmatic graphite	Graphite	Jixi
L	52	11	Liumao, Heilongjiang Province	Metamorphic graphite	Graphite	Jixi
L	52	12	Sandaogou, Heilongjiang Province	Metamorphic sillimanite	Sillimanite	Jixi
L	52	13	Komissarovskoe (Vorob'eva plad)	Au-Ag epithermal vein	Au, Ag	Laoeling-Grodekov

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
L	52	14	Mingli, Heilongjiang Province	Zn-Pb (Ag, Cu, W) skarn	Zn	Bindong
L	52	15	Zolotoi Stream (Sofie-Alekseevskoe)	Au in shear zone and quartz vein	Au	Laoeling-Grodekov
L	52	16	Baikal	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Laoeling-Grodekov
L	52	17	Wudaoling, Heilongjiang Province	W±Mo±Be skarn	Mo	Bindong
L	52	18	Niutoushan, Jiutai County, Jilin Province	Fluospar vein	Fluorite	North Jilin
L	52	19	Gongpengzi, Heilongjiang Province	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Bindong
L	52	2	Dongfengshan, Heilongjiang Province	Homestake Au	Au	Jixi
L	52	3	Daxilin, Heilongjiang Province	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Fe	Xilin
L	52	4	Shuangyashan, Heilongjiang Province	Banded iron formation (BIF, Algoma Fe)	Fe	Jixi
L	52	5	Xiaoxilin, Heilongjiang Province	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Pb, Zn	Xilin
L	52	6	Yangbishan, Heilongiang Province	Magmatic graphite	Graphite	Jixi
L	52	7	Laozhuoshan, Heilongjiang Province	Granitoid-related Au vein	Au	Laozhuoshan
L	52	8	Ergu-Xishan, Heilongjian Province	Zn-Pb (Ag, Cu, W) skarn	Ag, Pb, Zn	Bindong
L	52	9	Donghai, Jixi City, Heilongjiang Province	Metamorphic graphite	Graphite	Jixi
L	53	1	Khvoshchovoe	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Samarka
L	53	10	Lermontovsky	W±Mo±Be skarn	W	Samarka
L	53	11	Vostok-2	W±Mo±Be skarn	W	Samarka
L	53	12	Zvezdnoe	Porphyry Sn	Sn	Luzhkinsky
L	53	13	Tigrinoe	Sn-W greisen, stockwork, and quartz vein	Sn, W, Ta, Nb, In	Luzhkinsky
L	53	14	Zimnee	Sn-W greisen, stockwork, and quartz vein	Sn, Pb, Zn	Luzhkinsky
L	53	15	Tayozhnoe 1	Au-Ag epithermal vein	Ag	Kema
L	53	16	Dalnetayozhnoe	Sn-W greisen, stockwork, and quartz vein	Sn, Pb, Zn	Luzhkinsky
L	53	17	Zabytoe	W-Mo-Be greisen, stockwork, and quartz vein	W, Sn, Bi	Luzhkinsky
L	53	18	Malinovskoe	Porphyry Cu (±Au)	Cu	Luzhkinsky
L	53	19	Plastun	Porphyry Cu (±Au)	Cu	Sergeevka-Taukha
L	53	2	Kafen	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Samarka
L	53	20	Ariadnoe	Mafic-ultramafic related Ti-Fe (V)	Ti	Ariadny
L	53	21	Skrytoe	W±Mo±Be skarn	W	Samarka
L	53	22	Yuzhnoe	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn, Ag	Luzhkinsky
L	53	23	Ussuri	Banded iron formation (BIF, Superior Fe)	Fe	Kabarga
L	53	24	Nikolaevskoe	Zn-Pb (Ag, Cu, W) skarn	Pb, Zn	Sergeevka-Taukha
L	53	25	Smirnovskoe	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn, Sn	Luzhkinsky
L	53	26	Krasnogorskoye 2	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn	Sergeevka-Taukha
L	53	27	Lidovskoe	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Sergeevka-Taukha
L	53	28	Dalnegorsk	Boron (datolite) skarn	B	Sergeevka-Taukha
L	53	29	Partizanskoe (Soviet 2,	Zn-Pb (Ag, Cu, W) skarn	Pb, Zn	Sergeevka-Taukha

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
			Svetliy Otvod)			
L	53	3	Katenskoe	Zoned mafic-ultramafic Cr-PGE	Ti	Ariadny
L	53	30	Zarechnoe	Porphyry Cu (±Au)	Cu	Luzhkinsky
L	53	31	Khrustalnoe	Cassiterite-sulfide-silicate vein and stockwork	Sn	Luzhkinsky
L	53	32	Vysokogorskoe	Cassiterite-sulfide-silicate vein and stockwork	Sn	Luzhkinsky
L	53	33	Arsenyevsky	Sn-W greisen, stockwork, and quartz vein	Sn	Luzhkinsky
L	53	34	Koksharovskoe	Mafic-ultramafic related Ti-Fe (V)	Ti	Ariadny
L	53	35	Lazurnoe	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Luzhkinsky
L	53	36	Chernyshevskoe	Korean Pb-Zn massive sulfide	Zn, Pb	Voznesenka
L	53	37	Voznesenka-I	Korean Pb-Zn massive sulfide	Zn	Voznesenka
L	53	38	Yaroslavskoe	Sn-W greisen, stockwork, and quartz vein	Sn	Yaroslavka
L	53	39	Voznesenka-II	Fluorite greisen	Fluorite	Yaroslavka
L	53	4	Salyut	Au-Ag epithermal vein	Au, Ag	Kema
L	53	5	Glinyanoe	Au-Ag epithermal vein	Au, Ag	Kema
L	53	6	Malakhitovoe	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Samarka
L	53	7	Verkhnezolotoe	Porphyry Cu (±Au)	Cu, Sn	Kema?
L	53	8	Nesterovskoe	Porphyry Cu (±Au)	Cu	Kema
L	53	9	Yantarnoe	Porphyry Sn	Sn	Luzhkinsky
L	54	1	Yagodnoe	Au-Ag epithermal vein	Au, Ag	Kema
L	54	2	Burmatovskoe	Au-Ag epithermal vein	Au, Ag	Kema
L	54	3	Sukhoe	Au-Ag epithermal vein	Au, Ag	Kema
L	54	4	Motokura	Au-Ag epithermal vein	Pb, Zn, Cu	Northeast Hokkaido
L	54	5	Ryushoden	Hg-Sb-W vein and stockwork	Hg	Northeast Hokkaido
L	54	6	Numanoue	Au-Ag epithermal vein	Ag, Au	Northeast Hokkaido
L	54	7	Sanru	Au-Ag epithermal vein	Au, Ag	Northeast Hokkaido
L	54	8	Konomai	Au-Ag epithermal vein	Au, Ag	Northeast Hokkaido
L	54	9	Shimokawa	Besshi Cu-Zn-Ag massive sulfide	Cu, Zn, Co	Hidaka
M	44	1	Alexandrovskoye 1	W-Mo-Be greisen, stockwork, and quartz vein	W	Kolyvansk
M	44	10	Maslenskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu	Rudny Altai
M	44	11	Korgon	Volcanogenic-sedimentary Fe	Fe	Korgon-Kholzun
M	44	12	Inskoye	Fe skarn	Fe	Korgon-Kholzun
M	44	13	Zacharovskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu	Rudny Altai
M	44	14	Stepnoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Pb, Zn	Rudny Altai
M	44	15	Talovskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu	Rudny Altai
M	44	16	Kolivanskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kolyvansk
M	44	17	Rubtsovskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu, Zn, Pb	Rudny Altai
M	44	18	Cherepanovskoye	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn	Rudny Altai
M	44	19	Mayskoye 2	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Pb, Zn	Rudny Altai
M	44	2	Mulchichinskoye	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Kolyvansk
M	44	20	Korbalihinskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu	Rudny Altai
M	44	21	Tushkanikhinskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Pb, Zn	Rundy Altai
M	44	22	Lazurskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai	Pb, Zn	Rudny Altai

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
				type)		
M	44	23	Semenovskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu	Rudny Altai
M	44	24	Srednee	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Pb, Zn	Rudny Altai
M	44	25	Zarechenskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Au, Pb, Zn, Ag	Rudny Altai
M	44	26	Zmeinogorskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu, Au	Rudny Altai
M	44	27	Beloretskoye	Fe skarn	Fe	Korgon-Kholzun
M	44	28	Beloretsskoye	W±Mo±Be skarn	W, Be	Kolyvansk
M	44	29	Loktevskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Pb, Zn	Rudny Altai
M	44	3	Kazancevskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kolyvansk
M	44	30	Jubileinoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu	Rudny Altai
M	44	31	Yubileinoye 2	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu	Rudny Altai
M	44	32	Kruchkovskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu, Pb, Zn	Rudny Altai
M	44	33	Zolotushinskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Cu, Pb	Rudny Altai
M	44	34	Novo-Zolotushinskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Cu, Pb	Rudny Altai
M	44	4	Chernukhinskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kolyvansk
M	44	5	Verkhne-Sludianskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kolyvansk
M	44	6	Chagyrskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb, Zn	Korgon-Kholzun
M	44	7	Plotbistchenskoye	W-Mo-Be greisen, stockwork, and quartz vein	Mo	Kolyvansk
M	44	8	Chesnokovskoye	Fe skarn	Fe	Korgon-Kholzun
M	44	9	Kharlovskoye	Zoned mafic-ultramafic Cr-PGE	Fe, Ti	Korgon-Kholzun
M	45	1	Karagosh	W-Mo-Be greisen, stockwork, and quartz vein	Mo	Kolyvansk
M	45	10	Ustaurikhinskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kolyvansk
M	45	11	Munguntayga	W-Mo-Be greisen, stockwork, and quartz vein	Mo	Kalgutinsk
M	45	12	Osinovskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kolyvansk
M	45	13	Cheremshanskoye	Carbonate-hosted Hg-Sb	Hg	Sarasinsk
M	45	14	Ilyinskoye	Sedimentary exhalative Pb-Zn (SEDEX)	Pb, Zn	Shirgaita
M	45	15	Ivankinskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kolyvansk
M	45	16	Asgat	Ag-Sb vein	Ag, Sb	Kurai-Tolbo Nuur
M	45	17	Ozernoye 1	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Ag, Sb	Kurai-Tolbo Nuur
M	45	18	Shirgaita	Sedimentary exhalative Pb-Zn (SEDEX)	Pb, Zn	Shirgaita
M	45	19	Krasnogorskoye 1	Silica-carbonate (listvenite) Hg	Hg	Kuraiy
M	45	2	Jaryshol	Fe skarn	Fe	Unassigned
M	45	20	Kyzylchin	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Zn, Pb	Korgon-Kholzunskiy
M	45	21	Chagan-Uzunskoye	Silica-carbonate (listvenite) Hg	Hg	Kurai-Tolbo Nuur
M	45	22	Kazandinskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kolyvansk
M	45	23	Aktashskoye	Carbonate-hosted Hg-Sb	Hg	Kurai-Tolbo Nuur
M	45	24	Chagan-Burgazy	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag, Pb	Kalgutinsk
M	45	25	Ursulskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Pb, Zn	Shirgaita
M	45	26	Rudny Log	Volcanogenic-sedimentary Fe	Fe	Korgon-Kholzun

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
M	45	27	Timofeevskoe	Fe skarn	Fe	Korgon-Kholzun
M	45	28	Kazinikhinskoye	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Zn, Pb, Cu	Korgon-Kholzunskiy
M	45	29	Karagem	Co skarn	Co	Unassigned
M	45	3	Sinyukhinskoye	Au skarn	Au	Martaiginsk
M	45	30	Khuren Khairkhan uul	Bedded barite	Ba	Unassigned
M	45	31	Krasnoyarskoye	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn	Korgon-Kholzunskiy
M	45	32	Toshint Uul	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu	Deluun-Sagsai
M	45	33	Ulaan khus	Clastic sediment-hosted Hg±Sb	Hg	Kurai-Tolbo Nuur
M	45	34	Urzarsaiskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kalgutinsk
M	45	35	Uzuurtolgoi	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb	Uzuurtolgoi
M	45	36	Vladimirovskoye	Co skarn	Co	Unassigned
M	45	37	Akkemskoye	W-Mo-Be greisen, stockwork, and quartz vein	Mo	Kalgutinsk
M	45	38	Malachite	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu	Uzuurtolgoi
M	45	39	Kalgutinskoye 1	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Kalgutinsk
M	45	4	Kulbich	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Unassigned
M	45	40	Kalgutinskoye 2	Volcanogenic-sedimentary Fe	Fe	Korgon-Kholzun
M	45	41	Mushgu	Hg-Sb-W vein and stockwork	W, Sb	Hovdgol
M	45	42	Onhot uul	Sediment-hosted Cu	Cu	Deluun-Sagsai
M	45	43	Akalakhinskoye	Alkaline complex-hosted Au	Li, Ta, Nb, REE	Kalgutinsk
M	45	44	Kara-Alakha	W-Mo-Be greisen, stockwork, and quartz vein	W	Kalgutinsk
M	45	45	Khovd gol	W-Mo-Be greisen, stockwork, and quartz vein	W, Sb	Mongol Altai
M	45	46	Koksinskoye	Volcanogenic-sedimentary Fe	Fe	Korgon-Kholzun
M	45	47	Dungerekh	W-Mo-Be greisen, stockwork, and quartz vein	Mo, W	Mongol Altai
M	45	48	Kok-Kolskoye	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Kalgutinsk
M	45	49	Kholzunskoye	Volcanogenic-sedimentary Fe	Fe	Korgon-Kholzun
M	45	5	Osokinskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kolyvansk
M	45	50	Nominy Am	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu	Deluun-Sagsai
M	45	51	Chindagatuiskoye	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Kalgutinsk
M	45	52	Qibeiling, Xinjiang	Muscovite pegmatite	Muscovite	Altay
M	45	53	Qilinmutaer, Xinjiang	Muscovite pegmatite	Muscovite	Altay
M	45	6	Baliktigkhem	Sn-W greisen, stockwork, and quartz vein	Sn	Kalgutinsk
M	45	7	Sarasinskoye	Carbonate-hosted Hg-Sb	Hg	Sarasinsk
M	45	8	Sary-Gimatei	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Unassigned
M	45	9	Batunkovskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kolyvansk
M	46	1	Proezdnoye	Granitoid-related Au vein	Au	Ondumsk
M	46	10	Karasugskoye	Fe-REE carbonatite	REE, Fe, CaF2, BaSO4	Karasug
M	46	11	Mugurskoye	Banded iron formation (BIF, Superior Fe)	Fe	Mugursk
M	46	12	Eligkhem	Granitoid-related Au vein	Au	Unassigned
M	46	13	Ulatayskoye	Fe-REE carbonatite	Fe, REE	Karasug
M	46	14	Shuden uul	Evaporate halite	Halite	Unassigned
M	46	15	Davst uul	Evaporate halite	Halite	Unassigned
M	46	16	Chergak	Ni-Co arsenide vein	Co, Cu, Ni	Chergak
M	46	17	Actovrak	Serpentinite-hosted asbestos	Chrysotile	Khemchik-Kurtushubinsk
M	46	18	Oyut tolgoi 2	Mafic-ultramafic related Cu-Ni-PGE	Cu	Telmen

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
M	46	19	Pertoyskoye	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn	Unassigned
M	46	2	Tardan	Au skarn	Au	Ondumsk
M	46	20	Tsagdaltyn Davaa	Mafic-ultramafic related Cu-Ni-PGE	Ni	Lake
M	46	21	Tomorchuluut	Banded iron formation (BIF, Superior Fe)	Fe	Khan Hokhii
M	46	22	Tolailyk	Ni-Co arsenide vein	Co, Cu	Chergak
M	46	23	Borts Uul	Volcanogenic Cu-Zn massive sulfide (Urals type)	Cu	Lake
M	46	24	Chazadyrskoye	Silica-carbonate (listvenite) Hg	Hg	Terligkhaisk
M	46	25	Ulaantolgoi	Peralkaline granitoid-related Nb-Zr-REE	Zr, Nb, Ta, REE	
	Khalzanburged					
M	46	26	Bayankhairkhan	Au skarn	Au, Cu, Fe	Gentral Mongolian
M	46	27	Yolochka	Cu (±Fe, Au, Ag, Mo) skarn	Au, Cu, Fe	Hovd
M	46	28	Erdenekhairkhan	Cu (±Fe, Au, Ag, Mo) skarn	Au, Cu, Fe	Central Mongolia
M	46	29	Khagarlyn	Cu (±Fe, Au, Ag, Mo) skarn	Au, Cu	Hovd
M	46	3	Tora-Sairskoye	Clastic sediment-hosted Hg±Sb	Hg	Terligkhaisk
M	46	30	Shartolgoi	Ta-Nb-REE alkaline metasomatite	Ta, Nb, Zr, Y	Khalzanburged
M	46	31	Nukhet	Carbonate-hosted Pb-Zn (Mississippi valley type)	Zn, Pb	Central Mongolia
M	46	32	Namiryn gol	Au-Ag epithermal vein	Cu	Uuregnuur
M	46	33	Gozgor	Volcanogenic Cu-Zn massive sulfide (Urals type)	Cu	Lake
M	46	34	Achit nuur	W-Mo-Be greisen, stockwork, and quartz vein	W	Mongol Altai
M	46	35	Kupol	Sediment-hosted Cu	Cu	Uuregnuur
M	46	36	Otor uul	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Deluun-Sagsai
M	46	37	Daltyn Khudag	Sn skarn	Sn	Deluun-Sagsai
M	46	38	Omnogobi	Sediment-hosted Cu	Cu	Hovd
M	46	39	Khatuugiin	Ta-Nb-REE alkaline metasomatite	REE, Zr, Ta	Mongolian-Altai
M	46	4	Arzakskoye	Volcanic-hosted Hg	Hg	Terlighaisk
M	46	40	Umnu Khutel	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Mongol Altai
M	46	41	Dulaan khar uul	Ag-Pb epithermal vein	Ag, Pb, Zn	Deluun-Sagsai
M	46	42	Bayanbulag	Sediment-hosted Cu	Cu	Deluun-Sagsai
M	46	43	Khuren tolgoi	Volcanogenic Cu-Zn massive sulfide (Urals type)	Cu	Lake
M	46	44	Ulaan uul	W-Mo-Be greisen, stockwork, and quartz vein	W	Mongol Altai
M	46	45	Molybdenum Stockwork	W-Mo-Be greisen, stockwork, and quartz vein	Mo, W	Mongol Altai
M	46	46	Tsunkheg	W-Mo-Be greisen, stockwork, and quartz vein	W	Mongol Altai
M	46	47	Maikhan Uul	Albite syenite-related REE	Ta, Nb, REE	Mongol Altai
M	46	48	Tsakhir	Peralkaline granitoid-related Nb-Zr-REE	Nb, Ta	Khalzanburged
M	46	49	Khalzanburegtei	Ta-Nb-REE alkaline metasomatite	Nb, Zr	Khalzanburged
M	46	5	Akolskoye	Ni-Co arsenide vein	Ag, Sb	Khovuaksinsk
M	46	50	Teht	Ni-Co arsenide vein	Co	Kurai-Tolbo Nuur
M	46	51	Khyargas	Granitoid-related Au vein	Au, Ag, Cu	Lake
M	46	51	Sharbuureg	Ag-Sb vein	Ag, Sb	Kurai-Tolbo Nuur
M	46	52	Khatuugiin gol	Sediment-hosted Cu	Cu	Deluun-Sagsai
M	46	53	Tolbo nuur	Ag-Sb vein	Ag, Sb	Kurai-Tolbo Nuur
M	46	54	Tolbo	Au-Ag epithermal vein	Cu	Kurai-Tolbo Nuur
M	46	55	Khukh-Adar	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Cu, Zn, Pb	Uzuurtolgoi
M	46	56	Baruun Tserd	Evaporate sedimentary gypsum	Gypsum	Unassigned
M	46	58	Khargait 2	Au-Ag epithermal vein	Cu	Uuregnuur
M	46	59	Tsagaangol	Ni-Co arsenide vein	Co	Kurai-Tolbo Nuur
M	46	6	Terligkhaiskoye	Volcanic-hosted Hg	Hg	Terligkhaisk
M	46	7	Uzun-Oy	Ni-Co arsenide vein	Co, Cu	Khovuaksinsk

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
M	46	8	Hovu-Aksinskoye	Ni-Co arsenide vein	Co, Ni	Khovuaksinsk
M	46	9	Aryskanskoye 2	Banded iron formation (BIF, Superior Fe)	Fe	Mugursk
M	47	1	Boksonskoye	Sedimentary bauxite	Al	Bokson-Kitoiskiy
M	47	10	Berhem uul	Sedimentary phosphate	P	Hovsgol
M	47	11	Khargana gol	Metamorphic graphite	Graphite	Unassigned
M	47	12	Manhan uul	Sedimentary phosphate	P	Hovsgol
M	47	13	Duchin gol	Magmatic nepheline	Al	Bugseingol-Ovormaraat
M	47	14	Beltesin gol	Magmatic nepheline	Al	Bugseingol-Ovormaraat
M	47	15	Uvurmaraat (Ujigin gol)	Magmatic nepheline	Al	Bugseingol-Ovormaraat
M	47	16	Dalan	Sedimentary phosphate	P	Hovsgol
M	47	17	Suultolgoi	Sedimentary phosphate	P	Hovsgol
M	47	18	Altanboom	Ta-Nb-REE alkaline metasomatite	Ta	Bugseingol-Ovotmaraat
M	47	19	Burenhan	Sedimentary phosphate	P	Hovsgol
M	47	2	Uhagol	Sedimentary phosphate	P	Hovsgol
M	47	20	Hitagiin gol	Sedimentary Fe-V	V	Hovsgol
M	47	21	Khanjargalant Uul	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Telmen
M	47	22	Manganese	Volcanogenic-sedimentary Mn	Mn	H ovsgol
M	47	23	Tsagaan Tolgoi	W-Mo-Be greisen, stockwork, and quartz vein	Mo	Unassigned
M	47	24	Khoo Ulaan Uul	Porphyry Cu-Mo (±Au, Ag)	Cu	Orhon-Selenge
M	47	25	Kuskunug	Serpentinite-hosted asbestos	Chrysotile-asbestos	Unassigned
M	47	26	Agashskoye	Ta-Nb-REE alkaline metasomatite	Ta, Nb, REE	Ulug-Tanzek
M	47	27	Bayan-Kol	Magmatic nepheline	Al	Bayan-Kol
M	47	28	Kharlinskoye	Magmatic nepheline	Al	Bayan-Kol
M	47	29	Verkhne-Kundusskoye	Ta-Nb-REE alkaline metasomatite	Ta, Nb, REE	Ulug-Tanzek
M	47	3	Uliin davaa	Sedimentary phosphate	P	Hovsgol
M	47	30	Dahu-Nurskoye	Magmatic nepheline	Al	Bayan-Kol
M	47	31	Shukbulskoye	REE-Li pegmatite	Li	Tastyg
M	47	32	Toskulskoye	Magmatic nepheline	Al	Bayan-Kol
M	47	33	Zost tolgoi	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Orhon-Selenge
M	47	34	Minjuurt tolgoi	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Telmen
M	47	35	Pichi-Kholskoye	Magmatic nepheline	Al	Bayan-Kol
M	47	36	Tsagaan-Uul	Sedimentary exhalative Pb-Zn (SEDEX)	Zn, Pb	Hugiingol
M	47	37	Ulug-Tanzek	Ta-Nb-REE alkaline metasomatite	Ta, Nb, REE	Ulug-Tanzek
M	47	38	Ulan-Erginskoye	Magmatic nepheline	Al	Bayan-Kol
M	47	39	Korgere-Daba	Magmatic nepheline	Al	Bayan-Kol
M	47	4	Hogorgo	Sedimentary phosphate	P	Hovsgol
M	47	40	Kara-Adyr	REE-Li pegmatite	Li	Tastyg
M	47	41	Chikskoye	Magmatic nepheline	Al	Bayan-Kol
M	47	42	Verkhne-Emigenskoye	REE-Li pegmatite	Li	Tastyg
M	47	43	Tastygskoye	REE-Li pegmatite	Li, Ta, Nb, Be	Tastyg
M	47	44	Bayangol 1	REE-Li pegmatite	Li	Buteeliin nuruu
M	47	45	Burginskoye	REE-Li pegmatite	Li	Tastyg
M	47	46	Pichi-Tastygskoye	REE-Li pegmatite	Li	Tastyg
M	47	47	Seveligskoye	REE-Li pegmatite	Li	Tastyg
M	47	48	Khartynskoye	REE-Li pegmatite	Li	Tastyg
M	47	49	Salbart group	Banded iron formation (BIF, Superior Fe)	Fe	Tarvagatai
M	47	5	Khachim gol	Mafic-ultramafic related Ti-Fe (V)	Fe	Khachim gol
M	47	50	Skarn	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Telmen
M	47	51	Kharaat Uul	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Telmen

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
M	47	52	Zos Uul	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Central Mongolia
M	47	53	Onts Uul	Mafic-ultramafic related Cu-Ni-PGE	Cu	Telmen
M	47	54	Naran bulag	Porphyry Cu-Mo (±Au, Ag)	Cu	Central Mongolia
M	47	55	Solongot	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Telmen
M	47	56	Most uul	Mafic-ultramafic related Ti-Fe (V)	Fe	Tarvagatai
M	47	57	Takhilt nuur	Mafic-ultramafic related Cu-Ni-PGE	Cu, Ni	Telmen
M	47	58	Khagnuur	Volcanogenic-sedimentary Mn	Mn	Tsagaanolom
M	47	6	Tsagaan Nuur	Sedimentary phosphate	P	Hovsgol
M	47	7	Saihangol	Volcanogenic-sedimentary Mn	Mn	Hovsgol
M	47	8	Hubsugul	Sedimentary phosphate	P	Hovsgol
M	47	9	Bagatsagaan gol	Volcanogenic-sedimentary Mn	Mn	Hovsgol
M	48	1	Oshurkovskoye	Magmatic and metasomatic apatite	Apatite	Dzhida-Selenginskiy
M	48	10	Tarvagatai	Granitoid-related Au vein	Au, Ag, Pb, Zn	Dzid-Selenginskiy
M	48	11	Oyuut Uul	Porphyry Cu-Mo (±Au, Ag)	Mo, Cu	Orhon-Selenge
M	48	12	Bots	Basaltic Cu (Lake Superior type)	Cu	Orhon-Selenge
M	48	13	Malo-Oinogorskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Dzhida-Selenginskiy
M	48	14	Dzhidinskoe district	W-Mo-Be greisen, stockwork, and quartz vein	W	Dzhida-Selenginskiy
M	48	15	Tomor tolgoi	Fe skarn	Fe	Bayangol
M	48	16	Tavt	Granitoid-related Au vein	Au, Ag, Cu	Dzid-Selenginskiy
M	48	17	Serten	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Bayangol
M	48	18	Khotol	Mafic-ultramafic related Cu-Ni-PGE	Ni	Bayangol
M	48	19	Baruunburen	Basaltic Cu (Lake Superior type)	Cu	Orhon-Selenge
M	48	2	Arsentievskoye	Mafic-ultramafic related Ti-Fe (V)	Ti	Dzhida-Selenginskiy
M	48	20	Urt	Granitoid-related Au vein	Au	North Hentii 2
M	48	21	Boroo 4	Granitoid-related Au vein	Au	North Hentii 1
M	48	22	Boroo 7	Granitoid-related Au vein	Au	North Hentii 2
M	48	23	Teshig 1	Au skarn	Au	Dzid-Selenginskiy
M	48	24	Boroo	Granitoid-related Au vein	Au	North Hentii 2
M	48	25	Baavgait	Granitoid-related Au vein	Au	North-Khentii
M	48	26	Sujigt	Granitoid-related Au vein	Au	North Hentii 2
M	48	27	Serten-Nomgon	Mafic-ultramafic related Cu-Ni-PGE	Cu	Bayangol
M	48	28	Tsagaanchuluut	Granitoid-related Au vein	Au	North Hentii 1
M	48	29	Narantolgoi	Granitoid-related Au vein	Au	North Hentii 2
M	48	3	Naranskoye	Fluospar vein	Fluorite	Dzhida-Selenginskiy
M	48	30	Zalaat	Serpentinite-hosted asbestos	Asbestos	Egiingol
M	48	31	Saikhan (Bor Khujir)	W-Mo-Be greisen, stockwork, and quartz vein	W, Sn, Be	Central Hentii
M	48	32	Bayantsagaan 1	Granitoid-related Au vein	Au	North Hentii 1
M	48	33	Erdenetiin Ovoo	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Orhon-Selenge
M	48	34	Khujiryngol	Porphyry Cu (±Au)	Cu	Orhon-Selenge
M	48	35	Tsagaan dabaa	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Central Hentii
M	48	36	Shand	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Orhon-Selenge
M	48	37	Zuunturuu gol	Basaltic Cu (Lake Superior type)	Cu	Unassigned
M	48	38	Bulgan	Basaltic Cu (Lake Superior type)	Cu	Orhon-Selenge
M	48	39	Bumbat	Au in shear zone and quartz vein	Au	North Hentii 1
M	48	4	Baikalskoye	Banded iron formation (BIF, Superior Fe)	Fe	Sharizhalgaiskiy
M	48	40	Ormiin Tsagaan nuur	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	North Mongolian
M	48	41	Nariin-gol	Au in shear zone and quartz vein	Au	North Hentii 1
M	48	42	Slyudyanskoe	Phlogopite skarn	Phlogopite	Prisayanskiy
M	48	5	Ereen	Granitoid-related Au vein	Au	Dzid-Selenginskiy
M	48	6	Tomortei	Fe skarn	Fe	Bayangol

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
M	48	7	Bayangol 3	Fe skarn	Fe	Bayangol
M	48	8	Oyut tolgoi 3	Fe skarn	Fe-Cu-Au	Bayangol
M	48	9	Bulagtai	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Dzid-Selenginskiy
M	49	1	Ara-Ilinskoe	Porphyry Au	Au	Onon-Turinskiy
M	49	10	Lubavinskoye	Granitoid-related Au vein	Au	Onon-Turinskiy
M	49	11	Gurvanbulag	Volcanic-hosted U	U	East Mongolian-Priargunskiy
M	49	12	Baruunkhujirtyn gol	Au-Ag epithermal vein	Au	East Mongolian-Priargunskiy
M	49	13	Shumilovskoe	Sn-W greisen, stockwork, and quartz vein	W	Onon-Chikoiskiy
M	49	14	Kunaleiskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Onon-Chikoiskiy
M	49	15	Delberkhei bulag	Granitoid-related Au vein	Au-Fe	East Mongolian-Priargunskiy
M	49	16	Narsan hundlun	Cassiterite-sulfide-silicate vein and stockwork	Sn	Eastern Mongolian-Preargunskiy
M	49	17	Ikh-Khajuu	Sn-W greisen, stockwork, and quartz vein	Sn, W	Central Hentii
M	49	18	Zuuntartsgol	Sn-W greisen, stockwork, and quartz vein	W, Sn	Central Hentii
M	49	19	Upper Kumyr	W-Mo-Be greisen, stockwork, and quartz vein	Sn, W	Onon-Chikoiskiy
M	49	2	Bom-Gorhonskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Khilokskiy
M	49	20	Bayanzurkh	Au-Ag epithermal vein	Au	East Mongolian-Priargunskiy
M	49	21	Khavtgai	Fluospar vein	CaF2	East Mongolian-Priargunskiy
M	49	3	Tarbaldzheiskoe	Cassiterite-sulfide-silicate vein and stockwork	Sn	Onon-Turinskiy
M	49	4	Tsagaanchuluut khudag II	Au-Ag epithermal vein	Au	East Mongolian-Priargunskiy
M	49	5	Ugtam	Au-Ag epithermal vein	Au	East Mongolian-Priargunskiy
M	49	6	Khapcheranga	Cassiterite-sulfide-silicate vein and stockwork	Sn	Onon-Turinskiy
M	49	7	Emtinbulag	Barite vein	Ba	East Mongolian-Priargunskiy
M	49	8	Tsairyn	Au-Ag epithermal vein	Au	East Mongolian-Priargunskiy
M	49	9	Bayandun	Fe-Zn skarn	Zn, Fe	East Mongolian-Priargunskiy
M	50	1	Novo-Shirokinskoye	Volcanic-hosted Au-base-metal metasomatite	Pb, Au	East Mongolian-Priargunskiy
M	50	10	Zapokrovskoye	Carbonate-hosted As-Au metasomatite	As	East Mongolian-Priargunskiy
M	50	11	Gurulevskoe	Carbonate-hosted As-Au metasomatite	As	East Mongolian-Priargunskiy
M	50	12	Oktjabrskoye	Carbonate-hosted As-Au metasomatite	As	East Mongolian-Priargunskiy
M	50	13	Delmachik	Porphyry Au	Au	Shilkinsko-Tukuringrskiy
M	50	14	Taseyevskoe	Au-Ag epithermal vein	Au	Shilkinsko-Tukuringrskiy
M	50	15	Baleyskoe	Au-Ag epithermal vein	Au	Shilkinsko-Tukuringrskiy
M	50	16	Andryushkinskoe	Au skarn	Au	Shilkinsko-Tukuringrskiy
M	50	17	Bugdainskoye	W-Mo-Be greisen, stockwork, and quartz vein	Mo	East Mongolian-Priargunskiy
M	50	18	Xiaoyinuogaigou, Inner Mongolia	Granitoid-related Au vein	Au	East Mongolian-Priargun-Derbugan
M	50	19	Sredne-Golgotaiskoye	Granitoid-related Au vein	Au	Shilkinsko-Tukuringrskiy
M	50	2	Solonechnoye	Fluospar vein	Fluorite	East Mongolian-Priargunskiy
M	50	20	Severo-Akatuevskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb, Zn	East Mongolian-Priargunskiy
M	50	21	Akatuevskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb	East Mongolian-Priargunskiy
M	50	22	Fatimovskoye	Granitoid-related Au vein	Au	Shilkinsko-Tukuringrskiy
M	50	23	Zhetkovskoye	Fluospar vein	Fluorite	Shilkinsko-Tukuringrskiy
M	50	24	Belukhinskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Shilkinsko-Tukuringrskiy
M	50	25	Shunduinskoye	Granitoid-related Au vein	Au	Shilkinsko-Tukuringrskiy
M	50	26	Bukukinskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Shilkinsko-Tukuringrskiy
M	50	27	Etykinskoye	Ta-Nb-REE alkaline metasomatite	Ta	Shilkinsko-Tukuringrskiy
M	50	28	Tamengskoye	Fluospar vein	Fluorite	Shilkinsko-Tukuringrskiy
M	50	29	Kalanguyskoye	Fluospar vein	Fluorite	Shilkinsko-Tukuringrskiy
M	50	3	Vozdvizhenskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb, Zn	East Mongolian-Priargunskiy
M	50	30	Savinskoye-5	Zn-Pb (Ag, Cu, W) skarn	Pb, Zn	East Mongolian-Priargunskiy
M	50	31	Liuyi, Inner Mongolia	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	S	Onor

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
M	50	32	Klichkinskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb	East Mongolian-Priargunskiy
M	50	33	Barun-Shiveinsky	Hg-Sb-W vein and stockwork	W	Aginskiy
M	50	34	Garsonuyskoye	Fluospar vein	Fluorite	East Mongolian-Priargunskiy
M	50	35	Badaguan, Inner Mongolia	Porphyry Cu-Mo (±Au, Ag)	Cu	East Mongolian-Priargun-Derbugan
M	50	36	Malo-Kulindinskoye	REE-Li pegmatite	Ta, Be	Aginskiy
M	50	37	Spokoininskoye	Sn-W greisen, stockwork, and quartz vein	W	Aginskiy
M	50	38	Sherlovogorskoye	Cassiterite-sulfide-silicate vein and stockwork	Sn	Shilkinsko-Tukuringrskiy
M	50	39	Orlovskoye	Ta-Nb-REE alkaline metasomatite	Ta	Aginskiy
M	50	4	Berjozovskoe	Sedimentary siderite Fe	Fe	East Mongolian-Priargunskiy
M	50	40	Abagaituyskoye	Fluospar vein	Fluorite	East Mongolian-Priargunskiy
M	50	41	Wunugetushan, Inner Mongolia	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	East Mongolian-Priargun-Derbugan
M	50	42	Baits Ovoo	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Zn, Pb, Ag	East Mongolian-Priargunskiy
M	50	43	Berkh 2	REE-Li pegmatite	Ta, Nb	East Mongolian-Priargunskiy
M	50	44	Ulaan	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Zn, Pb, Ag	East Mongolian-Priargunskiy
M	50	45	Khuts Ondor	Clastic-sediment-hosted Sb-Au	Sb	East Mongolian-Priargunskiy
M	50	46	Bor Ondor	Au-Ag epithermal vein	Au, Ag	East Mongolian-Priargunskiy
M	50	47	Avdartolgoi	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	East Mongolian-Priargunskiy
M	50	48	Ovorkhooloi	Granitoid-related Au vein	Au	East Mongolian-Priargunskiy
M	50	49	Nomint	Granitoid-related Au vein	Au	East Mongolian-Priargunskiy
M	50	5	Blagodatskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb	East Mongolian-Priargunskiy
M	50	50	Chuluun Khoroot	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	East Mongolian-Priargunskiy
M	50	51	Erdenetolgoi	Cu (±Fe, Au, Ag, Mo) skarn	Au-Cu-Fe	East Mongolian-Priargunskiy
M	50	52	Jiawula, Inner Mongolia	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Ag,Pb,Zn	East Mongolian-Priargun-Derbugan
M	50	53	Chaganbulagen, Inner Mongolia	Au-Ag epithermal vein	Ag	East Mongolian-Priargunskiy- Deerbugan
M	50	54	Zuun Dagai	Alkaline complex-hosted Au	Au, As, Sb, Te	East Mongolian-Priargunskiy
M	50	55	Kharguit	Granitoid-related Au vein	Au, As, Sb, Te	East Mongolian-Priargunskiy
M	50	56	Urliin Ovoo	Granitoid-related Au vein	Au, As, Sb, Te	East Mongolian-Priargunskiy
M	50	57	Bayan uul 1	Granitoid-related Au vein	Au, Ag, Pb, Zn	East Mongolian-Priargunskiy
M	50	58	Tsav	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Zn, Pb, Ag	East Mongolian-Priargunskiy
M	50	59	Dornod	Volcanic-hosted U	U	East Mongolian-Priargunskiy
M	50	6	Kadainskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb, Zn	East Mongolian-Priargunskiy
M	50	60	Erentaolegai, Inner Mongolia	Au-Ag epithermal vein	Ag	East Mongolian-Priargunskiy- Deerbugan
M	50	61	Baruunsuuj Undur	Fluospar vein	Fluorite	East Mongolian-Priargunskiy
M	50	62	Khuvoobulag	Fluospar vein	Fluorite	East Mongolian-Priargunskiy
M	50	7	Alenuiskoye	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb	East Mongolian-Priargunskiy
M	50	8	Shakhtaminskoye	Porphyry Mo (±W, Sn, Bi)	Mo	East Mongolian-Priargunskiy
M	50	9	Aprelkovskoye	Granitoid-related Au vein	Au	Shilkinsko-Tukuringrskiy
M	51	1	Huanyu, Inner Mongolia	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Pb Zn	Huanyu
M	51	2	Duobaoshan, Heilongjiang Province	Porphyry Cu-Mo (±Au, Ag)	Cu	Duobaoshan
M	51	3	Tongshan, Heilongjiang Province	Porphyry Cu-Mo (±Au, Ag)	Cu	Duobaoshan

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
M	51	4	Sanhe, Inner Mongolia	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn	East Mongolian-Priargun (Derbugan)
M	51	5	Xieertala, Inner Mongolia	Volcanogenic-sedimentary Fe	Fe	Onor
M	52	10	Bidzhanskoe (Kabalinskoe)	Volcanogenic-sedimentary Mn	Mn	South Khingan
M	52	11	Verkhnebidzhanskoe	Sn-W greisen, stockwork, and quartz vein	Sn	Malokhingan
M	52	12	Kostenginskoe	Banded iron formation (BIF, Superior Fe)	Fe	South Khingan
M	52	13	Preobrazhenovskoye	Fluorite greisen	Fluorite	Bidzhan
M	52	14	Pengdingshan, Heilongjiang Province	Granitoid-related Au vein	Au	Tuanjiegou
M	52	15	Tuanjiegou, Heilongjiang Province	Granitoid-related Au vein	Au	Tuanjiegou
M	52	16	Chuihongshan, Heilongjiang Province	Fe-Zn skarn	Fe, W, Mo, Zn	Bindong
M	52	17	Wuxing, Heilongjiang Province	Mafic-ultramafic related Cu-Ni-PGE	Pt, Pd	Wuxing
M	52	2	Melginskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Melgin-Niman
M	52	3	Chergilen	Felsic plutonic U-REE	REE, Be	Melgin-Niman
M	52	4	Dzhalinda	Rhyolite-hosted Sn	Sn	Malo-Khingan
M	52	5	Kimkanskoe	Banded iron formation (BIF, Superior Fe)	Fe	South Khingan
M	52	6	Diturskoe	Felsic plutonic U-REE	REE	Bidzhan
M	52	7	Khingan	Sn-W greisen, stockwork, and quartz vein	Sn	Malo-Khingan
M	52	8	Sutarskoye	Banded iron formation (BIF, Superior Fe)	Fe	South Khingan
M	52	9	Yuzhno-Khingan	Banded iron formation (BIF, Superior Fe)	Fe	South Khingan
M	53	1	Birandzha	Porphyry Mo (±W, Sn, Bi)	Mo	Ezop-Yam-Alin
M	53	10	Boltoro	Cu (±Fe, Au, Ag, Mo) skarn	Sn, Cu	Badzhal-Komsomolsk
M	53	11	Noni	Au-Ag epithermal vein	Au	East Mongolian or Priargunskiy - ?
M	53	12	Durmin	Au-Ag epithermal vein	Au, Ag	Durmin
M	53	2	Solnechnoe	Sn-W greisen, stockwork, and quartz vein	Sn	Badzhal-Komsomolsk
M	53	3	Sobolinoye	Sn-W greisen, stockwork, and quartz vein	Sn	Badzhal-Komsomolsk
M	53	4	Ippatinskoe	Sn-W greisen, stockwork, and quartz vein	Sn	Ezop-Yam-Alin
M	53	5	Festivalnoe	Sn-W greisen, stockwork, and quartz vein	Sn	Badzhal-Komsomolsk
M	53	6	Metrekskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Melgin-Niman
M	53	7	Kapral	Porphyry Mo (±W, Sn, Bi)	Mo	Badzhal-Komsomolsk
M	53	8	Loshadinayagriva (Main)	Sn-W greisen, stockwork, and quartz vein	Sn	Badzhal-Komsomolsk
M	53	9	Pravourmiiskoe	Sn-W greisen, stockwork, and quartz vein	Sn	Badzhal-Komsomolsk
M	54	1	Agnie-Afanas'evskoye	Granitoid-related Au vein	Au	Pilda-Limuri
M	54	2	Dyappe	Ag-Sb vein	Au	Pilda-limuri
M	54	3	Uchaminskoye	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Au	Pilda-Limuri
M	54	4	Tumninskoye	Au-Ag epithermal vein	Au	Tumnin-Anyuy
M	54	5	Mopau	Porphyry Sn	Sn	Tumnin-Anyuy
M	54	6	Nochnoe	Porphyry Cu (±Au)	Cu	Kema
M	54	7	Moinskoe	Porphyry Mo (±W, Sn, Bi)	Mo	Kema
M	54	8	Sukhoi Creek	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Kema
N	44	1	Kolyvanskoye	Sn-W greisen, stockwork, and quartz vein	Sn	Barlaksk
N	45	1	Barandatskoye	Sedimentary siderite Fe	Fe	Unassigned
N	45	10	Gavrilovskoye	Granitoid-related Au vein	Au	Martaiginsk
N	45	11	Kurgusulskoye	Magmatic nepheline	Al	Kiya-Shaltyr
N	45	12	Tulujul	Magmatic nepheline	Al	Kiya-Shaltyr
N	45	13	Belogorskoye	Magmatic nepheline	Al	Kiya-Shaltyr
N	45	14	Barzasskoye	Bauxite (karst type)	Al	Belininsk

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
N	45	15	Fedotovskoye	Granitoid-related Au vein	Au	Martaiginsk
N	45	16	Kiya-Shaltyr	Magmatic nepheline	Al	Kiya-Shaltyr
N	45	17	Centralnoye	Granitoid-related Au vein	Au	Martaiginsk
N	45	18	Malorastaiskoye	Fluospar vein	Fluorite	Unassigned
N	45	19	Ampalyk	Fe skarn	Fe	Taidon-Kondomsk
N	45	2	Ust-Parninskoye	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Sorsk
N	45	20	Agaskyrskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Sorsk
N	45	21	Gromotukhinskoye	Granitoid-related Au vein	Au	Martaiginsk
N	45	22	Tuim	W-Mo-Be greisen, stockwork, and quartz vein	W	Kiyalykh-Uzen
N	45	23	Sarala	Granitoid-related Au vein	Au	Martaiginsk
N	45	24	Belo-Osipovskoye	Volcanic-hosted Hg	Hg	Kuznetsk
N	45	25	Ipchulskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Sorsk
N	45	26	Kiyalykh-Uzen	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Mo	Kiyalykh-Uzen
N	45	27	Kommunar	Granitoid-related Au vein	Au	Martaiginsk
N	45	28	Kupriyanovskoye	Volcanic-hosted Hg	Hg	Kuznetsk
N	45	29	Glafirinskoye	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Mo	Kiyalykh-Uzen
N	45	3	Natal'evskoye	Au skarn	Au	Martaiginsk
N	45	30	Pezass	Carbonate-hosted Hg-Sb	Hg	Kuznetsk
N	45	31	Spasskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kiyalykh-Uzen
N	45	32	Balakhchino	Granitoid-related Au vein	Au	Martaiginsk
N	45	33	Nichkuryupskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Sorsk
N	45	34	Pezasskoye	Volcanic-hosted zeolite	Zeolite	Kuznetsk
N	45	35	Turtek	W-Mo-Be greisen, stockwork, and quartz vein	W	Kiyalykh-Uzen
N	45	36	Kayvinskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kiyalykh-Uzen
N	45	37	Verhne-Askizskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Kiyalykh-Uzen
N	45	39	Lavrenovskoye	Fe skarn	Fe	Taidon-Kondomsk
N	45	4	Komsomolskoye	Granitoid-related Au vein	Au	Martaiginsk
N	45	40	Ityuiskoye	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Mo	Kiyalykh-Uzen
N	45	41	Usinskoye	Volcanogenic-sedimentary Mn	Mn	Taidon-Kondomsk
N	45	42	Alguiskoye	Talc (magnesite) replacement	Talc	Unassigned
N	45	43	Balyksa	Cu (±Fe, Au, Ag, Mo) skarn	Mo	Kiyalykh-Uzen
N	45	44	Kazymchanskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb, Zn	Sorsk
N	45	45	Sukharinskoye	Fe skarn	Fe	Taidon-Kondomsk
N	45	46	Vaganovskoye	Bauxite (karst type)	Al	Belininsk
N	45	47	Uskandinskoye	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Cu, Zn	Salair
N	45	48	Urskoye district	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn, Cu	Salair
N	45	49	Elgentagskoye	Fe skarn	Fe	Teisk
N	45	5	Goriachegorskoye	Magmatic nepheline	Al	Kiya-Shaltyr
N	45	50	Teiskoye	Fe skarn	Fe	Teisk
N	45	51	Abagasskoye	Fe skarn	Fe	Teisk
N	45	52	Kamenushinskoye	Porphyry Cu-Mo (±Au, Ag)	Cu	Salair
N	45	53	Izykhgolskoye	Fe skarn	Fe	Teisk
N	45	54	Mavrinskoye	Clastic sediment-hosted Hg±Sb	Hg	Mavrinsk
N	45	55	Salairskoye	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn, Ag, Au	Salair
N	45	56	Oktyabrskoye 4	Bauxite (karst type)	Al	Berdsko-Maisk
N	45	57	Novogodneye	Bauxite (karst type)	Al	Berdsko-Maisk
N	45	58	Durnovskoye	Volcanogenic-sedimentary Mn	Mn	Unassigned
N	45	59	Khaileolovskoye	Fe skarn	Fe	Teisk

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
N	45	6	Andrushkina River	Magmatic nepheline	Al	Kiya-Shaltyr
N	45	60	Orlinogorskoye	Clastic sediment-hosted Hg±Sb	Hg	Mavrinsk
N	45	61	Berdsko-Maiskoye	Sedimentary bauxite	Al	Berdsko-Maisk
N	45	62	Patynskoye	Mafic-ultramafic related Ti-Fe (V)	Fe, Ti	Teisk
N	45	63	Tashelginskoye	Fe skarn	Fe	Taidon-Kondomsk
N	45	64	Chilanskoye	Volcanogenic-sedimentary Fe	Fe	Teisk
N	45	65	Togulenskoye	Talc (magnesite) replacement	Talc	Belininsk
N	45	66	Tamalykskoye	Sedimentary phosphate	Phosphorite	Mrass
N	45	67	Svetlyi Klyuch	Talc (magnesite) replacement	Talc	Belininsk
N	45	68	Obukhovskoye	Bauxite (karst type)	Al	Berdsko-Maisk
N	45	69	Kedrovskoye	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn	Taidon-Kondomsk
N	45	7	Staro-Berikul	Granitoid related Au vein	Au	Martaiginsk
N	45	70	Telbes	Fe skarn	Fe	Taidon-Kondomsk
N	45	71	Odrabash	Fe skarn	Fe	Taidon-Kondomsk
N	45	72	Kul-Taiga	Mafic-ultramafic related Ti-Fe (V)	Fe, Ti	Teisk
N	45	73	Pykhtun	Fe skarn	Fe	Taidon-Kondomsk
N	45	74	Kazskoye	Fe skarn	Fe	Taidon-Kondomsk
N	45	75	Temirtau	Fe skarn	Fe	Taidon-Kondomsk
N	45	76	Turgenevskoye	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Zn	Taidon-Kondomsk
N	45	77	Belkinskoye	Sedimentary phosphate	Phosphorite	Mrass
N	45	78	Volshebnaya Zhila	Granitoid-related Au vein	Au	Unassigned
N	45	79	Semeno-Krasilovskoye	Sedimentary bauxite	Al	Belininsk
N	45	8	Novo-Berikul	Granitoid-related Au vein	Au	Martaiginsk
N	45	80	Taymetskoye	Basaltic Cu (Lake Superior type)	Cu	Taidon-Kondomsk
N	45	81	Anzass	Fe skarn	Fe	North-Sayanian
N	45	82	Belininskoye	Laterite Ni	Ni	Belininsk
N	45	83	Sheregesh	Fe skarn	Fe	Taidon-Kondomsk
N	45	84	Alexandrovskoye 2	Laterite Ni	Ni	Belininsk
N	45	85	Shalym	Fe skarn	Fe	Taidon-Kondomsk
N	45	86	Tashtagol	Fe skarn	Fe	Taidon-Kondonskiy
N	45	87	Kharadzulskoye	Ni-Co arsenide vein	Cu, Co	Kharadzhulsk
N	45	88	Kayanchinskoye	Fluospar vein	Fluorite	Sarasinsk
N	45	9	Kundatskoye	Granitoid-related Au vein	Au	Martaiginsk
N	46	1	Irbinskoye	Fe skarn	Fe	Kizir-Kazyr
N	46	10	Beryozovskoye	Fe skarn	Fe	Kizir-Kazyr
N	46	11	Lysanskoye	Mafic-ultramafic related Ti-Fe (V)	Ti, Fe	Lysansk
N	46	12	Kedranskoye	Zoned mafic-ultramafic Cr-PGE	Ti, Fe	Lysansk
N	46	13	Pionerskoye 1	Porphyry Mo (±W, Sn, Bi)	Mo	Agulsk
N	46	14	Dzhetskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Agulsk
N	46	15	Karaulnaya Gorka	Weathering crust Mn (±Fe)	Mn	Djotsk
N	46	16	Seibinskoye 1	Weathering crust Mn (±Fe)	Mn	Djotsk
N	46	17	Djotskoye	Weathering crust Mn (±Fe)	Mn	Djotsk
N	46	18	Margoz	Fe skarn	Fe	Kizir-Kazyr
N	46	19	Rudny Kaskad	Fe skarn	Fe	Kizir-Kazyr
N	46	2	Leiba	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb, Zn	Unassigned
N	46	20	Terekhovskoye	Fe skarn	Fe	Kizir-Kazyr
N	46	21	Odinochnoye	Fe skarn	Fe	Kizir-Kazyr
N	46	22	Sydinskoye	Banded iron formation (BIF, Superior Fe)	Fe	Kizir-Kazyr
N	46	23	Mulginskoye	Fe skarn	Fe	Kizir-Kazyr

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
N	46	24	Raduga	W-Mo-Be greisen, stockwork, and quartz vein	Be	Kizhi-Khem
N	46	25	Burlukskoye	Fe skarn	Fe	Kizir-Kazyr
N	46	26	Samson	Fe skarn	Fe	Kiyalykh-Uzen
N	46	27	Tibik	Ag-Sb vein	Sb	Sorsk
N	46	28	Petropavlovskoye	Fe skarn	Fe	Kizir-Kazyr
N	46	29	Okunevskoye	W-Mo-Be greisen, stockwork, and quartz vein	Be, CaF2	Kizhi-Khem
N	46	3	Seibinskoye 2	Sedimentary phosphate	Phosphorite	Bellyk
N	46	30	Telekskoye	Weathering crust and karst phosphate	Phosphorite	Bellyk
N	46	31	Znamenskoye	Fe skarn	Fe	Kizir-Kazyr
N	46	32	Tayatskoye	Fe skarn	Fe	Kizir-Kazyr
N	46	33	Tabratskoye	Fe skarn	Fe	Kizir-Kazyr
N	46	34	Khabalykskoye	Fe skarn	Fe	Kizir-Kazyr
N	46	35	Oktyabrskoye 1	Granitoid-related Au vein	Au	Kizhi-Khem
N	46	36	Martyuhinskoye	Bedded barite	Barite	Bellyk
N	46	37	Oktyabrskoye 2	Clastic sediment-hosted Hg±Sb	Hg	Sistigkhem
N	46	38	Izykhskoye	Fe skarn	Fe	Kizir-Kazyr
N	46	38	Poselschik	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Mo	Kiyalykh-Uzen
N	46	39	Kukshinskoye	Clastic sediment-hosted Hg±Sb	Hg	Sistigkhem
N	46	4	Belokitatskoye	Volcanogenic-sedimentary Fe	Fe	Kizir-Kazyr
N	46	40	Tolcheinskoye	Bedded barite	Ba	Bellyk
N	46	41	Julia Mednaya	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Mo	Kiyalykh-Uzen
N	46	42	Julia Svintsovaya	Zn-Pb (Ag, Cu, W) skarn	Pb	Sorsk
N	46	43	Kapchalskoye	Barite vein	Barite	Chapsordag
N	46	44	Kysyl-Tashskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu	Ulugoisk
N	46	45	Sorskoye	Porphyry Mo (±W, Sn, Bi)	Mo, Cu	Sorsk
N	46	46	Sorminskoye	Bedded barite	Barite	Bellyk
N	46	47	Kyzyl-Tashtygskoye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu	Ulugoisk
N	46	48	Sayanskoye	Serpentinite-hosted asbestos	Chrysotile asbestos	Khemchik-Kurtushubinsk
N	46	49	Beiskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Sorsk
N	46	5	Alga	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb, Zn	Unassigned
N	46	50	Kyzyk-Chadrskoye	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Unassigned
N	46	51	Malo-Shushenskoye	Granitoid-related Au vein	Au	Kizir-Kazyr
N	46	52	Temir-Dag	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Mo	Kiyalykh-Uzen
N	46	53	Taptan-Turazy	Barite vein	Barite	Chapsordag
N	46	54	Mainskoye	Cyprus Cu-Zn massive sulfide	Cu	North-Sayanian
N	46	55	Kamyshtinskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Sorsk
N	46	56	Igr-Golskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb, Zn	Sorsk
N	46	57	Bazikskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Cu	Chapsordag
N	46	58	Chapsordag	Barite vein	Barite	Chapsordag
N	46	59	Obkolskoye	W-Mo-Be greisen, stockwork, and quartz vein	Be	Kizhi-Khem
N	46	6	Zhurskoye	Carbonate-hosted fluorspar	Fluorite	Chapsordag
N	46	60	Azkizskoye	Rhodusite asbestos	Asbestos	Unassigned
N	46	61	Butrakhtinskoye	Ni-Co arsenide vein	Co, Cu	Kharadzhulsk
N	46	62	Abakanskoye	Fe skarn	Fe	North-Sayanian
N	46	63	Karbai	Fe skarn	Fe	Kizir-Kazyr
N	46	64	Sitikskoye	Volcanic-hosted Hg	Hg	Unassigned
N	46	7	Konstantinovskoye	Granitoid-related Au vein	Au	Kizir-Kazyr
N	46	8	Olkhovskoye	Granitoid-related Au vein	Au	Kizir-Kazyr

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
N	46	9	Medvezhie	Granitoid-related Au vein	Au	Kizir-Kazyr
N	47	1	Beloziminskoye	REE (±Ta, Nb, Fe) carbonatite	Nb, Ta	Prisayanskiy
N	47	10	Zashikhinskoe	Ta-Nb-REE alkaline metasomatite	Ta, Nb	Zashikhinskiy
N	47	11	Verkhne-Iiskoye	Mafic-ultramafic related Ti-Fe (V)	Ti, Fe	Iiskiy
N	47	12	Botogolskoe	Magmatic nepheline	Al	Bokson-Kitoiskiy
N	47	13	Zun-Kholba	Au in shear zone and quartz vein	Au	Bokson-Kitoiskiy
N	47	14	Barun-Kholba	Au in shear zone and quartz vein	Au	Bokson-Kitoiskiy
N	47	15	Pionerskoye 2	Au in shear zone and quartz vein	Au	Bokson-Kitoiskiy
N	47	16	Ilchirskoye	Serpentinite-hosted asbestos	Chrysotile asbestos	Bokson-Kitoiskiy
N	47	17	Aksug	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Kizhi-Khem
N	47	18	Daschkhemskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Kizhi-Khem
N	47	19	Kazyrskoye	W-Mo-Be greisen, stockwork, and quartz vein	Be, Li	Kizhi-Khem
N	47	2	Vishnyakovskoye	REE-Li pegmatite	Ta	Tagulskiy
N	47	20	Ulug-Alymskoye	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo	Kizhi-Khem
N	47	21	Aryskanskoye 1	Ta-Nb-REE alkaline metasomatite	REE, Nb,	Kizhi-Khem
N	47	22	Ulug-Odir-Oiy	Peralkaline granitoid-related Nb-Zr-REE	Ta, Nb, REE	Unassigned
N	47	23	Dalneye	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Zn, Pb, Cu	Ulugoisk
N	47	3	Malo-Tagulskoye	Mafic-ultramafic related Ti-Fe (V)	Ti, Fe	Tagulskiy
N	47	4	Karasuk	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb, Zn	Sorsk
N	47	5	Gutaro-Biryusinskoye	Muscovite pegmatite	Muscovite	Tagulskiy
N	47	6	Ingashinskoye	Diamond-bearing kimberlite	Diamond	Prisayanskiy
N	47	7	Srednezиminskoye	REE (±Ta, Nb, Fe) carbonatite	Ta, Nb	Prisayanskiy
N	47	8	Gorkhonskoye	Clastic sediment-hosted Hg±Sb	Hg	Zashikhinskiy
N	47	9	Agulskoye	Porphyry Cu-Mo (±Au, Ag)	Cu	Agulsk
N	48	1	Sosnovy Baits	Banded iron formation (BIF, Superior Fe)	Fe	Sharizhalgaiskiy
N	48	2	Onotskoe	Talc (magnesite) replacement	Talc	Prisayanskiy
N	48	3	Savinskoe	Talc (magnesite) replacement	Magnesite, talc	Sharizhalgaiskiy
N	48	4	Zhidoyskoye	Mafic-ultramafic related Ti-Fe (V)	Ti, Fe	Prisayanskiy
N	49	1	Ulzutuiskoye	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Zn	Ozerninskiy
N	49	2	Ozernoye 2	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Zn	Ozerninskiy
N	49	3	Gundui	Sediment-hosted Cu	Cu	Ozerninsky
N	49	4	Kydzhimitskoye	Cassiterite-sulfide-silicate vein and stockwork	Sn	Eravninsky
N	49	5	Egitinskoye	Carbonate-hosted fluorspar	Fluorite	Eravninsky
N	49	6	Lugovoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb	Pribaikalskiy
N	50	1	Mokhovoye	Porphyry Sn	Sn	Muiskiy
N	50	10	Budyumkanskoye	Sn-W greisen, stockwork, and quartz vein	Sn	East Mongolian-Priargunskiy
N	50	11	Solonechinskoe	Carbonate-hosted Hg-Sb	Sb	East Mongolian-Priargunskiy
N	50	12	Kariiyskoye	Granitoid-related Au vein	Au	Shilkinsko-Tukuringrskiy
N	50	13	Yekaterininskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb	East Mongolian-Priarguskiy
N	50	14	Zhirekenskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Shilkinsko-Tukuringrskiy
N	50	15	Usuglinskoye	Fluorspar vein	Fluorite	Nerchinsko-Dzheltulakskiy
N	50	16	Darasunskoye	Granitoid-related Au vein	Au	Nerchinskiy
N	50	17	Teremkinskoye	Granitoid-related Au vein	Au	Nerchinsko-Dzheltulakskiy
N	50	18	Talatuiskoye	Granitoid-related Au vein	Au	Nerchinsko-Dzheltulakskiy
N	50	19	Kruchininskoye	Mafic-ultramafic related Ti-Fe (V)	Ti	Kruchininskiy
N	50	2	Irokinda	Au in shear zone and quartz vein	Au	Muiskiy
N	50	3	Muoklakanskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Nerchinskiy

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
N	50	4	Ukonikskoe	Granitoid-related Au vein	Au	Shilkinsko-Tukuringrskiy
N	50	5	Orekitkanskoye	Porphyry Mo (±W, Sn, Bi)	Mo	Karengskiy
N	50	6	Itakinskoye	Granitoid-related Au vein	Au	Shilkinsko-Tukuringrskiy
N	50	7	Davenda	Porphyry Mo (±W, Sn, Bi)	Mo	Shilkinsko-Tukuringrskiy
N	50	8	Klyuchevskoye	Granitoid-related Au vein	Au	Shilkinsko-Tukuringrskiy
N	50	9	Aleksandrovskoye	Granitoid-related Au vein	Au	Shilkinsko-Takuringrskiy
N	51	1	Kavakta	Mafic-ultramafic related Ti-Fe (V)	P, Ti, Fe	Kavakta
N	51	2	Bamskoe (Chul'bango)	Au-Ag epithermal vein	Au, Ag	North Stanovoy
N	51	3	Kirovskoe	Granitoid-related Au vein	Au	Shilkinsko-Tukutingrskiy
N	51	4	Burindinskoe	Au-Ag epithermal vein	Au, Ag	North Stanovoy
N	51	5	Berezitovoe	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Zn, Pb, Au, Ag	Shilkinsko-Tukutingrskiy
N	51	6	Ershiyizhan, Heilongjiang Province	Porphyry Cu (±Au)	Au	East Mongolian-Priargunskiy- Deerbuga
N	52	1	Borgulican	Porphyry Cu (±Au)	Cu, Au	North Bureya
N	52	1	Kolchedanny Utyos	Volcanic-hosted Au-base-metal metasomatite	Au	Tyrkanda-Stanovoy
N	52	2	Malomyr	Au in shear zone and quartz vein	Au	Kerbi-Selemdzha
N	52	3	Zolotaya Gora	Au in shear zone and quartz vein	Au	Djeltulaksky
N	52	4	Kamenushinskoe	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type)	Cu, FeS	Shimanovsk-Gar
N	52	5	Pioneer	Granitoid-related Au vein	Au	North Bureya
N	52	6	Gar	Volcanogenic-sedimentary Fe	Fe	Shimanovsk-Gar
N	52	7	Pokrovskoe	Au-Ag epithermal vein	Au, Ag	North Bureya
N	52	8	Chagoyan	Sedimentary exhalative Pb-Zn (SEDEX)	Pb, Zn, Ag	Chagoyan
N	53	1	Etara	Granitoid-related Au vein	Au	Preddzhugdzhursky
N	53	10	Nelkanskoe	Sedimentary phosphate	P	Uda-Shantar
N	53	11	Ir-Nimiiskoe-2	Sedimentary phosphate	P	Uda-Shantar
N	53	12	Ir-Nimiiskoe-1	Volcanogenic-sedimentary Mn	Mn	Uda-Shantar
N	53	13	Kolchedannyi Utyos	Au in shear zone and quartz vein	Au	Tyrkanda-Stanovoy
N	53	14	Milkanskoe	Volcanogenic-sedimentary Fe	Fe	Uda-Shantar
N	53	15	Lagapskoe	Sedimentary phosphate	P	Uda-Shantar
N	53	16	Boguchanskoe	W-Mo-Be greisen, stockwork, and quartz vein	W	Pilda-Limuri
N	53	17	Galamskoe	Volcanogenic-sedimentary Fe	Fe	Uda-Shantar
N	53	18	Davakit	Anorthosite-apatite Ti-P	Ti, P	Baladek
N	53	19	Gerbikanskoe	Volcanogenic-sedimentary Fe	Fe	Uda-Shantar
N	53	2	Kuma	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Preddzhugdzhursky
N	53	20	Itmatinskoe	Volcanogenic-sedimentary Fe	Fe	Uda-Shantar
N	53	21	Kurumskoe	Volcanogenic-sedimentary Fe	Fe	Uda-Shantar
N	53	22	Ingagli	Au in shear zone and quartz vein	Au	Kerbi -Selemdzha
N	53	23	Kharga	Au in shear zone and quartz vein	Au	Kerbi-Selemdzha
N	53	24	Lednikovy-Sarmaka	W-Mo-Be greisen, stockwork, and quartz vein	W	Ezop-Yam-Alin
N	53	25	Tokur	Au in shear zone and quartz vein	Au	Kerbi-Selemdzha
N	53	26	Afanas'evskoe	Au in shear zone and quartz vein	Au	Kerbi - Selemdzha
N	53	27	Zazubrinskoe	Au in shear zone and quartz vein	Au	Kerbi-Selemdzha
N	53	28	Poiskovoe	Granitoid-related Au vein	Au	Kerbi -Selemdzha
N	53	29	Ezop	Sn-W greisen, stockwork, and quartz vein	Sn	Ezop-Yam-Alin
N	53	3	North-Shantarskoe	Sedimentary phosphate	P	Uda-Shantar
N	53	30	Sagurskoe	Au in shear zone and quartz vein	Au	Kerbi -Selemdzha
N	53	31	Talaminskoe	Cassiterite-sulfide-silicate vein and stockwork	Sb, Au	Kerbi-Selemdzha
N	53	32	Olgakanskoe	Sn-W greisen, stockwork, and quartz vein	Sn	Ezop-Yam-Alin
N	53	4	Feklistov	Zoned mafic-ultramafic Cr-PGE	PGE	Kondyor-Feklistov
N	53	5	Mayskoye 1	Carbonate-hosted Pb-Zn (Mississippi valley type)	Zn, Pb	Preddzhugdzhurskiy

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
N	53	6	Gayumskoe	Anorthosite-apatite Ti-P	Ti, P	Baladek
N	53	7	Maimakanskoe	Anorthosite-apatite Ti-P	Ti, P	Baladek
N	53	8	Dzhaninskoe	Anorthosite-apatite Ti-P	Ti, P	Baladek
N	53	9	Bogidenskoe	Anorthosite apatite Ti-P	Ti, P	Baladek
N	54	1	Mnogovershinnoe	Au-Ag epithermal vein	Au, Ag	Lower Amur
N	54	2	Iskinskoe (Askum)	Epithermal quartz-alunite	Al	Lower Amur
N	54	3	Bichinskoe	Sn-W greisen, stockwork, and quartz vein	W, Sn	Lower Amur
O	44	1	Kolpashevskoye	Sedimentary Fe-V	Fe	Bakcharsk
O	44	2	Parabel-Chuzikskoye	Sedimentary siderite Fe	Fe	Bakcharsk
O	44	3	Bakcharskoye	Banded iron formation (BIF, Superior Fe)	Fe	Bakcharsk
O	44	4	Parbigskoye	Sedimentary siderite Fe	Fe	Bakcharsk
O	45	1	Iverskoye	Sedimentary siderite Fe	Fe	Unassigned
O	45	2	Semiluzhinskoye	Clastic-sediment-hosted Sb-Au	Sb, Au	Unassigned
O	46	1	Ust-Talskoye	REE-Li pegmatite	Li, Sn	Tatarsko-Tyradinskoye
O	46	10	Mutovskoye	Carbonate-hosted Hg-Sb	Hg	Unassigned
O	46	11	Polkan Gora	Fe skarn	Fe	Vorogovsko-Angarsk
O	46	12	Lendakhskoye	Fe skarn	Fe	Vorogovsko-Angarsk
O	46	13	Enashiminskoye 2	Fe skarn	Fe	Vorogovsko-Angarsk
O	46	14	Ilinskoye	W-Mo-Be greisen, stockwork, and quartz vein	W	Tatarsko-Tyradinsk
O	46	15	Nikolaevskoye	Au in shear zone and quartz vein	Au	Central-Yenisey
O	46	16	Vasilievskoye	Au in shear zone and quartz vein	Au	Central-Yenisey
O	46	17	Sokhatinoye	Bauxite (karst type)	Al	Verkhoturovsk
O	46	18	Gerfedskoye	Au in shear zone and quartz vein	Au	Central-Yenisey
O	46	19	Mokrinskoye	Sedimentary Fe-V	Fe	Angara-Pit
O	46	2	Enashiminskoye 1	Clastic-sediment-hosted Sb-Au	Au	Central-Yenisey
O	46	20	Verchne-Kamenskoye	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Vorogovsko-Angarsk
O	46	21	Verkhoturovskoye	Bauxite (karst type)	Al	Verkhoturovsk
O	46	22	Kirgiteiskoye 2	Talc (magnesite) replacement	Talc	Verkhoturovsk
O	46	23	Mulinskoye	REE-Li pegmatite	Li	Tatarsko-Tyradinsk
O	46	24	Kirgiteiskoye 1	Bauxite (karst type)	Al	Verkhoturovsk
O	46	25	Murlinoye	Bauxite (karst type)	Al	Verkhoturovsk
O	46	26	Sredne-Tatarskoye	Bauxite (karst type)	Al	Verkhoturovsk
O	46	27	Teneginskoye	Carbonate-hosted Pb-Zn (Mississippi valley type)	Zn, Pb	Vorogovsko-Angarsk
O	46	28	Udorongovskoye	Volcanogenic-sedimentary Fe	Fe	Angara-Pit
O	46	29	Udereiskoye	Clastic-sediment-hosted Sb-Au	Sb,Au	Central-Yenisey
O	46	3	Oleniya Gora	W-Mo-Be greisen, stockwork, and quartz vein	W	Tatarsko-Tyradinsk
O	46	30	Detalnoye	Carbonate-hosted Hg-Sb	Hg	Unassigned
O	46	31	Nizhne-Angarskoye	Sedimentary siderite Fe	Fe	Angara-Pit
O	46	32	Goltsovoye	W-Mo-Be greisen, stockwork, and quartz vein	W, Sn	Tatarsko-Tyradinsk
O	46	33	Rudakovskoye	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Vorogovsko-Angarsk
O	46	34	Moryanikhinskoye	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Vorogovsko-Angarsk
O	46	35	Razdolninskoye	Clastic-sediment-hosted Sb-Au	Sb	Central-Yenisey
O	46	36	Lineinoye	Sedimentary exhalative Pb-Zn (SEDEX)	Zn, Pb	Vorogovsko-Angarsk
O	46	37	Dolgozhdannoye	Sedimentary bauxite	Al	Verkhoturovsk
O	46	38	Kiiskoye	Weathering crust carbonatite REE-Zr-Nb-Li	REE, Zr, Nb, Li	Tatarsko-Tyradinsk
O	46	39	Tatarskoye	REE (±Ta, Nb, Fe) carbonatite	REE, Ta, Nb	Tatarsko-Tyradinsk
O	46	4	Visokaya Gora	W-Mo-Be greisen, stockwork, and quartz vein	W, Mo, Au, Sb	Tatarsko-Tyradinsk
O	46	40	Krutoye	Sedimentary exhalative Pb-Zn (SEDEX)	Zn, Pb	Vorogovsko-Angarsk
O	46	41	Kondakovskoye	REE-Li pegmatite	Be	Tatarsko-Tyradinsk

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
O	46	42	Gorevskoye	Sedimentary exhalative Pb-Zn (SEDEX)	Pb, Zn	Vorogovsko-Angarsk
O	46	43	Tchernoretchenskoye	Clastic sediment-hosted Hg±Sb	Hg	Unassigned
O	46	44	Ust-Angarskoye	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Vorogovsko-Angarsk
O	46	45	Kurishskoye	Sediment-hosted Cu	Cu	Bedobinsk
O	46	46	Predivinskoye	Banded iron formation (BIF, Superior Fe)	Fe	Kansk
O	46	47	Kuzeevskoye	Au in shear zone and quartz vein	Au	Kansk
O	46	48	Bogunai	Au in shear zone and quartz vein	Au	Kansk
O	46	49	Barginskoye	REE-Li pegmatite	Be	Kansk
O	46	5	Olympiada	Au in black shale	Au	Central-Yenisey
O	46	50	Kanskoye	W-Mo-Be greisen, stockwork, and quartz vein	Mo	Kansk
O	46	51	Mazulskoye	Volcanogenic-sedimentary Mn	Mn	Unassigned
O	46	6	Pravoberezhnoye	Clastic sediment-hosted Hg±Sb	Hg	Unassigned
O	46	7	Ayakhta	Au in shear zone and quartz vein	Au	Central-Yenisey
O	46	8	Bolshepitskoye	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Pb, Zn	Vorogovsko-Angarsk
O	46	9	Ishimbinskoye	Sedimentary siderite Fe	Fe	Angara-Pit
O	47	1	Nizhne-Gondinskoye	Sediment-hosted Cu	Cu	Bedobinsk
O	47	10	Kliminskoye	Fe-Zn skarn	Fe	Angara-Ilim
O	47	11	Levoberezhnoye	Fe skarn	Fe	Angara-Ilim
O	47	12	Bedobinskoye	Sediment-hosted Cu	Cu	Bedobinsk
O	47	13	Porozhinskoye 2	Bauxite (karst type)	Al	Verkhoturovsk
O	47	14	Kichetskoye	Fe skarn	Fe	Angara-Ilim
O	47	2	Chuktukonskoye	REE (±Ta, Nb, Fe) carbonatite	Nb, REE	Angara-Ilim
O	47	3	Taloye 1	Fe skarn	Fe	Angara-Ilim
O	47	4	Verkhne-Ollonokonskoye	Fe skarn	Fe	Angara-Ilim
O	47	5	Beryambinskoye	Fe-Zn skarn	Fe	Angara-Ilim
O	47	6	Pikhtovoye	Fe skarn	Fe	Angara-Ilim
O	47	7	Ognenskoye	Fe skarn	Fe	Angara-Ilim
O	47	8	Vostok	Fe skarn	Fe	Angara-Ilim
O	47	9	Tagarskoye	Fe skarn	Fe	Angara-Ilim
O	48	1	Tatyaninskoye	Trap-related Fe skarn (Angara-Ilim type)	Fe	Angaro-Ilimskiy
O	48	2	Yubileinoye 1	Fe skarn	Fe	Angara-Ilim
O	48	3	Sputnik 1	Fe skarn	Fe	Angara-Ilim
O	48	4	Atavinskoye 1	Fe skarn	Fe	Angara-Ilim
O	48	5	Nerjundinskoye	Trap-related Fe skarn (Angara-Ilim type)	Fe	Angaro-Ilimskiy
O	48	6	Kapaevskoye	Trap-related Fe skarn (Angara-Ilim type)	Fe	Angaro-Ilimskiy
O	48	7	Rudnogorskoe	Trap-related Fe skarn (Angara-Ilim type)	Fe	Angaro-Ilimskiy
O	48	8	Korshunovskoe	Trap-related Fe skarn (Angara-Ilim type)	Fe	Angaro-Ilimskiy
O	48	9	Ponomarjovskoye	Trap-related Fe skarn (Angara-Ilim type)	Fe	Angaro-Ilimskiy
O	49	1	Chuyskoye	Muscovite pegmatite	Muscovite	Mamsko-Chuiskiy
O	49	2	Vitimskoye	Muscovite pegmatite	Muscovite	Mamsko-Chuiskiy
O	49	3	Bolshoye Severnoye	Muscovite pegmatite	Muscovite	Mamsko-Chuiskiy
O	49	4	Lugovka	Muscovite pegmatite	Muscovite	Mamsko-Chuiskiy
O	49	5	Kolotovskoye	Muscovite pegmatite	Muscovite	Mamsko-Chuiskiy
O	49	6	Komsomolsko-Molodezhnoye	Muscovite pegmatite	Muscovite	Mamsko-Chuiskiy
O	49	7	Synnyrskoye	Magmatic and metasomatic apatite	Apatite	Synnyrskiy
O	49	8	Kholodninskoye	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu)	Pb, Zn	Olokitskiy
O	49	9	Sogdiondonskoye	Muscovite pegmatite	Muscovite	Mamsko-Chuiskiy
O	50	1	Murunskoe	Charoite metasomatite	Charoite	Charskiy
O	50	10	Sakinskoye	Sediment-hosted Cu	Cu	Uguy-Udokanskiy

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
O	50	11	Udokanskoye	Sediment-hosted Cu	Cu	Uguy-Udokanskiy
O	50	12	Chineyskoye	Zoned mafic-ultramafic Cr-PGE	Fe, Ti	Uguy-Udokanskiy
O	50	13	Ledyanoe	Au in shear zone and quartz vein	Au	Kalar-Stanovoy
O	50	14	Chineiskoye	Mafic-ultramafic related Ti-Fe (V)	Ti, Fe	Uguy-Udokanskiy
O	50	15	Sulbanskoye	Sediment-hosted Cu	Cu	Uguy-Udokanskiy
O	50	16	Pravo-Ingamakitskoye	Sediment-hosted Cu	Cu	Uguy-Udokanskiy
O	50	17	Burpalinskoye	Sediment-hosted Cu	Cu	Uguy-Udokanskiy
O	50	18	Verkhne-Sakukanskoye	Au in shear zone and quartz vein	Au	Muiskiy
O	50	19	Molodezhnoye	Serpentinite-hosted asbestos	Chrysotile-asbestos	Baikalo-Muiskiy
O	50	2	Chertovo Koryto	Au in black shale	Au	Tonodskiy
O	50	20	Kelyanskoye	Carbonate-hosted Hg-Sb	Hg	Muiskiy
O	50	21	Katuginskoye	Ta-Nb-REE alkaline metasomatite	Ta, Nb, REE	Uguy-Udokanskiy
O	50	22	Unkurskoye	Sediment-hosted Cu	Cu	Uguy-Udokanskiy
O	50	3	Vysochaishiy	Au in black shale	Au	Bodaibinskiy
O	50	4	Sukhoy Log	Au in black shale	Au	Bodaibinskiy
O	50	5	Olondo	Au in shear zone and quartz vein	Au	West Aldan
O	50	6	Charskoye	Banded iron formation (BIF, Superior Fe)	Fe	Uguy-Udokanskiy
O	50	7	Krasnoye	Sediment-hosted Cu	Cu	Uguy-Udokanskiy
O	50	8	Dogaldynskoe	Au in black shale	Au	Bodaibinskiy
O	50	9	Tarynnakh	Banded iron formation (BIF, Superior Fe)	Fe,Au	West Aldan
O	51	1	Seligdar	Apatite carbonatite	P	Nimnyr
O	51	10	Usuu	Sediment-hosted Cu	Cu	Uguy-Udokan
O	51	11	Dagda	Banded iron formation (BIF, Superior Fe)	Fe, Al	West Aldan
O	51	12	Pravokabaktanskoe	Au in shear zone and quartz vein	Au	Kalar-Stanovoy
O	51	2	Perekatnoe	Piezoquartzite	piezoquartz	Upper Aldan
O	51	3	Tayozhnoe 2	Fe skarn	Fe	Dyos-Leglier
O	51	4	Nadyozhnoe, Fyodorovskoe	Phlogopite skarn	phlogopite, vermiculite	Tympton
O	51	5	Dyosovskoe	Fe skarn	Fe	Dyos-Leglier
O	51	6	Bugarykta	Piezoquartzite	Piezoquartz	Upper Aldan
O	51	7	Lemochi	Au in shear zone and quartz vein	Au	West Aldan
O	51	8	Nelyuki	Banded iron formation (BIF, Superior Fe)	Fe	West Aldan
O	51	9	Kuranakh	Au potassium metasomatite (Kuranakh type)	Au	Chara-Aldan
O	52	1	Megyuskan	Phlogopite skarn	Phlogopite, vermiculite, Fe	Uchur
O	52	2	Emeldzhak	Fe skarn	Fe	Dyos-Leglier
O	52	3	Atugey	Banded iron formation (BIF, Superior Fe)	Fe	Davangra-Nalurak
O	52	4	Olimpiyskoe	Banded iron formation (BIF, Superior Fe)	Fe	Sutam
O	53	1	Yur	Au in shear zone and quartz vein	Au	Allakh-Yun
O	53	10	Tas-Yuryakh	Au-Ag epithermal vein	Au	South Verkhoyansk
O	53	11	Borong	Sediment-hosted Cu	Cu	Sette-Daban
O	53	12	Malyutka	Au in shear zone and quartz vein	Au	Allakh-Yun
O	53	13	Algaminskoe	Carbonate-hosted Zr (Algoma type)	Zr, W	Ingili
O	53	14	Ingili	REE (±Ta, Nb, Fe) carbonatite	REE, Nb, Ta	Ingili
O	53	15	Chad (Mokhovoy)	Mafic-ultramafic related Cu-Ni-PGE	PGE	Kondyor-Feklistov
O	53	16	Sigilyakh	Sediment-hosted Cu	Cu	Sette-Daban
O	53	17	Maly Komui	Cu (±Fe, Au, Ag, Mo) skarn	Cu	Chelasin
O	53	18	Dzhagdag	Basaltic Cu (Lake Superior type)	Cu	Sette-Daban
O	53	19	Chelasin	Porphyry Cu (±Au)	Cu	Chelasin
O	53	2	Duet	Au in shear zone and quartz vein	Au	Allakh-Yun

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
O	53	20	Kondyor	Zoned mafic-ultramafic Cr-PGE	Pt	Kondyor-Feklistov
O	53	21	Avlayakan	Au-Ag epithermal vein	Au, Ag	Preddzhugdzhursky
O	53	22	Klin	Au skarn	Au	Chara-Aldan
O	53	23	Krutoy	Au in shear zone and quartz vein	Au	Chara-Aldan
O	53	24	Ulakhan	Au-Ag epithermal vein	Au	Chara-Aldan
O	53	25	Ulkanskoe	Ta-Li ongonite	REE, Be, Zr	Verkhneuchur?
O	53	26	Begundya	Felsic plutonic U-REE	REE, Be, Zr	Verkhneuchur
O	53	27	Nygvagan-II	REE-Li pegmatite	Nb, Ta	Verkhneuchur
O	53	28	Neozhidannoye	Felsic plutonic U-REE	REE	Verkhneuchur
O	53	29	Khaykan	Ta-Nb-REE alkaline metasomatite	REE	Verkhneuchur
O	53	3	Gornoye Ozero	REE (±Ta, Nb, Fe) carbonatite	P, Nb, Ta, REE	Sette-Daban
O	53	30	Amulican	Ta-Nb-REE alkaline metasomatite	REE	Verkhneuchur
O	53	31	Algama	Stratiform Zr (Algama type)	Zr	Ingili
O	53	4	Urui	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Kyllakh
O	53	5	Khamna	REE (±Ta, Nb, Fe) carbonatite	REE, Nb	Sette-Daban
O	53	6	Yudoma	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite	Zn	Kyllakh
O	53	7	Pukhanil	Carbonate-hosted Pb-Zn (Mississippi valley type)	Zn, Pb	Kyllakh
O	53	8	Lugun	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Sette-Daban
O	53	9	Muromets	Cu (±Fe, Au, Ag, Mo) skarn	Cu, Mo, W	Allakh-Yun
O	54	1	Larisa	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Zn	Upper Udoma
O	54	2	Burgali	Porphyry Mo (±W, Sn, Bi)	Mo, W	Upper Udoma
O	54	3	Balaakkalakh, Diring-Yuryak	Sn-W greisen, stockwork, and quartz vein	Sn	Upper Udoma
O	54	4	Zhar	Au in shear zone and quartz vein	Au	Allakh-Yun
O	54	5	Dies	Cu (±Fe, Au, Ag, Mo) skarn	Cu	South Verkhoyansk
O	54	6	Verkhnenyotskoe	Au-Ag epithermal vein	Au, Ag	Kukhtuy-Uliya
O	54	7	Etandzha	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Chelasin
P	45	1	Eloguiskoye	Volcanogenic-sedimentary Fe	Fe	Turukhansk
P	45	2	Porozhinskoye 1	Volcanogenic-sedimentary Mn	Mn	Isakovsk
P	46	1	Suringdakonskoye	Fe skarn	Fe	Kyreisko-Tungsk
P	46	10	Proletarskoye	Au in shear zone and quartz vein	Au	Central-Yenisey
P	46	11	Eldorado	Au in shear zone and quartz vein	Au	Central-Yenisey
P	46	12	Grigorevskoye	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag	Central Yenisey
P	46	13	Enashiminskoye 3	REE-Li pegmatite	Sn, Be, Li	Tatarsko-Tyradinsk
P	46	14	Khariuzikhinskoye 2	REE-Li pegmatite	Be	Tatarsko-Tyradinsk
P	46	15	Isakovskoye 2	Ta-Nb-REE alkaline metasomatite	Ta, Nb, Be	Tatarsko-Tyradinsl
P	46	16	Khariuzikhinskoye 1	Volcanogenic Cu-Zn massive sulfide (Urals type)	Cu, Zn	Isakovsk
P	46	17	Isakovskoye 1	Banded iron formation (BIF, Superior Fe)	Fe	Isakovsk
P	46	18	Levotyradinskoye	W±Mo±Be skarn	Be, REE, Sn	Tatarsko-Tyradinsk
P	46	2	Komdalskoye	Fe skarn	Fe	Kureisko-Tungsk
P	46	3	Bakhtinskoye	Fe skarn	Fe	Kureisko-Tungsk
P	46	4	Guryevskoye	Sedimentary phosphate	Phosphorite	Unassigned
P	46	5	Bilchany River	Mafic-ultramafic related Cu-Ni-PGE	Cu	Kureisko-Tungsk
P	46	6	Kamyshenskiy Baikitik	Fe skarn	Fe	Kureisko-Tungsk
P	46	7	Sukholebyazhinskoye	Sedimentary bauxite	Al	Unassigned
P	46	8	Organovskoye	Fe skarn	Fe	Kureisko-Tungsk
P	46	9	Sovetskoye	Au in shear zone and quartz vein	Au	Central-Yenisey
P	47	1	Novoye I	Hydrothermal Iceland spar	Island spar	Central Tungussk
P	47	2	Tychanskoye	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Central Tungussk
P	47	3	Nizhne-Lakur-skoye 1	Fe skarn	Fe	Angara-Ilim

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
P	48	1	Ilimpeiskoye 1	Fe skarn	Fe	Unassigned
P	48	2	Zeleznaya Gora 1	Hydrothermal Iceland spar	Island spar	Central Tungussk
P	48	3	Khrustalnoye	Hydrothermal Iceland spar	Island spar	Central Tungussk
P	49	1	Mir	Diamond-bearing kimberlite	Diamond	Botuobiya -Markha
P	49	2	Internatsional'naya	Diamond kimberlite	Diamond	Botuobiya -Markha
P	53	1	Kurpandzha	Sediment-hosted Cu	Cu	Sette-Daban
P	53	10	Sardana	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Kyllakh
P	53	2	Dzhalkan	Basaltic Cu (Lake Superior type)	Cu	Sette-Daban
P	53	3	Segenyakh	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn, CaF2	Sette-Daban
P	53	4	Rossomakha	Sediment-hosted Cu	Cu	Sette-Daban
P	53	5	Onello (Lider)	Au in shear zone and quartz vein	Au	Allakh-Yun
P	53	6	Svetly	Au in black shale	Au	Allakh-Yun (or Khandyga?)
P	53	7	Bular	Au in shear zone and quartz vein	Au	Allakh-Yun
P	53	8	Povorotnoye	REE (±Ta, Nb, Fe) carbonatite	Nb, Ta	Sette-Daban
P	53	9	Pereval'noe	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Kyllakh
P	54	1	Darpichan	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Kuydusun
P	54	10	Tsvetok	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Zn, Pb	Kukhtuy-Uliya
P	54	11	Sakyryr	Carbonate-hosted Pb-Zn (Mississippi valley type)	Zn, CaF2	Sette-Daban
P	54	12	Surkho	Porphyry Sn	Sn	Kukhtuy-Uliya
P	54	13	Dochkanakh	Porphyry Mo (±W, Sn, Bi)	Mo, W	Upper Udoma
P	54	14	Rozovoye	Porphyry Mo (±W, Sn, Bi)	Mo	Kukhtuy-Uliya
P	54	15	Voskhod	Au in shear zone and quartz vein	Au	South Verkhoyansk
P	54	16	Novinka	Au in shear zone and quartz vein	Au	Allakh-Yun
P	54	17	Zaderzhnoe	Au in shear zone and quartz vein	Au	Allakh-Yun
P	54	2	Imtachan	Sn-W greisen, stockwork, and quartz vein	Pb, Zn, Sn	Adycha-Nera
P	54	3	Senduchen	Clastic-sediment-hosted Sb-Au	As, Sb	Khandyga
P	54	4	Upper Menkeche	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn, Ag	South Verkhoyansk
P	54	5	Stibnitovoe	Ag-Sb vein	Sb	Khandyga
P	54	6	Levo-Dybin	Granitoid-related Au vein	Au, W, Bi	South Verkhoyansk
P	54	7	It-Yuryak	W-Mo-Be greisen, stockwork, and quartz vein	W	South Verkhoyansk
P	54	8	Avliya	Sn-W greisen, stockwork, and quartz vein	Sn	Kuydusun
P	54	9	Nezhdaninka	Au in shear zone and quartz vein	Au, Ag	South Verkhoyansk
Q	45	1	Nizhny Chopko	Fe skarn	Fe	Kureisko-Tungsk
Q	45	10	Turukhanskoye	Volcanogenic-sedimentary Fe	Fe	Turukhansk
Q	45	11	Fatyanichinskoye	Metamorphic graphite	Graphite	Kureisko-Tungsk
Q	45	2	Degen River	Mafic-ultramafic related Cu-Ni-PGE	Cu, Co	Kureisko-Tungsk
Q	45	3	Koly River	Mafic-ultramafic related Cu-Ni-PGE	Cu, Co	Kureisko-Tungsk
Q	45	4	Graviiskoye	Sediment-hosted Cu	Cu	Igarsk
Q	45	5	Severnaya River 2	Mafic-ultramafic related Cu-Ni-PGE	Cu, Co	Kureisko-Tungsk
Q	45	6	Kureiskoye 2	Magmatic graphite	Graphite	Kureisko-Tungsk
Q	45	7	Sukharikhinskoye	Sediment-hosted Cu	Cu	Igarsk
Q	45	8	Kureiskoye 1	Fe skarn	Fe	Kureisko-Tungsk
Q	45	9	Severnaya River 1	Fe skarn	Fe	Kureisko-Tungsk
Q	46	1	Ulovny Kamen'	Metamorphic graphite	Graphite	Kureisko-Tungsk
Q	46	2	Anakitskoye	Fe skarn	Fe	Kureisko-Tungsk
Q	46	3	Noginskoye	Metamorphic graphite	Graphite	Kureisko-Tungsk
Q	47	1	Skala Suslova	Hydrothermal Iceland spar	Island spar	Central Tungussk
Q	47	2	Krutoye (Gonchak)	Hydrothermal Iceland spar	Island spar	Central Tungussk
Q	49	1	Udachnaya	Diamond kimberlite	Diamond	Daldyn-Olenyok

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
Q	49	2	Sytykanskaya	Diamond kimberlite	Diamond	Daldyn-Olenyok
Q	49	3	Yubileinaya	Diamond-bearing kimberlite	Diamond	Daldyn-Olenyok
Q	49	4	Aikhal	Diamond kimberlite	Diamond	Daldyn-Olenyok
Q	52	1	Betyugen	Clastic-sediment-hosted Sb-Au	Sb	Eckyuchu-Billyakh
Q	52	10	Bochiyskoe	Sn-W greisen, stockwork, and quartz vein	Sn	Verkhoyansk
Q	52	11	Imtandzha	Sn-W greisen, stockwork, and quartz vein	Sn	West Verkhoyansk
Q	52	12	Mangazeika 1	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Ag	Vostochno-Verkhoyansk
Q	52	13	Bezymyannoe	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag, Pb	Eckyuchu-Billyakh
Q	52	14	Chochimbal	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Au, Ag, Pb	West Verkhoyansk
Q	52	15	Dyabkhanya	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Au, Ag	Verkhoyansk
Q	52	16	Galochka	Au in shear zone and quartz vein	Au	Verkhoyansk
Q	52	17	Mangazeika 2	Au in black shale	Ag	Verkhoyansk
Q	52	18	Balbuk	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb	Verkhoyansk
Q	52	2	Iserdek	Clastic sediment-hosted Hg±Sb	Hg	Eckyuchu-Billyakh
Q	52	3	Zagadka	Clastic sediment-hosted Hg±Sb	Hg, Sb	Eckyuchu-Billyakh
Q	52	4	Syncha-I & II	Au in shear zone and quartz vein	Au	Verkhoyansk
Q	52	5	Zvyozdochka	Clastic sediment-hosted Hg±Sb	Hg	Eckyuchu-Billyakh
Q	52	6	Kholbolok	Clastic sediment-hosted Hg±Sb	Hg	Eckyuchu-Billyakh
Q	52	7	Kysyltas	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag, Au,Pb, Zn	West Verkhoyansk
Q	52	8	Kuolanda	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn, Ag	Verkhoyansk
Q	52	9	Anomalnoe	Sn-W greisen, stockwork, and quartz vein	Sn	Yana-Adycha
Q	53	1	Kysylga	Ag-Sb vein	Au, Ag	Selennyakh
Q	53	10	Ulakhan-Egelyakh	Cassiterite-sulfide-silicate vein and stockwork	Sn	Yana-Adycha
Q	53	11	Delyuvialnoe	Granitoid-related Au vein	Au	Adycha-Nera
Q	53	12	Khoton-Khaya	Cassiterite-sulfide-silicate vein and stockwork	Sn	Yana-Adycha
Q	53	13	Ak-Altyn	Au-Ag epithermal vein	Au	Eckyuchu-Billyakh
Q	53	14	Ilin-Tas	Sn-W greisen, stockwork, and quartz vein	Sn	Yana-Adycha
Q	53	15	Alys-Khaya	Sn-W greisen, stockwork, and quartz vein	Sn	Yana-Adycha
Q	53	16	Burgochan	Sn-W greisen, stockwork, and quartz vein	Sn	Yana-Adycha
Q	53	17	Singyami	Clastic sediment-hosted Hg±Sb	Hg	Khandyga
Q	53	18	Erikag	Sn-W greisen, stockwork, and quartz vein	Sn	Tompo
Q	53	19	Prognoz	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Ag, Pb	Eckyuchu-Billyakh
Q	53	2	Ege-Khaya	Sn-W greisen, stockwork, and quartz vein	Sn, Zn	Yana-Adycha
Q	53	20	Agylky	W±Mo±Be skarn	W, Cu	Tompo
Q	53	21	Imnekan	Clastic-sediment-hosted Sb-Au	Sb	Khandyga
Q	53	22	Bugdogar	Sn-W greisen, stockwork, and quartz vein	Sn	Yana-Adycha
Q	53	23	Khunkhada	W±Mo±Be skarn	W, Sn	Tompo
Q	53	3	Burgavli	Sn-W greisen, stockwork, and quartz vein	Sn	Chybagalakh
Q	53	4	Billyakh	Ag-Sb vein	Sb, Au	Eckyuchu-Billyakh
Q	53	5	Kere-Yuryakh	Sn-W greisen, stockwork, and quartz vein	Sn, W	Chybagalakh
Q	53	6	Lazo	Au in shear zone and quartz vein	Au	Adycha-Nera
Q	53	7	Sentachan	Clastic-sediment-hosted Sb-Au	Sb	Taryn
Q	53	8	Kester	Sn-W greisen, stockwork, and quartz vein	Sn, Ta, Nb, Li	Yana-Adycha
Q	53	9	Uzlovoe	Clastic-sediment-hosted Sb-Au	Au, Sb	Taryn
Q	54	1	Khotoidokh	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai types)	Pb, Zn, Ag	Erikit
Q	54	2	Titovskoe	Sn skarn	B	Chybagalakh
Q	54	3	Dogdo	Volcanic-hosted Hg	Hg	Selennyakh
Q	54	4	Aleshkino	Au in shear zone and quartz vein	Au	Chybagalakh
Q	54	5	Uchui	Au in shear zone and quartz vein	Au	Adycha-Nera

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
Q	54	6	Darpir	Au in shear zone and quartz vein	Au	Adycha-Nera
Q	54	7	Tumannoe	Au in shear zone and quartz vein	Au	Adycha-Nera
Q	54	8	Seikimyan	Clastic sediment-hosted Hg±Sb	Hg	Khandyga
Q	54	9	Erel	Clastic sediment-hosted Hg±Sb	Hg	Khandyga
R	45	1	Telmi River	Mafic-ultramafic related Cu-Ni-PGE	Cu	Norilsk
R	45	10	Chernaya Gora	Mafic-ultramafic related Cu-Ni-PGE	Cu, Ni, Co, PGE	Norilsk
R	45	11	Ergalakh River	Mafic-ultramafic related Cu-Ni-PGE	Cu, Co	Norilsk
R	45	12	Chabechete Lake	Mafic-ultramafic related Cu-Ni-PGE	Cu, Co	Norilsk
R	45	13	Serebryany Brook	Mafic-ultramafic related Cu-Ni-PGE	Cu, Co	Norilsk
R	45	14	Bolgokhtonskoye	Porphyry Cu-Mo (±Au, Ag)	Cu, Mo	Norilsk
R	45	2	Oktyabrskoye 3	Mafic-ultramafic related Cu-Ni-PGE	Cu, Ni, Co, PGE	Norilsk
R	45	3	Imangdinskoye	Mafic-ultramafic related Cu-Ni-PGE	Cu, Ni, Co, PGE	Norilsk
R	45	4	Talnakh	Mafic-ultramafic related Cu-Ni-PGE	Cu,Ni,Co,PGE	Norilsk
R	45	5	Makus	Fe skarn	Fe	Kureisko-Tungsk
R	45	6	Norilsk II	Mafic-ultramafic related Cu-Ni-PGE	Cu, Ni, Co, PGE	Norilsk
R	45	7	Norilsk I	Mafic-ultramafic related Cu-Ni-PGE	Cu, Ni, Co, PGE	Norilsk
R	45	8	Vologochan River	Mafic-ultramafic related Cu-Ni-PGE	Cu, Ni	Norilsk
R	45	9	Zub-Marksheiderskoye	Mafic-ultramafic related Cu-Ni-PGE	Cu	Norilsk
R	46	1	Namakan River 1	Mafic-ultramafic related Cu-Ni-PGE	Ni	Norilsk
R	46	10	Lama Lake	Mafic-ultramafic related Cu-Ni-PGE	Cu	Norilsk
R	46	2	Namakan River 3	Mafic-ultramafic related Cu-Ni-PGE	Ni, Co	Norilsk
R	46	3	Samasik River	Basaltic Cu (Lake Superior type)	Cu	Norilsk
R	46	4	Namakan River 2	Mafic-ultramafic related Cu-Ni-PGE	Ni, Cu, Co	Norilsk
R	46	5	Neizvestnoye	Mafic-ultramafic related Cu-Ni-PGE	Cu, Ni, Co	Norilsk
R	46	6	Chopko River	Mafic-ultramafic related Cu-Ni-PGE	Cu	Norilsk
R	46	7	Chapomi River	Mafic-ultramafic related Cu-Ni-PGE	Cu	Norilsk
R	46	8	Arylakh River	Mafic-ultramafic related Cu-Ni-PGE	Cu	Norilsk
R	46	9	Arylakhskoye	Basaltic Cu (Lake Superior type)	Cu	Norilsk
R	47	1	Gulinskoye 1	Fe-Ti (±Ta, Nb, Fe, Cu, apatite) carbonatite	Fe, Ti	Maimecha-Kotuisk
R	47	2	Gulinskoye 3	Phlogopite carbonatite	Phlogopite	Maimecha-Kotuisk
R	47	3	Gulinskoye 2	REE (±Ta, Nb, Fe) carbonatite	Ta, Nb, REE	Maimecha-Kotuisk
R	48	1	Iriaas 1	Fe-Ti (±Ta, Nb, Fe, Cu, apatite) carbonatite	Fe, Ti	Maimecha-Kotuisk
R	48	2	Odikhincha 1	Phlogopite carbonatite	Phlogopite	Maimecha-Kotuisk
R	48	3	Kugda 1	Fe-Ti (±Ta, Nb, Fe, Cu, apatite) carbonatite	Fe, Ti	Maimecha-Kotuisk
R	48	4	Magan 1	Fe-Ti (±Ta, Nb, Fe, Cu, apatite) carbonatite	Fe, Ti	Maimecha-Kotuisk
R	48	5	Bor-Uryakh 1	Fe-Ti (±Ta, Nb, Fe, Cu, apatite) carbonatite	Fe, Ti	Maimecha-Kotuisk
R	48	6	Esseiy 1	Fe-Ti (±Ta, Nb, Fe, Cu, apatite) carbonatite	Fe, Ti	Maimecha-Kotuisk
R	49	1	Popigay	Impact diamond	Diamond	Popigay
R	50	1	Tomtor	Weathering crust carbonatite REE-Zr-Nb-Li	Nb, REE, P	Udzha
R	52	1	Mengeniler	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn	Tuora-Sis
R	52	2	Kyongdei	Sediment-hosted U	U	Tuora-Sis
R	52	3	Nikolaevskoe, Otkrytoe	Au in shear zone and quartz vein	Au	Verkhoyansk
R	52	4	Anna-Emeskhin	Au in shear zone and quartz vein	Au	Verkhoyansk
R	52	5	Aga-Kukan	Carbonate-hosted Pb-Zn (Mississippi valley type)	Pb, Zn, Cu	Orulgan
R	52	6	Syugyunyakh-Kende	Au in shear zone and quartz vein	Au	Verkhoyansk
R	52	7	Enichan-Tolono	Au in shear zone and quartz vein	Au	Verkhoyansk

Row	Col.	No.	Deposit Name	Mineral Deposit Type	Major Metals	Metallogenic Belt
R	53	1	Burguat	Au in shear zone and quartz vein	Au	Kular
R	53	10	Novoe	Granitoid-related Au vein	Au	Kular
R	53	11	Argin	Sn-W greisen, stockwork, and quartz vein	Sn	Chybagalakh
R	53	2	Sigilyakh	Cassiterite-sulfide-silicate vein and stockwork	Sn	Chokurdak
R	53	3	Aragochan	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Polousny
R	53	4	Ulakhan-Sala	Cassiterite-sulfide-silicate vein and stockwork	Sn	Polousny
R	53	5	Baidakh	Clastic-sediment-hosted Sb-Au	Sb	Lower Yana
R	53	6	Dzhuotuk	Au in shear zone and quartz vein	Au	Kular
R	53	7	Tirekhtyak district (Nagornoe, Podgornoe, Poputnoe)	Sn-W greisen, stockwork, and quartz vein	Sn, W	Kular
R	53	8	Kyuchyus	Ag-Sb vein	Au, Hg, Sb	Lower Yana
R	53	9	Solur	Granitoid-related Au vein	Au	Kular
R	54	1	Ukachilkan	Cassiterite-sulfide-silicate vein and stockwork	Sn	Central Polousny
R	54	2	Dalnee	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Polousny
R	54	3	Deputatskoye	Sn-W greisen, stockwork, and quartz vein	Sn	Central Polousny
R	54	4	Takalkan	Sn-W greisen, stockwork, and quartz vein	Sn	Central Polousny
R	54	5	Chibagalakh	Sn skarn	B, Sn	Chybagalakh
S	44	1	Uboininskoye	Carbonate-hosted Hg-Sb	Hg	Tari-Bigaiy
S	45	1	Lenivaya River	W-Mo-Be greisen, stockwork, and quartz vein	Mo	North Taimyr
S	45	2	Rostorguev Island	W-Mo-Be greisen, stockwork, and quartz vein	Mo	North Taimyr
S	46	1	Kolomeitseva River	W-Mo-Be greisen, stockwork, and quartz vein	Mo	North Taimyr
S	46	2	Mamont River 2	Porphyry Cu-Mo (±Au, Ag)	Mo	North Taimyr
S	46	3	Mamont River 1	W-Mo-Be greisen, stockwork, and quartz vein	Mo	North Taimyr
S	46	4	Morzhovoye	W-Mo-Be greisen, stockwork, and quartz vein	Mo	North Taimyr
S	46	5	Ilistaya River	Porphyry Cu-Mo (±Au, Ag)	Cu	North Taimyr
S	46	6	Shtellinga Cape	REE-Li pegmatite	Be	Birulinsk
S	46	7	Geologicheskaya Gryada	Podiform chromite	Cr	Unassigned
S	46	8	Izvilistaya River	Carbonate-hosted Hg-Sb	Hg	Tari-Bigaiy
S	47	1	Surovoye Lake 1	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Byrranga
S	47	2	Oranzhevaya River 1	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Pb, Ag	Byrranda
S	47	3	Partizanskoye	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Byrranga
S	48	1	Nirkaika-Tari 1	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb	Byrranga
S	48	2	Malachai-Tari 1	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Cu	Byrranga
S	48	3	Kungasalakh 1	Mafic-ultramafic related Cu-Ni-PGE	Cu	Byrranga
T	46	1	Birulinskoye	REE-Li pegmatite	Be	Birulinsk
T	47	1	Lagerny Cape	Mafic-ultramafic related Cu-Ni-PGE	Cu	Severo-Zemelsk
T	47	2	Studeninskoye	Granitoid-related Au vein	Au	Unassigned
T	47	3	Ozernaya River	Mafic-ultramafic related Cu-Ni-PGE	Cu	Severo-Zemelsk
T	47	4	Olovyanny Cape	W-Mo-Be greisen, stockwork, and quartz vein	Sn	North Taimyr
T	48	1	Kunarskoye 1	Granitoid-related Au vein	Au	Unassigned
T	48	2	Lodochnikov Plateau 1	W-Mo-Be greisen, stockwork, and quartz vein	Mo	North Taimyr
U	47	1	Proliv Krasnoy Armii	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Pb, Zn	Byrranga

Row	Col.	No.	Deposit Name	Deposit Type	Major Metals

Table 3. Summary table for selected significant placer districts of Northeast Asia. Districts listed in numerical order by map row and map column for quadrants of latitude and longitude.

H	52	01	Ibusuki	Placer Fe	Fe
I	52	01	Kunisaki	Placer Fe	Fe
I	53	01	Yonago	Placer Fe	Fe
I	53	02	Iioka	Placer Fe	Fe
J	51	01	Toudaohe area, Fuxian County	Placer diamond	Diamond
J	51	02	Jiaodong(East part of Shandong Province)	Placer Au	Au
J	52	01	Hanjin	Placer Au	Au
J	52	02	Sungnam	Placer Au	Au
J	52	03	Asan Bay	Placer Au	Au
J	52	04	Kumma-chon	Placer Au	Au
J	52	05	Musim-chon	Placer Au	Au
J	52	06	Koseong	Placer Th	Th
J	54	01	Kitakami	Placer and paleoplacer Au	Au
J	54	02	Nishimikawa	Placer and paleoplacer Au	Au
K	48	01	Khar Morit	Placer Sn	SnO2
K	49	01	Yinshan, Inner Mongolia	Placer Au	Au
K	49	02	Kuji	Placer Fe	Fe
K	50	01	Gaositai	Placer PGE	Pt
K	50	02	Yanliao	Placer Au	Au
K	51	01	Kamikita	Placer Fe	Fe
K	51	02	Liaodong(Eastern Liaoning Province)	Placer Au	Au
K	52	01	Hunchun-Huadian, Jilin Province	Placer Au and paleoplacer Au	Au
K	54	01	Horokanai	Placer PGE	Pt, Cr, Au
K	54	02	Shirokingawa	Placer PGE	Pt, Au
K	54	03	Imagane	Placer and paleoplacer Au	Au
K	54	04	Funkawan	Placer Fe	Fe
K	54	05	Matsumae	Placer and paleoplacer Au	Au
L	45	01	Altai, Xinjiang	Placer Au	Au
L	47	01	Dovont	Placer Au	Au
L	48	01	Uyanga-Taragt	Placer Au	Au
L	48	02	Baruun-Urt	Placer Au	Au
L	48	03	Janchivlan	Placer Sn	SnO2
L	48	04	Baga Gazar	Placer Sn	SnO2
L	49	01	Modot	Placer Sn	SnO2
L	52	01	Jiayin	Placer Au	Au
L	52	02	Huanan	Placer Au	Au
L	52	03	Dongning	Placer Au	Au
L	54	01	Teshio	Placer PGE	PGE, Cr, Au
L	54	02	Esashi	Placer and paleoplacer Au	Au
L	54	03	Il'inka River	Placer Au	Au
L	54	04	Koppi-Nelman	Placer Ti	Ti
M	46	01	Burgastain-gol	Placer Au	Au
M	48	01	Yoroo-gol	Placer Au	Au
M	48	02	Sharyn-gol-Bukhlei	Placer Au	Au
M	48	03	Boroo-Zuunmod	Placer Au	Au
M	48	04	Zaamar	Placer Au	Au
M	49	01	Baljiin-gol	Placer Au	Au
M	49	02	Terelj	Placer Au	Au
M	49	03	Turgen	Placer Au	Au
M	49	04	Narsynkhondlon	Placer Au	Au
M	49	05	Deed Kumiir	Placer Sn	SnO2
M	49	06	Zuuntarts	Placer Sn	SnO2
M	52	01	Malokhingansky (Malokhingan) district	Placer Au	Au
M	52	02	Blagoveshchensk-Svobodnensky district	Placer Au	Au
M	52	03	Turansky district	Placer Au	Au
M	52	04	Huma	Placer Au	Au
M	54	01	Oemku	Placer Au	Au
M	54	02	Langeriiskoe	Placer Au	Au

Row	Col.	No.	Deposit Name	Deposit Type	Major Metals
N	51	01	Verkhnegilyui	Placer Au	Au
N	51	02	Svrednenyu Kazhinsky	Placer Au	Au
N	51	03	Verkhneamursky	Placer Au	Au
N	51	04	Gonzhinsky (Gonzha)	Placer Au	Au
N	51	05	Mohe	Placer Au	Au
N	52	01	Verkhnezeisky	Placer Au	Au
N	52	02a	Dambuki-Part A	Placer Au	Au
N	52	02b	Dambuki-Part B	Placer Au	Au
N	52	03	Dzhagdy	Placer Au	Au
N	52	04a	Zeiya-Selemdzha-Part A	Placer Au	Au
N	52	04b	Zeiya-Selemdzha-Part B	Placer Au	Au
N	52	04c	Zeiya-Selemdzha-Part C	Placer Au	Au
N	53	01	Verkhne-Selemdzha	Placer Au	Au
N	53	02	Sofiiskoe	Placer Au	Au
N	53	03	Kerbi	Placer Au	Au
N	54	01	Ulskoe	Placer Au	Au
N	54	02	Kolchanskoe	Placer Au	Au
N	54	03	Kherpuchinskoe	Placer Au	Au
N	54	04	Oktyabrskoe	Placer Au	Au
N	54	05	Schmidtovskoe	Placer Au	Au
O	51	01	Nizhnenyukzhinsky	Placer Au	Au
O	53	01	Kurun-Uryakh	Placer Au	Au
O	53	02	Kondyor	Placer PGE	PGE
O	53	03	Sash-Yular	Placer Ti	Ti
O	54	01	Okhotsk	Placer Au	Au
P	54	01	Allakh-Yun	Placer Au	Au
Q	52	01	Verkhoyansk	Placer Au	Au
Q	53	01	Verkhne-Yansky	Placer Sn	Sn
Q	53	02	Adychan	Placer Au	Au
Q	54	01	Verkhne-Indigirsky	Placer Au	Au
R	53	01	Kular	Placer Au	Au
R	54	01	Polousnensky	Placer Sn	Sn
R	54	02	Khatynnak-Sala	Placer Au	Au

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments

Table 4. Summary of major metallogenic belts for Northeast Asia (Russian Far East, Yakutia, Siberia, Transbaikalia, Northeastern China, Mongolia, South Korea, and Japan). For each time span, metallogenic belts are listed from west to east, progressing from north to south.

ARCHEAN (> 2500 Ma) METALLOGENIC BELTS					
West Aldan (WA)	Banded iron formation (BIF, Algoma Fe) (Charskoye, Tarynnakh, Nelyuki, Dagda, Sulumatskoye, Severnoye and Yuzhnoye NizhneSakukan, Sakukannyrskoye and Oleng-Turritakhskoye); Au in shear zone and quartz vein (Lemochi, Olondo)	Russia, Southern Yakutia	West Aldan terrane (Granite-greenstone).	Archean to Paleoproterozoic. Metavolcanic and sedimentary rocks interlayered with BIF have isotopic ages of 2.7 to 3.2 Ga. Age of Au occurrences is Late Archean to Paleoproterozoic.	Belt interpreted as forming in back-arc basin and (or) island arc. Au occurrences mainly in the shear zones cutting metabasalt, amphibilite, and ultramafic rock. Shear zones formed during amalgamation of terranes or during later tectonic events. BIF (magnetite quartzite) forms stratiform layers and lenses in metabasalt and amphibolite, and local siliceous metavolcanic rock and schist.
Sutam (St)	Banded iron formation (BIF, Algoma Fe) (Olimpiyskoe)	Russia, Southern Yakutia	Central Aldan superterrane (Granulite-orthogneiss) containing Sutam terrane with high-T and high-P granulites.	Archean. Gneiss in Sutam block has isotopic age of 2.5 to 3.0 Ga.	Two rock groups with BIF occur in belt. (1) Magnetite-hypersthene and magnetite-pyroxene gneiss interbedded with amphibole-pyroxene and magnetite-pyroxen-plagioclase schist. BIF consists of magnetite and hypersthene-magnetite quartzite occur in outer part of an antiform. (2) Feldspar quartzite interlayered with garnet- and sillimanite-bearing schist with diopside calciphyre. Also occurring are magnetite-hypersthene and garnet-magnetite hypersthene layers.
Sharizhalgaiskiy (Shz)	Banded iron formation (BIF, Algoma Fe); Talc (magnesite) replacement (Sosnovy Baits, Baikalskoye, Savinskoye)	Russia, Southern-Eastern Siberia (East Sayan)	Sharizhalgay terrane (Tonalite-trondhjemite gneiss) and Onot terrane (Granite-greenstone) (too small to show on 10 M scale map)	Archean. Sharyzhalgay series has U-Pb, Rb-Sr, Sm-Nd isotopic ages of 2.42 to 3.12 Ga. Sedimentary rocks in Onot terrane are Paleoproterozoic.	Some deposits (Kitoy group and Baikalskoye deposit) are Archean sequences. Others (Onot group – Sosnovy Baits deposits) are Proterozoic. Layering in ferruginous quartzite and occurrence in two-pyroxene schists are interpreted as derived from ferruginous volcanic and sedimentary rock sequences.
Yanbei (YB)	Metamorphic graphite (Xinghe)	Northern China	Sino-Korean Craton - Erduosi terrane (Granulite-paragneiss)	Interpreted as Late Archean.	Deposits hosted in shallow marine clastic and carbonate sedimentary rocks that formed in a passive Late Archean continental margin and were metamorphosed to granulite facies. Host rocks are part of the Late Archean Upper Jining Group that consists of a khondalite series.
Jidong (JD)	Banded iron formation (BIF, Algoma Fe) (Shuichang); Au in shear zone and quartz vein (Jinchangyu)	Northern China	Sino-Korean Craton - West Liaoning-Hebei-Shanxi terrane (Granulite-orthogneiss)	Archean for BIF deposits that have Rb-Sr isotopic age greater than 3,500 Ma. Proterozoic or younger for Au deposits in shear and retrograde metamorphic zones with isotopic ages of 2.5 to 2.6 Ga., 1.7 to 1.8 Ga., or younger.	BIF interpreted as forming in volcanic and sedimentation basin along an unstable proto-continental margin, or in fragment of Archean craton. Au deposits interpreted as forming during retrograde metamorphism to greenschist facies.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Liaoxi (LX)	Banded iron formation (BIF, Algoma Fe) (Baoguosi); Au in shear zone and quartz vein (Paishanlou)	Northeastern China	Sino-Korean Craton - West Liaoning-Hebei-Shanxi terrane (Granulite-orthogneiss)	Late Archean. BIF with isotopic ages of about 2,600 to 2,500 Ma.	Belt hosted in Liaoxi greenstone belt with BIF deposits interpreted as as forming in a rift along a Late Archean continental margin. Host rocks consist of the following major units: (1) greenstone belt (Xiaotaziguo, Dayinzi and Waziyiu formations of Jianping; and (2) tonalite-trondhjemite-granodiorite and other units. Au deposits interpreted as forming during retrograde metamorphism to greenschist facies.
Liaoji (LJ)	Banded iron formation (BIF, Algoma Fe) (Gongchangling); Volcanogenic Zn-Pb-Cu massive sulfide (Hongtoushan); Au in shear zone and quartz vein (Jiapigou)	Northeastern China	Sino-Korean Craton, Jilin-Liaoning-East Shandong terrane	Late Archean. Metamorphic age of the Anshan Group hosting BIF is 2,500 to 2,650 Ma. Isotopic age of BIF units probably older than 2,800 Ma. U-Pb zircon isotopic age for trondhjemite (mylonite) is 3,804 Ma.	Host greenstone belt in Northern Liaoning (Hunbei) area interpreted as forming in an active continental margin whereas greenstone belts in Anshan-Benxi and Jiapigou areas interpreted as forming in oceanic rifts along a continental margin. Au deposits interpreted as forming during retrograde metamorphism to greenschist facies.
Wutai (WT)	Banded iron formation (BIF, Algoma Fe) (Baizhiyan)	Northern China	Sino-Korean Craton - West Liaoning-Hebei-Shanxi terrane (Granulite-orthogneiss)	Archean. Isotopic ages of >2500 Ma.	Wutai greenstone belt and contained BIF deposits interpreted as forming in non-mature to mature island arc.
PALEOPROTEROZOIC (2500 to 1600 Ma) METALLOGENIC BELTS					
Uguy-Udokanskiy (UU)	Zoned mafic-ultramafic Cr-PGE; Sediment-hosted Cu; Ta-Nb-REE alkaline metasomatite; (Chineyskoye; Udokanskoye, Pravo-Ingamakit, Sakinskoye, Sulbanskoye, Katuginskoye)	Russia, Southern Yakutia	West Aldan terrane (Granite-greenstone)	Paleoproterozoic. Cu sandstone in Udokan deposit is 2.2 to 1.8 Ga. Ta, Nb, REE alkaline metasomatite deposits age is 2.0 to 1.6 Ga	Cr and PGEdeposits in zoned mafic-ultramafic plutons and Cu in the sedimentary rocks interpreted as forming along a passive continental-margin rift. Ta-Nb-REE alkaline metasomatite deposits interpreted as forming during later collision and formation of anatectic granite.
Kalar-Stanovoy (KS)	Au in shear zone and quartz vein (Ledyanoe, Namark, Pravokabaktanskoe)	Russia, Southern Yakutia	Veins in Kalar tectonic melange zone	Interpreted as Paleoproterozoic (about 2,000 Ma)	Belt interpreted as forming during the collision between Tynda and West Aldan terranes in Aldan-Stanovoy region and during subsequent collapse of orogenic belt. Cause of collision was amalgamation of terranes during the formation of the North Asia Craton. Au deposits occur shear zones that cut metamorphosed mafic and ultramafic and plutonic rock.
Amga-Stanovoy (AS)	Au in shear zone and quartz vein (Various occurrences)	Russia, Southern Yakutia	Veins in Amga tectonic melange zone	Interpreted as Paleoproterozoic (about 2,000 Ma).	Belt interpreted as forming during the collision of the West-Aldan and Tynda composite terranes and the Central Aldan superterrane in the Aldan-Stanovoy region and during subsequent collapse of orogenic belt. The reason for collision is unclear. The Au deposits occur in shear zones that cut metamorphosed mafic and ultramafic plutonic rocks and other plutonic rocks.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Upper Aldan (UA)	Piezoquartz (Perekatnoye, Bugarykta)	Russia, Southern Yakutia	Central Aldan superterrane (Granulite-orthogneiss)	Late Paleoproterozoic. Veins of rock crystal have isotopic ages of 1,830 to 1,750 Ma. Rock crystal clasts occur in overlying Vendian conglomerate.	Belt interpreted as forming during a post-collisional tectonic event possibly in a rift. Deposits occur in Late Archean and Paleoproterozoic quartzite strata associated with high-alumina gneiss and mafic schist metamorphosed to granulite facies. Deposits tend to occur at rupture intersections and in flexures and periclines of folds, and in single veins and vein zones. Most important are pipe veins and stockworks that range up to a few tens of meters in width. Rock crystals grow on walls of voids or occur in the lower part of the voids in clay. Voids occur in quartz veins, at the contacts between veins and the host rocks, or in adjacent host rocks that are altered to chlorite, sericite, and epidote.
Nimnyr (NM)	Apatite carbonatite (Seligdar)	Russia, Southern Yakutia	Central Aldan superterrane (Granulite-orthogneiss)	Paleoproterozoic. Carbonatite pluton with isotopic age of 1900 Ma	Carbonatite interpreted as forming during interplate rifting. Deposits consist of apatite-carbonate, apatite-quartz-carbonate, martite-apatite-quartz-carbonate, and martite-apatite-carbonate and apatite-carbonate-quartz ores in carbonatite in asymmetric stocks.
Dyos-Leglier (DL)	Fe skarn (Tayozhnoe 2, Dyosovskoe, Emeldzhak)	Russia, Southern Yakutia	Replacements in Central Aldan (Granulite-orthogneiss) superterrane	Interpreted as Paleoproterozoic (about 2,000 Ma)	Belt interpreted as forming during a late (or post) collisional tectonic event. Deposits consist of magnetite skarn, magnesian skarn, amphibole-diopside rock, calciphyre, and biotite gneiss that are metamorphosed to amphibolite facies). Host rocks are amphibole gneiss and schist and high-alumina gneiss and quartzite-gneiss that are intruded by metamorphosed ultramafic rock, gabbro, and diorite that are metamorphosed to granulite facies. Deposits range from concordant to en-echelon.
Tympton (TM)	Phlogopite skarn (Nadyozhnoe)	Russia, Southern Yakutia	Replacements in Central Aldan superterrane and eastern Amga tectonic melange zone	Paleoproterozoic. Age of deposit is 1.9 to 1.8 Ga. Hosted rocks have isotopic ages of 2.3 to 2.1 Ga.	Belt interpreted as forming during a late (or post) collisional tectonic event. Deposits occur in diopside and phlogopite-diopside schist, marble, and calciphyre that are metasomatized into coarse-grained phlogopite-diopside skarn. Some deposits are controlled by synforms and fold hinges, and cores of superposed transverse folds that are favorable for phlogopite. Deposits consist of phlogopite, diopside, hornblende, scapolite, apatite, and actinolite. Phlogopite forms nest-like accumulations and rarely as thin veins.
Tyrkanda-Stanovoy (TS)	Au in shear zone and quartz vein (Kolchedannyi Utyos)	Russia, Southern Yakutia	Veins in Tyrkanda tectonic melange zone	Interpreted as Paleoproterozoic (about 2,000 Ma).	Belt interpreted as forming during collision between the Tynda composite terrane and Central Aldan and East Aldan superterranes. The reason for collision is unclear. in the Aldan-Stanovoy region and during subsequent collapse of orogenic belt. Au shear zone deposits cut metamorphosed mafic and utramafic bodies and plutonic rocks.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Davangra-Nalurak (DN)	REE placer; Banded Iron formation (BIF, Superior Fe) (Atugey)	Russia, Southern Yakutia	Central Aldan superterrane (Granulite-orthogneiss)	Interpreted as late Paleoproterozoic	Belt interpreted as forming in grabens in a Precambrian intracratonic basin that formed during intracontinental rifting. Source rocks for REE minerals are interpreted as granitoids in the Central Aldan superterrane and alkalic volcanic rocks that erupted during rifting. Placer deposits occur in thick quartz and arkose sandstone, and gravelstone horizons.
Uchur (UH)	Phlogopite skarn (Megyuskan)	Russia, Southern Yakutia	Replacements in East Aldan superterrane - Batomga composite terrane)	Interpreted as Paleoproterozoic (about 2,000 Ma)	Belt interpreted as forming during a late-stage or post-collisional tectonic event as a result of collision between the Central Aldan and East Aldan superterranes. The reason for the collision is unclear.
Kavakta (KV)	Magmatic and metasomatic apatite(?) (Kavakta)	Russia, Southern Yakutia	Mafic-ultramafic plutons in Amga tectonic melange zone	Interpreted as Paleoproterozoic	Belt interpreted forming during rifting related to break up of a hypothetical Late Archean continent at 2.5 to 2.3 Ga.
Baladek (Bal)	Anorthosite apatite-Ti-Fe-P (Bogidenskoe, Gayumskoe, Maimakanskoe, Dzhaninskoe)	Russia, Far East	Baladek terrane (Metamorphic) (too small to show at 10 M scale)	Early Paleoproterozoic. Anorthosite intruded by granite and granodiorite with preliminary U-Pb isotopic age between 2.2 and 2.6 Ga	Anorthosite hosting the belt is interpreted as forming during interplate magmatism.
Mugursk (MG)	Banded iron formation (BIF, Algoma Fe) (Mugurskoye)	Southeast Tuva, Altai-Sayan folded area, Russia	Sangilen terrane (Passive continental margin)	Paleoproterozoic	Belt interpreted as forming in Tuva-Mongolian microcontinent margin as a fragment of Laurasia. BIF deposits occur in metamorphosed Paleoproterozoic sedimentary rocks.
Khan Hohii (KH)	Banded iron formation (BIF, Algoma Fe) (Tomorchuluut)	Northwestern Mongolia	Baydrag terrane (Cratonal), Khan Hohii and North Songino fragments	Interpreted age if Paleoproterozoic. Pb-Pb zircon isotopic age of Songino gneiss is 1,863 Ma	BIF deposits hosted in Paleoproterozoic gneiss, amphibolite, crystalline schist marble and quartzite derived from a volcanic and clastic sedimentary rock basin that is interpreted as forming in a continental margin arc.
Tarvagatai (TA)	Banded iron formation (BIF, Algoma Fe)(Salbart group); Mafic-ultramafic related Ti-Fe (±V) (Salbart uul)	Central Mongolia	Baydrag terrane (Cratonal), Tarvagatai fragment	Paleoproterozoic(?). Host metamorphic complex is intruded by Most uul gabbro and anorthosite complex with isotopic ages of 1,800 to 3,000 Ma. Zircon isotopic ages for anorthosite range from 1800 to 3,000 Ma	BIF occurrences are hosted in lower Proterozoic gneiss, amphibolite, schist marble and quartzite derived from a volcaniclastic and sedimentary rock deposited in a volcaniclastic basin. Anorthosite hosting Ti-Fe occurrences is interpreted as forming in a continental margin arc.
Baydrag (BD)	Banded iron formation (BIF, Algoma Fe) (Baidrag)	Central Mongolia	Baydrag terrane (Cratonal), Baydrag fragment	Paleoproterozoic. K-Ar phlogopite isotopic age for skarn is 1,900 Ma. U-Pb isochron and Pb-Pb thermo-isochron zircon ages range from 2650 to 2800 Ma for tonalite gneiss in Baydrag metamorphic complex, and 2,400 Ma for charnokite in Bombogor intrusive Complex	BIF deposits hosted in Paleoproterozoic gneiss, amphibolite, crystalline schist marble and quartzite derived from a volcanic and clastic sedimentary rock basin. Host rocks intruded by Bombogor intrusive complex that is interpreted as a continental margin arc.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Yinshan (YS)	Banded iron formation (BIF, Algoma Fe) (Sanhemen)	Northern China	Zhangbei-Bayan Obo-Langshan rift-related metasedimentary and metavolcanic rocks	Late Paleoproterozoic. Isotopic age of 1,800 to 1,600 Ma	Deposits are hosted in a marine overlap volcaniclastic assemblage that is interpreted as forming in in an aulacogen.
Qinglong (QL)	Banded iron formation (BIF, Algoma Fe) (Zhalanzhangzhi); Clastic-sediment-hosted Sb-Au (Qinglonghe)	Northern China	Sino-Korean Craton -West Liaoning-Hebei-Shanxi terrane	Paleoproterozoic	BIF hosted in marine volcaniclastic and clastic sedimentary rocks with minor conglomerate that are metamorphosed to amphibolite and greenschist facies. The belt is interpreted as forming in a passive continental margin or aulacogen that was subsequently regionally metamorphosed and thrusted (Zhang Yixia and others, 1986).
Yanliao 1 (YL-1)	Chemical-sedimentary Fe-Mn (Pangjiapu)	Northern China	Lower part of Sino-Korea platform sedimentary cover	Late Paleoproterozoic. Isotopic age of host Changcheng Group is 1,800 to 1,600 Ma.	Belt interpreted as forming during sedimentation in a shallow marine basin (Yanliao Basin) along Late Paleoproterozoic passive contimental margin of Sino-Korean Craton.
Jiliaojiao 1 (JLJ)	Sedimentary-metamorphic borate (Wengquangou); Sedimentary-metamorphic magnesite (Xiafangshen); Talc (magnesite) replacement (Fanjiapuzi); Banded iron formation (BIF, Superior Fe) (Dalizi); Korean Pb-Zn massive sulfide (Qingchengzi); Au in shear zone and quartz vein (Baiyunshan, Nancha)	Northern China and Northeastern China	East Shandong-East Liaoning-East Jilin rift basin	Late Paleoproterozoic. Metamorphism and intense deformation occurred at 1.9 Ga. Paleoproterozoic Dashiqiao Formation is with isotopic age of 1,700 to 1,500 Ma. Marble in Proterozoic Liaohe group has isotopic age of 1,800 Ma.	Belt interpreted as forming in a passive continental margin, possibly as part of the Paleoproterozoic East Shandong-East Liaoning-East Jilin rift. Environment of formation and deposit controls are debated.
Luliangshan (LL)	Banded iron formation (BIF, Superior Fe) (Yuanjiachun); Au in shear zone and quartz vein (Hulishan)	Northern China	Hutuo rift basin	Early Paleoproterozoic. Pb-Pb isotopic age of 2,230 Ma. U-Pb zircon isotopic age of 2,366 Ma.	BIF iron and shear zone Au deposits interpreted as forming in an Paleoproterozoic Hutuo rift that was superposed on the Archean Northern China Craton.
Oryudong-Gapyeong (OM)	Metamorphic graphite (Oryu-dong)	South Korea	South China Craton - Gyenggi terrane (Granulite-paragneiss)	Late Paleoproterozoic and Early Mesoproterozoic. Host rocks with isotopic age of 1800 to 1400 Ma.	Belt is interpreted as forming during metamorphism of marine sedimentary rocks. Belt hosted in Paleoproterozoic metamorphic complex composed of biotite schist, lesser chlorite schist, injection gneiss and marble. Injection gneiss intercalated with banded structure of 10 to 15 m thick. Crystalline graphite mostly associated with biotite schist.
Yangyang (YG)	Regionally metamorphosed BIF (Yangyang)	South Korea	South China Craton - Gyenggi terrane (Granulite-paragneiss)	Paleoproterozoic. Isotopic ages of 2,500 to 1,800 Ma.	Metamorphosed BIF deposits are interpreted as forming during contact metasomatism of BIF and formation of magnetite skarn during intrusion of Jurassic Daebo Granite.
MESOPROTEROZOIC (1600 to 1000 Ma) METALLOGENIC BELTS					

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Ingili (Ing)	Stratiform Zr (Algama type) (Algama)	Russia, Far East	Margins between North Asian Craton and North Asian Craton Margin	Mesoproterozoic	Deposit formed in two stages. Initial chemical-sedimentary deposition of disseminated Zr in shallow marine dolomite. Subsequent concentration during diagenesis, karst formation, and hydrothermal fluids associated with intrusion of rift-related mafic and ultramafic dikes.
Tagulskiy (Tag)	Muscovite pegmatite; REE-Li pegmatite (Vishnyakovskoye); Mafic-ultramafic related Ti-Fe (±V) (Malo-Tagulskoye).	Russia, Southern-Eastern Siberia (East Sayan)	Sayan collisional granitic belt intruding Tumanshet terrane (Paragneiss) and Birusa terrane (Paragneiss)	Mesoproterozoic(?). Interpreted age for magmatic complexes associated with deposits..	Belt interpreted as forming during widespread mafic and siliceous intraplate magmatism. Belt occurs along northwest-striking regional faults that controlled a Proterozoic magmatic and hydrothermal system.
Darvi (DR)	Sedimentary bauxite; Sedimentary Fe-V (Alag Uul)	Mongolia	Baydrag terrane (Cratonal)	Interpreted as Mesoproterozoic	Belt interpreted as forming during bauxite sedimentation in Lower to Middle Riphean sedimentary basin along a passive continental margin.
Tseel (Tse)	Muscovite pegmatite (Bodonch); Banded iron formation (BIF, Algoma Fe) (Ikh Ganga)	Mongolia	Qinghe-Tsel terrane	Age controversy: (1) Pb-Pb zircon age of muscovite pegmatite is 780 Ma; or (2) Pb-Pb zircon age of polymetamorphosed and polydeformed rocks is 2,200 Ma.	Belt related to intrusion of granitoid magmatism during regional metamorphism. Belt is interpreted as forming during Fe sedimentation in early to middle Riphean sedimentary basin and during granitoid magmatism along an active continental margin.
Tsenherman dal-Modot (TsM)	Metamorphic graphite (Zulegt)	Mongolia	Argunsky terrane (Passive continental margin), Ereendavaa fragment	Interpreted as Mesoproterozoic.	Belt interpreted as derived from carbon-and iron - bearing sedimentary rocks that precipitated in basin along Riphean passive continental margin that was regionally metamorphosed in the upper Riphean.
Langshan-Bayan Obo (LB)	Sedimentary exhalative Pb-Zn (SEDEX) (Huogeqi) Polygenic REE-Fe-Nb deposits (Bayan Obo)	Northern China	Layers in Zhangbei-Bayan Obo-Langshan rift-related metasedimentary and metavolcanic rocks.	Mesoproterozoic. Sm-Nd isochron ages for monazite, bastnaesite, riebeckite gains are 1,200 to 1,300 Ma. Th-Pb and Sm-Nd ages of Ba-REE-F carbonates and aeschynite are 474 to 402 Ma.	Bayan Obo deposit interpreted as a SEDEX deposit related to a carbonatite magma and associated hydrothermal activity. Belt hosted in Paleoproterozoic and Mesoproterozoic overlap sedimentary assemblages that formed in a rift along the passive continental margin of the Sino-Korean Craton.
Wenduer-miao (WD)	Volcanogenic-sedimentary Fe (Wenduermiao)	Northern China	Wundurmiao terrane (Accretionary wedge)	Mesoproterozoic through early Neoproterozoic. Sm-Nb isotopic age of host Wenduermiao strata ranges from 1,500 to 850 Ma.	Belt interpreted as forming during Mesoproterozoic volcanism and sedimentation with metamorphism and deformation occurring during accretion of the Wenduermiao terrane.
Yanliao 2 (YL-2)	Chemical-sedimentary Mn (Wafangzi); Sedimentary exhalative Pb-Zn (SEDEX) (Gaobanhe Pb-Zn)	Northern China and Northeastern China	Jixian Group in Sino-Korea platform sedimentary cover	Mesoproterozoic. Age of Jixian Group is 1,400 to 1,100 Ma.	Belt interpreted as forming in a shallow marine basin on the Northern China Platform..
Fanhe (FH)	Carbonate-hosted Pb-Zn (Mississippi type) (Chaihe)	Northeastern China	Fanhe Mesoproterozoic sedimentary basin (too small to show on 10 M scale map) that comprises part of Sino-Korea platform sedimentary cover	Early to Middle Mesoproterozoic. Isotopic ages of 1600 to 1300 Ma.	Belt interpreted forming in a small Mesoproterozoic aulacogen superposed on the Northern China Craton.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Chungnam (CN)	Banded iron formation (Seosan); Metasomatic U(?) (Kongju)	South Korea	South China Craton - Gyenggi terrane, Ogcheon Group	Late Paleoproterozoic and Early Mesoproterozoic. Isotopic age range of 1,400 to 800 Ma.	Belt hosted in middle Proterozoic Gyeonggi meta complex and Ogcheon Group that consists of graphitic black schist, mica schist, quartz schist and granite gneiss. Graphite deposits occur in zones or lenses in quartz schist. U deposits occur in graphitic black shale. Uranite interpreted as forming in a reducing environment from U that was absorbed in the carbonaceous material, diring circulation of U-bearing ore solution.
Koksung (KO)	Magmatic graphite (Koksung)	South Korea	Sino-Korean Craton - Yeongnam terrane, Yeongnam Metamorphic Complex	Mesoproterozoic and Neoproterozoic. Isotopic age range of 1,400 to 800 Ma.	Belt hosted in Yeongnam Metamorphic Complex that consists of leucogranite gneiss, hornblende plagioclase gneiss, biotite gneiss, and biotite schist. Graphite deposits occur in granite gneiss and graphite bearing biotite schist generally minor graphite.
NEOPROTEROZOIC (1000 to 540 Ma) METALLOGENIC BELTS					
Igarsk (IG)	Sediment-hosted Cu (Graviiskoye)	Russia, Eastern Siberia	North Asian Craton Margin	Vendian to Early Cambrian.	Deposits consist of sulfides in lenses in red-beds and fradftures in sedimentary rocks of the North Asian Craton Margin. Deposits are related to zones of lateral pinching of red-bed molasse sedimentary rock that formed in the final stage of development of orogen basin.
Isakovsk (IS)	Volcanogenic-sedimentary Mn (Porozhinskoye 1); Volcanogenic Cu-Zn massive sulfide (Urals type) (Khariuzikhinskoye 1)	Russia, Eastern Siberia (Yenisei Ridge)	Isakov terrane (Island arc)	Middle and Late Riphean. Rb-Sr isotopic age of underlying ophiolite in terrane of about 1,260 Ma.	Volcanogenic Cu-Zn massive sulfide hosted in overlapping metamorphosed rhyolite, andesite, and basalt are interpreted as forming in an island-arc. Mn deposits at Porozhninskoye occur in Late Riphean-Vendian chert, clastic, and carbonate sequence. Ophiolite in terrane contains MORB basalt. Belt hosted in early Middle to Late Riphean island arc and ophiolite complex
Tatarsko-Tyradinsk (TT)	REE-Li pegmatite (Enashiminskoye 3); W-Mo-Be greisen, stockwork, and quartz vein (Oleniya Gora); REE (±Ta, Nb, Fe) carbonatite (Tatarskoye)	Russia, Eastern Siberia (Yenisei Ridge)	Veins and replacements in Central Angara terrane (Passive continental margin) and Isakov terrane (Island arc)	Late Neoproterozoic. Rb-Sr isotopic age of metasomatite is 620 to 660 Ma. U-Th-Pb isotopic age of 625 Ma. K-Ar isotopic age of 626 Ma.	Belt and associated magmatic complexes interpreted as forming in interblock tectonic zones. Coeval granitoid and alkaline deposits, and related magmatic complexes interpreted as forming during collision and local opening of the deep interblock zones that formed during oblique collision.
Vorogovsko-Angarsk (VA)	Sedimentary exhalative Pb-Zn (SEDEX) (Gorevskoye); Carbonate-hosted Pb-Zn (Mississippi valley type) (Moryanikhinskoye); Fe skarn (Enashiminskoye)	Russia, Eastern Siberia (Yenisei Ridge)	West Angara terrane (Passive continental margin)	Early Neoproterozoic. Model Pb-Pb isotopic age for Gorevskoye deposit is 834 to 852 Ma. Pb isotopic age of Moryanikhinskoye deposit is 740 to 849 Ma. Host rocks have isotopic age of 950 Ma.	SEDEX deposits interpreted as forming along transcrustal block-bounding faults in margin of the platform. Carbonate-hosted Pb-Zn deposits hosted in reefs. Fe skarn deposits formed during contact metasomatism of marine volcanic and sedimentary rocks.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Central-Yenisei (CY)	Au in black shale (Olympiada); Au in shear zone and quartz vein (Sovetskoye); Clastic-sediment-hosted Sb-Au (Udereiskoye)	Russia, Eastern Siberia (Yenisei Ridge)	Central Angara terrane (Passive continental margin)	Late Neoproterozoic. K-Ar isotopic age for late-stage hydromica metasomatites in Sb-Au deposit is 605 Ma to 664 Ma. Rb-Sr isotopic age for Tatarsk granitoid is 601 Ma.	Gold deposits interpreted as forming during collisional development of the late Riphean continental margin of the North Asian Craton. Gold initially occurring in black shale was subsequently concentrated and remobilized during collision-related metamorphism, granitoid intrusion, and hydrothermal activity.
Kyllakh (KY)	Carbonate-hosted Pb-Zn (Mississippi valley type) (Sardana, Urui, Pereval'noe)	Russia, Far East	North Asian Craton Margin - Verkhoyansk fold and thrust belt	Vendian	Belt interpreted as forming on passive margin of the North Asian Craton in the Vendian. Economic deposits occur in areas of facial thinning of dolomite.
Angara-Pit (AP)	Sedimentary siderite Fe (Nizhne-Angarskoye); Volcanogenic-sedimentary Fe	Russia, Eastern Siberia (Yenisei Ridge)	North Asian Craton Margin (East Angara fold and thrust belt)	Upper Riphean.	Belt interpreted as forming during pre-orogenic subsidence of the North Asian Craton margin in a back-arc (interland) sedimentary basin.
Kansk (KN)	Au in shear zone and quartz vein (Bogunai); REE-Li pegmatite (Barginskoye), W-Mo-Be greisen, stockwork, and quartz vein (Kanskoye)	Southern Russia, Yenisei Ridge	Veins in Kan terrane (Cratonal)	Early Neoproterozoic . Pb isochron is 850±50 Ma; U-Th-Pb isochron of 920±50 Ma.	Belt interpreted as forming during tectonic and magmatic activation of the Angara-Kan block. Au deposits related to small mafic intrusions that occur along the Sayan-Yenisei deep fault zone. W-Mo greisen and REE vein and pegmatite deposits of presumed Late-Riphean age related to early-stage collisional granitoids.
Tonodskiy (Tnd)	Au in black shale (Chertovo Koryto)	Russia, Northern Transbaikalia	Tonod greenschist terrane	Riphean.	Initial gold deposition from hydrothermal-metamorphic processes that occurred during Proterozoic regional metamorphism related to accretion and generation of Chuya-Nechera granitoids. Subsequent economic concentration during late Riphean tectonism and magmatism. Subsequent economic concentration during late Riphean tectonism and magmatism with intrusion of magmatic rocks along transform microplate boundaries and within plate (plume) environment.
Baikalo-Muiskiy (BM)	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu); Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite; Serpentinite-hosted asbestos (Kholodninskoye, Lugovoye, Molodezhnoye)	Russia, Northern Transbaikalia	Baikal-Muya terrane (Island arc) and Muya terrane (Metamorphic)	Neoproterozoic.	Various deposits in belt interpreted as forming in Baikal-Muya island arc or during Riphean accretion of terrane with Muya metamorphic terrane and Olokit-Delunuran accretionary wedge terrane.

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Bodaibin-skiy (Bod)	Au in black shale (Sukhoy Log, Vysochaishi, Dogaldynskoye)	Russia, Northern Transbaikalia	North Asian Craton Margin, Patom fold and thrust belt	Belt formation started in Neoproterozoic with subsequent enrichment in Devonian to Early Carboniferous. Age of gold from Sukhoy Log deposit is about 320 Ma.	Initial gold deposition during sedimentation and later metamorphism and hydrothermal activity. Subsequent Neoproterozoic post-collisional magmatic and hydrothermal activity formed economic deposits. Subsequent formation of gold-silver-sulfosalt deposits during magmatic and hydrothermal activity in middle and late Paleozoic.
Olokitskiy (OL)	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu) (Kuroko, Altai types) (Kholodninskoye)	Russia, Northern Transbaikalia	Olokit-Delununan terrane (Accretionary wedge)	Neoproterozoic. Isotopic ages of about 1,000 to 740 Ma.	Belt is interpreted as forming in island arc or back arc sequence incorporated into an accretionary wedge.
Mrass (MR)	Sedimentary phosphate (Tamalykskoye)	Russia, Southern-Eastern Siberia (Kuznetsk Alatau Mountains)	Altai-Sayan back-arc basin (Mrassu-Bateni unit)	Vendian to Early Cambrian	Belt interpreted as forming during shallow-water marine sedimentation in a back-arc environment.
Bellyk (BE)	Weathering crust and karst phosphate (Seibinskoye 2); Bedded barite (Tolcheinskoye)	Russia, Southern-Eastern Siberia (Kuznetsk Alatau, East Sayan, Altai-Sayan areas)	Altai-Sayan back-arc basin (Mrassu-Bateni unit)	Vendian to Early Cambrian	Belt formation during shallow-water marine sedimentation in a back-arc environment.
Lysansk (LS)	Mafic-ultramafic related Ti-Fe (±V) (Lysanskoye)	Russia, Southern-Eastern Siberia (East Sayan)	Mafic-ultramafic plutons in Kuvai terrane (Accretionary wedge)	Middle to Late Riphean.	Belt interpreted as forming in a Middle to Late Riphean ensialic island arc that was incorporated into an accretionary wedge.
Prisayan-skiy (PrS)	REE (±Ta, Nb, Fe) carbonatite; Mafic-ultramafic related Ti-Fe (±V) (Beloziminskoye) Diamond-bearing kimberlite (Onotskoe) Talc (magnesite) replacement (Ingashinskoye)	Russia, Southern-Eastern Siberia (East Sayan)	Various units associated with the Onot granite-greenstone and Sharizhalgay tonalite-trondhjemite gneiss terranes: (1) mafic-ultramafic plutons in the Ziminsky complex; (2) upper part of Onot terrane that consists of interbedded amphibolite, and magnesite and talc layers; and (3) ultramafic alkaline plutonic rocks that intrude; and (4) sparse micaceous kimberlite dikes. Various host units are too small to show at 10 M scale.	Late Neoproterozoic. Rb-Sr isochron age for talc deposit is 633 Ma	Belt occurs in enderbite-gneiss, tonalite-trondjemite, anorthosite-paragneiss formation of terranes that are fragments of Precambrian craton crystalline basement. Host terranes are uplifted parts of North Asian Craton.

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Pribaikal-skiy (PrB)	Carbonate-hosted Pb-Zn (Mississippi Valley type) (Barvinskoye, Lugovoye)	Russia, Western Transbaikalia	Sheared margin between Paleoproterozoic Akitkan volcanic-plutonic belt and North Asian Craton Margin, Patom fold and thrust belt.	Riphean.	Belt interpreted as forming along shear zones and faults that occur between an ancient active continental margin along the North Asian Craton.
Bokson-Kitoiskiy (B-K)	Sedimentary bauxite (Boksonskoye); Magmatic nepheline (Botogolskoye); Serpentine-hosted asbestos; Au in shear zone and quartz vein (Zun-Kholba)	Russia, Southern-Eastern Siberia (East Sayan)	Layers in, and veins and plutons intruding or associated with Belaya-Kitoy metamorphic terrane, Hug accretionary wedge terrane, Tunka tonalite-trondhjemite-gneiss terrane, Tannuola plutonic belt, and Huvsgol-Bokson sedimentary overlap assemblage.	Neoproterozoic through Silurian. Neoproterozoic sedimentary rocks with and Cambrian through Silurian metamorphism, hydrothermal alternation, and plutonic intrusion. Younger suture complex of Sumsunur tonalite complex with U-Pb and Rb-Sr isotopics ages of 790 Ma.	Belt hosted in metamorphic, oceanic, accretionary wedge, and accretionary wedge, and tonalite-trondhjemite-gneiss terranes that underwent Cambrian through Silurian metamorphism, hydrothermal alternation, and plutonic intrusion. Deposits formed in multiple events.
Lake (LA)	Volcanogenic Cu-Zn massive sulfide (Urals type) (Borts uul); Volcanogenic-sedimentary Fe; Podiform Cr; Mafic-ultramafic related Ti-Fe (±V); Cu (±Fe, Au, Ag, Mo) skarn; Fe skarn; Granitoid-related Au vein (Khyargas) Cyprus Cu-Zn Massive Sulfide (Naran Davaa); Mafic-ultramafic related Cu-Ni-PGE (Tsagdaltyn Davaa)	Western Mongolia	Lake terrane (Island arc)	Late Neoproterozoic. Khantayshir ophiolite with U-Pb zircon isotopic age of 568±4 Ma. Dariv ophiolite with U-Pb zircon isotopic age of 573 6 Ma.	Various deposits in belt are interpreted as forming during sea floor spreading volcanism and related mafic-ultramafic magmatism, and in subduction-related island arc volcanism and mafic plutonism, and and multiple-phase granitic magmatism.
Tsagaa-nolom (TO)	Sedimentary phosphate (Zuun Arts); Volcanogenic-sedimentary Mn (Khagnuur)	Central Mongolia	Huvsgol-Bokson sedimentary overlap assemblage	Vendian through Early Cambrian.	Belt interpreted as forming during sedimentation in carbonate-dominated basin along a continental shelf.
Hugiingol (HG)	Sedimentary exhalative Pb-Zn (SEDEX) (Tsagaan-Uul); Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu); Volcanogenic-sedimentary Fe.	Northern Mongolia	Hug (Accretionary wedge) terrane	Neoproterozoic. Rb-Sr isochron age of high-pressure metamorphic rocks is 823 Ma. Rb-Sr isochron age of volcanic rocks of the Sarhoi Group overlapping the Hug terrane is 718 Ma. Isotopic age of granite coeval with overlying volcanic rocks is 752 Ma.	Belt interpreted as forming during rifting in backarc basin associated with a subduction-related island arc.

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Hovsgol (HO)	Sedimentary phosphate (Hubsugul); Volcanogenic-sedimentary Mn (Saihangol); Sedimentary Fe-V (Hitagiin gol)	Northern Mongolia	Huvsgol-Bokson sedimentary overlap assemblage	Vendian through Early Cambrian.	Belt interpreted as forming during sedimentation in a carbonate-dominated basin along a continental shelf.
Jixi (JX)	Banded iron formation (BIF, Algoma Fe) (Shuangyashan); Homestake Au (Dongfengshan); Metamorphic graphite; (Liumao); Metamorphic sillimanite	Northeastern China	Jiamusi terrane (Metamorphic) terrane and Zhangguangcailing (Continental margin arc) superterrane	Neoproterozoic to Cambrian.	Belt part of a khondalite that is interpreted as derived from Al-rich mudstone and carbonates of the Mashan and the Xingdong groups that were deposited in a shallow sea and isolated oceanic basin and lagoon.
Damiao (DM)	Mafic-ultramafic related Ti-Fe (±V) (Damiao); Zoned mafic-ultramafic Cr-PGE (Gaositai)	Northern China	Mafic-ultramafic plutons intruding Sino-Korean Craton - West Liaoning-Hebei-Shanxi terrane (Granulite-orthogneiss)	Neoproterozoic. K-Ar age of the deposit-related anorthosite is 604 to 992 Ma.	Belt hosted in Neoproterozoic mafic-ultramafic plutons that intrude Archean gneiss that intrude Archean crystalline rocks of West Liaoning-Hebei-Shanxi terrane. The plutons occur along northwest-trending major deep faults along the northern margin of the Sino-Korean Platform. The mafic and ultramafic intrusions have isotopic ages of 604.4 to 992 Ma. The plutons and deposits are interpreted as forming during interplate magmatism related to an Neoproterozoic active continental margin along the north margin of the Sino-Korean Craton**.**
CAMBRIAN THROUGH SILURIAN (540 to 410 Ma) METALLOGENIC BELTS					
Tuora-Sis (Tuo)	Carbonate-hosted Pb-Zn (Mississippi valley type) (Mengeniler)	Russia,Yakutia	North Asian Craton Margin - Verkhoyansk fold and thrust belt (Passive continental margin)	Early Cambrian.	Belt interpreted as forming during sedimentation after Neoproterozoic rifting along the passive continental margin of North Asian Craton. Economic deposits occur in areas of facial thinning of dolomite.
Bedobinsk (BED)	Sediment-hosted Cu (Bedobinsk, Kurishskoye)	Russia, Eastern Siberia (Yenisey Ridge area)	North Asian Craton	Middle to Late Cambrian.	Belt interpreted as forming in an inland-sea basin during post-saline stage of rock deposition. Main source of copper were weathered Riphean rocks as well as lode deposits in the Yenisei Ridge, and from hydrothermal activity along deep-fault zones related to rifting.
Taidon-Kondomsk (TK)	Fe skarn; Volcanogenic-sedimentary Mn (Sheregesh, Usinskoye)	Russia, Southern-Eastern Siberia (Kuznetsk Alatau Mountains)	Fe skarns related to Telbes-Kitat island-arc terrane; volcanogenic-sedimentary Mn deposits occur in Altai-Sayan back-arc basin (Mrassu-Bateni unit).	Early Cambrian to Ordovician	Belt is interpreted as forming in an island-arc and during subsequent accretion (Fe skarn), and in a back-arc environment (Mn deposits). Belt extends as a narrow band along the eastern and southeastern margin of the Kuznetsk basin.

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Martaiginsk (MT)	Granitoid-related Au vein (Sarala); Au skarn (Natal'evskoye, Sinyukhinskoye, Komsomolskoye)	Russia, Southern-Eastern Siberia (Kuznetsk Alatau, Gorny Altai Mountains)	Granitoids and veins related to Tannuola plutonic belt that intrudes the Kozhukhov, Kanim and Uimen-Lebed island-arc terranes, and Altai-Sayan back-arc basin.	Late Ordovician and Early Silurian. $^{40}Ar/^{39}Ar$ isotopic age of 480 to 460 Ma for Martaiginsk complex; K-Ar age of 445 to 427 Ma for Lebed complex; Rb-Sr ages of 472 Ma, 458 Ma, 444 Ma, and 433 Ma for gangue minerals and metasomatite for Gavrilovskoye, Centralnoye, Komsomolskoye, Sarala deposits.	Belt interpreted as forming during accretion, collision, and generation of mantle and crustal granitoids. Deposit clusters in belt occur along fault and shear zones that are branches of the Kuznetsk Alatau fault and along intersections with transversal sublatitudinal faults.
Kiyalykh-Uzen (Kiy)	Cu (±Fe, Au, Ag, Mo) skarn (Kiyalykh-Uzen, Juliya Mednaya); W±Mo±Be skarn (Tuim); Fe skarn (Samson); W-Mo-Be greisen, stockwork, and quartz vein (Verhne-Askizskoye, Turtek)	Russia, Southern-Eastern Siberia (Kuznetsk Alatau)	Replacements related to Tannuola plutonic belt located in Altai-Sayan back-arc basin (Mrassu-Bateni unit)	Early Ordovician to Early Silurian. $^{40}Ar/^{39}Ar$ host-rock isotopic age of 480 to 420 Ma	Belt related to early Paleozoic collisional granitoids that intrude Vendian and Cambrian shelf carbonate and clastic-carbonate rocks during dextral-slip movement along the Kuznetsk Alatau fault.
Kizir-Kazyr (KK)	Fe skarn (Irbinskoye); Volcanogenic-sedimentary Fe (Belokitatskoye); Granitoid-related Au vein (Olkhovskoye)	Russia, Southern-Eastern Siberia (Eastern Sayan Ridge)	Replacements related to Tannuola plutonic belt (too small to show at 10 M scale)	Middle Silurian. K-Ar isotopic age for deposit-related gabbro, diorite, and granodiorite plutons Irbinskoye district is 430 Ma	Deposits hosted in gabbro, diorite, and granodiorite in the collisional Tannuola plutonic belt, and in volcanogenic-sedimentary rocks of the Kizir-Kazir island-arc terrane.
North-Sayanian (NS)	Fe skarn (Abakanskoye, Anzass); Cyprus Cu-Zn massive sulfide (Mainskoye)	Russia, Southern-Eastern Siberia (West Sayan Mountains)	Replacements related to North Sayan terrane (Island arc)	Early to Middle Cambrian.	Belt interpreted as forming in volcanic basins in an island-arc. Major faults played a significant role and controlled sedimentary, volcanic, and intrusive processes as well as the general linear structure of the belt.
Khemchik-Kurtushi-binsk (KhK)	Serpentinite-hosted asbestos (Actovrak, Sayanskoye)	Russia, Southern-Eastern Siberia (Tuva area)	Replacements related to Kurtushiba terrane (Accretionary wedge)	Vendian to Early Cambrian.	Belt interpreted as forming during accretion of Kurtushiba ophiolite belt along the major Tuva-Sayanian fault in the Kurtushiba accretionary wedge terrane that contains mainly oceanic rocks.
Ondumsk (ON)	Au skarn (Tardan); Granitoid-related Au vein (Proezdnoye)	Russia, Southern-Eastern Siberia (Tuva area)	Replacements related to Tannuola plutonic belt	Late Cambrian to Ordovician	Belt hosted in granitoid intrusions of the collisional Tannuola complex that intrudes Early Cambrian carbonate and volcanic rocks that are part of the Ondum ensialic island arc terrane.
Ulugoisk (UO)	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu) (Kyzyl-Tashtygskoye); Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai types) (Kysyl-Tashskoye)	Eastern Tuva, West Siberia, Russia	Ulugo terrane (Island arc)	Early Cambrian	Belt interpreted as forming in an island-arc.

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Iiskiy (Iy)	Mafic-ultramafic related Ti-Fe (±V) (Verhne-Iiskoye)	Russia, Southern-Eastern Siberia (East Sayan area)	Mafic-ultramafic plutons of Haaktigoi complex (too small to show at 10 M scale) intruding Birusa paragneiss terrane and Derba passive continental margin terranes	Cambrian to Silurian	Belt interpreted as forming during intrusion of mafic-ultramafic plutons into a passive continental margin.
Bokson-Kitoiskiy (B-K)			Started in Neoproterozoic		
Ozerninsky (OZ)	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu); Sediment-hosted Cu (Gundui); Volcanogenic-sedimentary Fe	Russia, Western Transbaikalia	Eravna terrane (Island arc) (too small to show at 10 M scale)	Cambrian to Silurian. Isotopic age of younger granitoids intruding terrane is 320 to 400 Ma.	Belt interpreted as forming in an island arc that was subsequently intruded by the Barguzin-Vitim batholith.
Kruchi-ninskiy (Krh)	Mafic-ultramafic related Ti-Fe (±V) (Kruchininskoye)	Russia, Northeastern Transbaikalia	Mafic-ultramafic plutons of Bargusin-Vitim (bv) granitoid belt intruding West Stanovoy terrane	Cambrian to Silurian	Belt interpreted as forming in a volcanic arc during intraplate magmatism.
Shimanovsk-Gar (ShG)	Fe skarn (Gar); Volcanogenic-sedimentary Fe; Volcanogenic Cu-Zn massive sulfide (Urals type) (Kamenushinskoe)	Russia, Far East	Replacements associated with granitic rocks of the Kiviliysk Complex that intrude Gar terrane; Replacements in Gar terrane (accretionary wedge) and replacements in Manyn terrane (Passive continental margin) (too small to show at 10 M scale).	Late Cambrian or older. Granitic rocks of the Kiviliysk complex have a minimum K-Ar isotopic age of 495 Ma.	Fe skarn deposits interpreted as forming during intrusion of Kiviliysk Granite Complex. Stratiform deposits in belt interpreted as forming during sea floor hydrothermal activity associated with basaltic volcanism that was accompanied by chert deposition in basins.
Uda-Shantar (UdS)	Volcanogenic-sedimentary Fe (Gerbikanskoe); Volcanogenic-sedimentary Mn (Ir-Nimiiskoe-1); Sedimentary phosphate (North-Shantarskoe, Nelkanskoe, Ir-Nimiiskoe-2, Lagapskoe)	Russia, Far East	Galam terrane (Accretionary wedge) (too small to show at 10 M scale)	Early Paleozoic	Belt interpreted as forming during sea floor hydrothermal activity associated with basaltic volcanism that was accompanied by chert deposition in basins. Fe and Mn deposits occur in elongate beds and lenses. Sedimentary P deposits are interpreted as formed in limestone caps that formed in two stages on accreted seamounts, atolls, and guyots. Units and deposits were subsequently incorporated into an accretionary wedge.
Uzuurtolgoi (Uzu)	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai types) (Malachite); Volcanogenic-Hydrothermal-Sedimentary Massive Sulfide Pb-Zn (±Cu) (Khoh Adar)	Western Mongolia	Ulgey terrane (Island arc) (too small to show at 10 M scale)	Age of belt interpreted as Cambrian	Belt interpreted as forming during subduction-related island arc basalt, andesite, dacite volcanism.

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Hovd (HO)	Granitoid-related Au vein; Au skarn; Cu (±Fe, Au, Ag, Mo) skarn (Yolochka)	Western Mongolia	Replacements related to Turgen granitoid complex that intrudes Hovd terrane (Continental-margin turbidite)	Ordovician to Late Silurian. K-Ar isotopic age of Hovd complex is 426 to 456 Ma.	Belt interpreted as forming during subduction related granitic magmatism that occurred along a continental-margin arc.
Tastyg (TG)	REE-Li pegmatite (Tastygskoye)	Russia, Southern-Eastern Siberia (Southern Tuva area)	Veins and dikes related to South Siberian volcanic-plutonic belt (plutonic part) intruding Sangilen terrane	Middle to Late Silurian. U-Th isotopic age of Li granite and spodumene pegmatite is 420 to 436 Ma.	Belt hosted in polymetamorphic complex and connected with post-collisional anorogenic granite-leucogranite-pegmatite complex. The belt is related to magmatism of transpression zones related to transform micro plate boundaries and within plate (plume) environment.
Telmen (TL)	Mafic-ultramafic related Cu-Ni-PGE (Oyut tolgoi 2); Fe skarn; Cu (±Fe, Au, Ag, Mo) skarn (Solongot)	Northern Mongolia	Plutons and replacements related to Telmen volcanic-plutonic belt.	Middle Cambrian through Middle Silurian. K-Ar isotopic age of Telmen granitoids ranges from 520 Ma to 426 Ma	Belt interpreted as forming during subduction-related gabbroic magmatism, and during subsequent collision-related granitic magmatism.
Zavhanmandal-Jargalant (ZJ)	Mafic-ultramafic related Ti-Fe (±V) (Uet-Ondor); Granitoid-related Au vein	Central Mongolia	Plutons related to Telmen volcanic-plutonic belt.	Interpreted age of Early to Middle Cambrian. K-Ar isotopic ages of Telmen granitoids range from 520 Ma to 426 Ma.	Belt interpreted as forming during during subduction-related gabbroic magmatism, and during subsequent collision-related granitic magmatism.
Khachim-gol (Kch)	Mafic-ultramafic related Ti-Fe (±V) (Khachim gol)	Northern Mongolia	Mafic-ultramafic plutons related to Telmen volcanic-plutonic belt (too small to show at 10 M scale)	Interpreted age of Early to Middle Cambrian.	Belt interpreted as forming during subduction-related gabbroic magmatism.
Egiingol (EG)	Talc (magnesite) replacement (Baganuur); Serpentine-hosted asbestos (Zalaat)	Central Mongolia	Replacements in Dzhida terrane (Island arc)	Age of regional metamorphism interpreted as Ordovician.	Belt occurs in the Dzid terrane that is closely related to Ordovician collisional granite. Belt interpreted as forming during collision-related regional metamorphism.
Bayangol (Bgl)	Mafic-ultramafic related Ti-Fe (±V); Mafic-ultramafic related Cu-Ni-PGE (Serten-Nomgon); Fe skarn (Bayangol 3); Cu (±Fe, Au, Ag, Mo) skarn (Serten, Tomortolgoi)	Central Mongolia	Replacements and plutons related to Telmen volcanic-plutonic belt	Middle to Late Cambrian. Age of zoned gabbroic plutons interpreted as Middle Cambrian; age of the Bayangol granitoids interpreted as Middle to Late Cambrian.	Belt interpreted as forming during subduction-related gabbroic magmatism associated with a passive continental margin containing the Orhon and adjacent terranes.
Zaamar-Bugant (Zaa)	Au in shear zone and quartz vein (Bumbat); Granitoid-related Au vein (Narantolgoi)	Central Mongolia	Veins in Zag-Haraa turbidite basin overlap assemblage	Age of regional metamorphism interpreted as Ordovician.	Belt interpreted as forming during collision-related deformation and related regional metamorphism in the Late Ordovician and Silurian during collision of the correlated Zag-Haraa and Orhon terranes.
Chagoyan (Chn)	Sedimentary-exhalative Pb-Zn (SEDEX) (Chagoyan)	Russia, Far East	Bureya metamorphic terrane (too small to show at 10 M scale)	Cambrian(?)	Belt interpreted as forming during generation of hydrothermal fluids during rifting and intrusion of intermediate composition dikes, and chemical marine sedimentation.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
South Khingan (S-Kh)	Banded iron formation (BIF, Superior Fe) (Yuzhno-Khingan, Kimkanskoe, Kostenginskoe)	Russia, Far East	Malokhingansk terrane (Accretionary wedge)	Neoproterozoic and Cambrian. BIF intruded by granitic plutons with K-Ar isotopic ages of 604 and 301 Ma.	Belt is interpreted as forming in volcanic and sedimentation basin along an unstable proto-continental margin, or in a fragment of Archean craton that was incorporated into an accretionary wedge terrane.
Bayanhon-gor-1 (BH-1)	Au in shear zone and quartz vein (Bor khairhan, Khan Uul, Dovont); Granitoid-related Au vein (Tsagaantsakhir Uul); Cu-Ag vein (Jargalant, Bayantsagaan, Burdiingol); Cu (±Fe, Au, Ag, Mo) skarn (Khokhbulgiin); Cu (±Fe, Au, Ag, Mo) skarn (Khokhbulgiin khondii)	Central Mongolia	Veins in Hangay-Dauria terrane (Accretionary wedge), Orhon-Ikatsky terrane (Continental margin arc), and Zag-Haraa turbidite basin	Late Ordovician. K-Ar metamorphic isotopic ages of foliated and metamorphosed host mudstone (Vendian to Early Cambrian Olziitgol Formation in Orhon terrane) are 447 and 453.9 Ma.	Belt interpreted as forming during regional metamorphism associated with accretion of Bayanhongor and Baytag terranes.
Govi-Altai (GAl)	Volcanogenic-sedimentary Fe (Uhin Ovoo); Volcanogenic-sedimentary Mn (Tahilgat Uul, Sharturuutiin gol)	Southwestern Mongolia	Govi Altai terrane (Continental-margin turbidite)	Middle Cambrian to Early Ordovician.	Belt interpreted as forming during sedimentation along an early Paleozoic continental slope.
Ikh Bogd (IB)	Serpentine-hosted asbestos (Ih hajuu, Yamaan us); Talc (magnesite) replacement (Tsagaan gol); Podiform chromite	Central Mongolia	Replacements in Ih Bogd terrane (Oceanic) (too small to show at 10 M scale) and Lake terrane (Island arc)	Age of belt interpreted as Ordovician.	Belt interpreted as forming during collision that occurred during amalgamation of subterranes of the Lake island arc terrane into a superterrane, and also during amalgamation of Lake terrane with Baidrag and Idermeg terranes.
Tamirgol-Yoroogol (TY)	Volcanogenic-sedimentary Fe (Tamirgol)	Central Mongolia	Zag-Haraa turbidite basin	Middle Cambrian to Early Ordovician.	Belt interpreted as forming during sedimentation along an early Paleozoic continental slope.
Xilin (XL)	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu) (Xiaoxilin)	Northeastern China	Zhangguangcailing superterrane (Continental margin arc) (too small to show at 10 M scale)	Early Cambrian. Subsequent metamorphism at 480 to 500 Ma.	Belt interpreted as forming during volcanic, clastic, and carbonate sedimentation in an aulacogen.
Jixi (JX)			Started in Neoproterozoic (1000 to 540 Ma)		
Tadong (TD)	Volcanogenic-sedimentary Fe (Tadong)	Northeastern China	Zhangguangcailing superterrane (Continental margin arc)	Silurian	Belt hosted in pre-accretionary volcanic and sedimentary rocks that were metamorphed and folded during the accretion of Zhangguangcailing superterrane.
Kabarga (Kb)	Banded iron formation (BIF, Superior Fe) (Ussuri)	Russia, Far East	Kabarga terrane (Accretionary wedge) (too small to show at 10 M scale)	Cambrian(?)	Belt related to marine sedimentary units that were structurally included into the highly-metamorphosed Kabarga accretionary wedge terrane.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Voznesenka (VZ)	Korean Pb-Zn massive sulfide (Voznesenka-I, Chemyshevskoe)	Russia, Far East	Layers in marine sedimentatry units in Voznesenka terrane (Passive continental margin)	Cambrian through Permian. Post-deposit, collision-related biotite and Li-F protolithionite granitoid are part of terrane and have Rb-Sr and Sm-Nd isotopic ages of 450 Ma.	Belt hosted in Voznesenka terrane that is interpreted as part of the passive continental margin of Gondwanaland.
Bainaimiao (BN)	Porphyry Cu-Mo (±Au, Ag) (Bainaimiao)	Northern China	Granitoids related to small Bainaimiao complex (too small to show on 10 M scale map) intruding Wundurmiao terrane	Cambrian and Early Ordovician. May extend into late Neoproterozoic. Granodiorite porphyry has U-Pb zircon isotopic ages of 466 to 694 Ma.	Granitoids hosting belt are interpreted as forming during accretion of the WenduermiaoTerrane to Sino-Korean Craton. Belt hosted in granodiorite porphyry that intrudes Mesoproterozoic Bainaimiao Group.
Fangniugou (FN)	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai types) (Fangniugou)	Northeastern China	Laoling terrane (Island arc)	Ordovician to Silurian. Rb-Sr isotopic of volcanic rocks is 445 Ma. K-Ar isotopic age is 408 Ma.	Belt is interpreted as forming during subduction-related volcanism in Late Ordovician volcaniclastic rock of Laoling island arc terrane. The Laoling terrane is strongly deformed and intruded by mainly Hercynian plutons.
Hunjiang-Taizihe (HT)	Evaporite sedimentary gypsum (Rouguan)	Northeastern China.	Sino-Korean platform sedimentary cover	Cambrian to Ordovician	Gypsum interpreted as forming in a super-tidal sabkha sedimentary environment.
Jinzhong (JZ)	Evaporite sedimentary gypsum (Taiyuan)	Northern China	Sino-Korean platform sedimentary cover	Cambrian through Silurian	Gypsum interpreted as forming in a large epicontinental marine basin.
East Liaoning (EL**)**	Diamond-bearing kimberlite (Fuxian)	Northeastern China	Kimberlites intruding Sino-Korean Craton - Jilin-Liaoning-East Shandong terrane (Tonalite-trondhjemite-gneiss)	Ordovician(?). Isotopic age of kimberlite is about 340 to 455 Ma. Isotopic age of kimberlite on Shandong Peninsula is 460 to 490 Ma.	Kimberlite and associated intrusions occur along northeast-trending regional Tanlu fault along northern margin of the Sino-Korean Platform.
DEVONIAN THROUGH EARLY CARBONIFEROUS (MISSISSIPPIAN)(410 to 320 Ma) METALLOGENIC BELTS					
Udzha (UD)	REE (±Ta, Nb, Fe) carbonatite (Tomtor)	Russia, Northeast Yakutia	North Asian Craton	Interpreted as Devonian. Host rock Rb-Sr isotopic age is 810 to K-Ar age is 240 Ma.	Belt interpreted as forming during intrusion of alkali-ultramafic rock and carbonatite associated with Devonian rifting.
Daldyn-Olenyok (DO)	Diamond-bearing kimberlite (Aikhal, Udachnaya, Ubileinaya, Sytykanskaya)	Russia, Northeast Yakutia	Kimberlite intruding North Asian Craton	Devonian	Tectonic environment unknown. Devonian kimberlite pipes intrude mostly Cambrian to Silurian carbonate sedimentary rocks of North Asian Craton.
Orulgan (OR)	Sediment-hosted Cu (Aga-Kukan)	Russia, Northeast Yakutia	North Asian Craton Margin - Verkhoyansk fold and thrust belt (Passive continental margin)	Interpreted as Late Devonian to Early Carboniferous.	Belt interpreted as forming during sedimentation during Devonian to Early Mississippian rifting along passive margin of the North Asian Craton. Belt hosted in shallow marine clastic and carbonate sedimentary rocks of the Artygan and Agakukan formations.
Botuobiya - Markha (Bot)	Diamond-bearing kimberlite (Mir, Internatsional'naya)	Russia, Central Yakutia	Kimberlite intruding North Asian Craton	Devonian.	Tectonic environment unknown. Devonian kimberlite pipes intrude mostly Cambrian to Silurian carbonate sedimentary rocks of North Asian Craton.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Sette-Daban (SD)	Sediment-hosted Cu (Kurpandzha); Basaltic native Cu (Lake Superior type) (Dzhalkan and Rossomakha); REE (±Ta, Nb, Fe) carbonatite (Gornoye Ozero, Povorotnoye); Carbonate-hosted Pb-Zn (Mississippi valley type) (Lugun , Segenyakh)	Russia, Southern Yakutia	North Asian Craton Margin - Verkhoyansk fold and thrust belt (Passive continental margin)	Interpreted as Middle Devonian to Early Carboniferous.	Cu deposits interpreted as forming during Devonian rifting. REE and apatite deposits hosted in alkali-ultramafic and carbonatite plutons are also interpreted as forming during Devonian rifting.
Mamsko-Chuiskiy (MCh)	Muscovite pegmatite (Vitimskoye, Lugovka, Kolotovka, Bolshoye Severnoye, Komsomolsko-Molodezhnoye, Sogdiondonskoye, and Chuyskoye)	Russia, Northern Transbaikalia	Veins and dikes in Mamsky and Konkudero-Mamakansky complexes (units too small to show at 10 M scale) intruding Chuja terrane (Paragneiss) overlapped by North Asian Craton Margin - Patom fold and thrust belt	Devonian to Early Carboniferous. Mamsky complex has isotopic age of 350 to 300 Ma.	Interpreted as forming during intrusion of alkaline granitoid of the Mamsky and Konkudero-Mamakansky Complexes into the Chuya paragneiss terrane that formed part of a passive margin. The host granitoids are interpreted as forming during post-accretionary magmatism in transpression zones related to transform micro plate boundaries and within plate (plume) environment.
Synnyrskiy (Sn)	Magmatic and metasomatic apatite (Synnyrskoye)	Russia, Northern Transbaikalia	Replacements related to Synnyrsky alkaline magmatic complex in Synnyrskyky plutonic belt (too small to show at 10 M scale) intruding Baikal-Muya terrane and Barguzin-Vitim granitoid belt	Devonian to Early Carboniferous	Belt interpreted as forming during middle Paleozoic North Baikal rift with an axial zone containing ten concentrically-zoned intrusive plutons of alkaline and nepheline syenite in the Synnyrsky complex.
Bodaibinskiy (Bod)			Belt started in Neoproterozoic. Economic deposits formed in Devonian to Early Carboniferous. Isotopic age of gold from Sukhoy Log deposit is about 320 Ma.		
Muiskiy (MS)	Granitoid-related Au vein; Au in shear zone and quartz vein (Irokindinskoye); Carbonate-hosted Hg-Sb (Kelyanskoye); Porphyry Sn (Mokhovoye)	Russia, Northwestern Transbaikalia	Granitoids and veins related to Barguzin-Vitim granitoid belt (too small to show at 10 M scale intruding Baikal-Muya terrane (Island arc) and Muya metamorphic terrane	Devonian to Early Carboniferous	Belt interpreted as forming in granitoids and veins generation during Riphean collision of Baikal-Muya terrane with Muya terrane.
Berdsko-Maisk (Ber)	Sedimentary bauxite (Berdsko-Maiskoye); Bauxite (karst type) (Oktyabrskoye 4)	Russia, Southern-Eastern Siberia (Salair Range)	Khmelev back-arc basin	Early Devonian	Bauxite interpreted as forming in near-shore marine sedimentary rocks that were deposited in a marine basin. Host sedimentary rocks are Eifelian reefoid clastic limestone.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Salair (SL)	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite (Salairskoye); Porphyry Cu-Mo (±Au, Ag) (Kamenushinskoye)	Russia, Southern-Eastern Siberia (Salair Range)	Porphyry intrusions and associated replacements related to Altai volcanic-plutonic belt that overlies and intrudes the Salair terrane.	Interpreted age of Middle Devonian to Early Carboniferous for deposit-related quartz-porphyry intrusion.	Belt interpreted as forming in an active continental margin environments into which mafic dike swarms and small intrusions, and siliceous porphyries were intruded.
Kiya-Shaltyr (Ksh)	Magmatic nepheline (Kiya-Shaltyr)	Russia, Southern-Eastern Siberia (Kuznetsk Alatau Mountains)	Deposits related to intrusions of South Siberan volcanic-plutonic belt	Middle Devonian. Rb-Sr isochron age of 383 Ma	Belt interpreted as forming during rift-related magmatism above a hot spot. A $^{87}Sr/^{86}Sr$ ratio of 0.7053 for gabbros and urtite of the Kiya-Shaltyr pluton indicates a deep-mantle origin. Nepheline plutons occur along major fault zones.
Sorsk (SO)	Porphyry Mo (±W, Bi) (Sorskoye); Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite (Karasuk); Zn-Pb (±Ag, Cu) skarn (Julia Svintsovaya)	Russia, Southern-Eastern Siberia (Kuznetsk Alatau Mountains)	Granitoids and associated replacements related to South Siberian volcanic-plutonic belt.	Early and Middle Devonian. ^{40}Ar-^{39}Ar isotopic age of deposits is 385 to 400 Ma. K-feldspar and albite metasomatite age is 400 to 380 Ma. Host volcanic rocks with K-Ar age of 396 Ma and Rb-Sr age of 416 Ma.	Belt interpreted as forming during Devonian subalkalic porphyry magmatism related to interplate rifting. Deposit-related porphyry intrusions intrude older early Paleozoic granitoid plutons. Skarn and metasomatic polymetallic deposits hosted in Vendian and Cambrian shallow-water marine carbonate rocks.
Teisk (TE)	Fe skarn (Teiskoye, Khaileolovskoye); Mafic-ultramafic related Ti-Fe (±V) (Patynskoye, Kul-Taiga); Volcanogenic-Sedimentary Fe (Chilanskoye)	Russia, Southern-Eastern Siberia (Kuznetsk Alatau Mountains)	Deposits related to plutonic rocks of South Siberian volcanic-plutonic belt	Early Devonian. K-Ar isotopic ages for syenite-diorite of Malaya Kul-Taiga pluton are 411 and 438 Ma. K-Ar isotopic age of Devonian volcanic rocks is 396 Ma and Rb-Sr isotopic age is 416 Ma.	Belt interpreted as forming during interplate rifting that formed South Minusa volcanic basin. Deposit-related Early Devonian granosyenite plutons occur along marginal faults of Devonian basins.
Chapsordag (ChD)	Barite vein (Chapsordag); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Bazikskoye); Carbonate-hosted fluorspar (Zhurskoye)	Russia, Southern-Eastern Siberia	Replacements related to granitoids related to South Siberian volcanic-plutonic belt.	Devonian	Belt interpreted as forming during rift-related magmatism that formed that the South Siberian volcanic-plutonic belt.
Agulsk (AG)	Porphyry Cu-Mo (±Au, Ag) (Agulskoye, Dzhetskoye	Russia, Southern-Eastern Siberia (Eastern Sayan)	Granitoids related to South Siberian volcanic-plutonic belt	Early and Middle Devonian. K-Ar isotopic age for biotite granite related to Irbinskoye Fe-skarn deposit ranges from 398 to 418 Ma. $^{40}Ar/^{39}Ar$ isotopic age of the porphyry magmatism is 400 to 380 Ma.	Belt interpreted as forming during rift-related granitoid magmatism of South Siberian volcanic-plutonic belt.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Kizhi-Khem (KZ)	W-Mo-Be greisen, stockwork, and quartz vein (Okunevskoye); Porphyry Cu-Mo (±Au, Ag) (Aksug, Dashkhemskoye); Ta-Nb-REE alkaline metasomatite (Aryskanskoye 1); Granitoid-related Au vein	Russia, Southern-Eastern Siberia (Northeast Tuva area)	Replacements and granitoids related to South-Siberian volcanic-plutonic belt that overlies and intrudes the Khamsara island-arc terrane	Devonian through Pennsylvanian. Estimated $^{40}Ar/^{39}Ar$ isotopic age for the Aksug Cu-Mo-porphyry deposit is 400 to 380 Ma. Alaskite and alkalic granite hosting W-Mo-Be deposits intrude Silurian-Devonian granite and have K-Ar isotopic ages of 305 to 280 Ma.	Belt interpreted as forming during granitoid magmatism associated with South Siberian volcanic plutonic belt. Deposit-related plutons intrude Early Cambrian volcanic rocks of the Khamsara island-arc terrane and early Paleozoic granites of Tannuola plutonic belt.
Rudny Altai (RA)	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai types) (Korbalihinskoye, Stepnoye, Talovskoye, Rubtsovskoye, Zakharovskoye, Jubileinoye); Barite vein (Zarechenskoye, Zmeinogorskoye); Volcanic-hosted metasomatite	Russia, Southern-Eastern Siberia	Rudny Altai terrane (Island arc)	Middle to Late Devonian	Belt interpreted as forming in an island arc. Belt hosted in shallow marine shelf volcanic rocks
Korgon-Kholzun (KKh)	Volcanogenic-sedimentary Fe (Kholzunskoye, Inskoye, Beloretskoye); Fe skarn, Mafic-ultramafic related Ti-Fe (±V) (Kharlovskoye); Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite (Charyshskoye)	Russia, Southern-Eastern Siberia (Gorny Altai area)	Deposits related to Altai volcanic-plutonic belt that overlap and intrude Altai and Charysh continental margin turbidite terranes	Devonian to Carboniferous	Belt interpreted as forming along an active Hercynian-continental margin arc.
Shirgaita (SH)	Sedimentary-exhalative Zn-Pb (SEDEX) (Shirgaita); Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai types) (Ursulskoye)	Russia, Southern-Eastern Siberia (Gorny Altai area)	Altai volcanic-plutonic belt	Early to Middle Devonian	Belt interpreted as forming along back-arc of an island arc. Belt hosted in clastic and carbonate rocks, andesite and diabase porphyries, tuff, tuff breccia, felsicporphyries, and siliceous tuff.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Deluun-Sagsai (DS)	Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite (Burgedtas); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Nominy Am); Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai type); Sediment-hosted Cu (Khatuugiin gol); Ag-Pb epithermal vein (Dulaan khar uul) Granitoid related Au vein	Western Mongolia	Granitoids and replacements related to Deluun sedimentary-volcanic-plutonic belt	Interpreted as Early Devonian to Early Carboniferous	Belt interpreted as forming along an active Andean-type continental margin.
Khalzan-burged (KhZ)	Peralkaline granitoid-related Nb-Zr-REE; (Ulaantolgoi); Ta-Nb-REE alkaline metasomatite (Shartolgoi)	Western Mongolia	Alkaline granite plutons in the Altai volcanic-plutonic belt	Interpreted as Early Devonian. K-Ar amphibole isotopic age of nordmarkite is 423 Ma. U-Pb age of calcite granite is 396 Ma. Sm-Nd fluorite isochron age for the Halzanburegtei pluton is 325 Ma.	Belt interpreted as forming along an active Andean-type active continental margin.
Bayan-Kol (BK)	Magmatic nepheline (Bayan-Kol, Korgere-Daba)	Russia, Southern-Eastern Siberia (Tuva area); Northern Mongolia	Granitoids related to South Siberian volcanic-plutonic belt intruding Salair terrane	Late Mississippian and Pennsylvanian. K-Ar biotite average isotopic age for nepheline syenite is 310 Ma. Korgere-Daba pluton has age of 296 Ma; Ulan-Erginsk pluton has age of 313 Ma, Pichekol pluton has age of 323 Ma.	Belt interpreted as forming during middle Paleozoic intraplate rifting.
Bugseingol-Ovormaraat (BOM)	Magmatic nepheline (Ovormaraat, Doshiin gol, Beltesiin gol); Peralkaline granitoid-related Nb-Zr-REE (Altanboom, Uranhem, Arsaan, Shignuul gol, Ust gol Nb-Zr-REE; Ar gol, Yarhis gol); Ta-Nb-REE alkaline metasomatite (Altanboom)	Northern Mongolia	Belt is related to alkaline intrusive magmatic complex that occurs west and south of Hovsgol Lake. The alkaline complex is part of an alkaline magmatic aureole that also occurs in eastern Tuva and eastern Sayan area of Russia.	Belt interpreted as starting in Early Devonian and continuing to to Permian. Isotopic ages range from 400 to 396 Ma and 325 to 300 Ma.	Belt interpreted as forming along an active Andean-type active continental margin. Deposits hosted in anorogenic alkaline gabbro, nepheline syenite, alkaline syenite, and alkaline granite.
Tomurtein Nuruu (TN)	Clastic-sediment-hosted Sb-Au (Talynmeltes)	Southwestern Mongolia	Beitianshan-Atasbogd terrane (Island arc)	Lower to Middle Devonian. Interpreted age for associated greenschist facies metamorphism.	Belt interpreted as forming during regional metamorphism and vein emplacement associated with accretion of Beitianshan-Atasbogd and Zhongtianshan terranes.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Bidzhan (Bdz)	Sn-W greisen, stockwork, and quartz vein; Fluorite greisen (Preobrazhenovskoye)	Russia, Far East	Replacements and granitoids Khanka-Bureya granitic belt that intrudes Malokhingansk accretionary wedge terrane	Interpreted as Devonian(?). K-Ar isotopic ages vary from 604 to 301 Ma.	Belt interpreted as forming in the final stage of intrusion of the Khanka-Bureya granitic belt that formed in a subduction-related continental-margin arc.
Baruunhuurai (BAN)	Au in shear zone and quartz vein (Khaltar Uul II)	Southwestern Mongolia	Replacements in Waizunger-Baaran terrane (Island arc)	Early to Middle Carboniferous	Belt interpreted as forming during regional metamorphism and vein emplacement association with accretion of the Beitianshan-Atasbogd and Zhongtianshan terranes.
Hangai (HAN)	Volcanogenic-sedimentary Mn; Volcanogenic-sedimentary Fe (Zoogiin)	Central Mongolia	Hangay-Dauria terrane (Accretionary wedge).	Lower to Middle Devonian	Belt interpreted as forming in marine sedimentary rocks incorporated into an accretionary wedge.
Edrengiin (ED)	Volcanogenic Cu-Zn massive sulfide (Urals type) (Olgii nuruu); Volcanogenic-sedimentary Mn; Volcanogenic-sedimentary Fe (Olgiibulag)	Southwestern Mongolia	Edren terrane (Island arc)	Early Devonian	Belt interpreted as forming in island arc or ophiolite complex. Deposits hosted in pillow basalt and siliceous rocks.
Bayangovi (BG)	Au in shear zone and quartz vein (Bayangovi district)	Southern Mongolia	Replacements in Govi Altai terrane (Continental-margin turbidite)	Devonian	Belt interpreted as forming regional metamorphism of the Govi-Altai terrane during collision with the Lake terrane.
Bayanleg (BL)	Besshi Cu-Zn-Ag massive sulfide (Bayantsagaan 1)	Southern Mongolia	Bayanleg terrane (Accretionary wedge – type B)	Early Devonian	Belt interpreted as forming in marine sedimentary rocks incorporated into an accretionary wedge.
Ulziit (UZ)	Au in shear zone and quartz vein (Olon Ovoot)	Southern Mongolia	Replacements in Govi Altai terrane (Continental-margin turbidite)	Devonian(?)	Belt interpreted as forming regional metamorphism of Govi-Altai terrane during collision with the Idermeg terrane.
Sulinheer (Sul)	Podiform chromite (Sulinheer)	Southeastern Mongolia	Solon terrane (Accretionary wedge)	Carboniferous(?)	Belt interpreted as forming in a middle Paleozoic ophlolite complex that was structurally incorporated into an accretionary wedge.
Hegenshan (Heg)	Podiform chromite (Hegenshan-3756)	Northeastern China	Dunite dikes in Heilongjiang terrane (Accretionary wedge) (too small to show at 10 M scale)	Middle Devonian. K-Ar isotopic age of peridotite is 380 Ma.	Belt interpreted as forming in a middle Paleozoic ophlolite complex that was structurally incorporated into an accretionary wedge.
Yaroslavka (YA)	Fluorite greisen (Voznesenka-II); Sn-W greisen, stockwork, and quartz vein (Yaroslavskoe)	Russia, Far East	Granitoids intruding Voznesenka terrane (Passive continental margin)	Late Cambrian and though Devonian. Granitoids have K-Ar isotopic ages of 440 to 396 Ma.	Belt interpreted as forming in a collisional arc that formed in a fragment of Gondwanaland. Host leucogranite plutons interpreted as forming during early Paleozoic collision of the Voznesenka and Kabarga terranes. Deposit-related granitoids intrude Cambrian clastic rocks and limestone.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Edren-Zoolon (EZ)	Au in shear zone and quartz vein (Edren, Nemegt)	Southern Mongolia	Veins in Edren terrane (Island arc) and Zoolen terrane (Accretionary wedge)	Late Devonian to Early Carboniferous	Belt interpreted as forming during regional metamorphism and vein emplacement associated with accretion of Beitianshan-Atasbogd and Zhongtianshan terranes.
Tsagaan-suvarga (TsS)	Porphyry Cu-Mo (±Au, Ag) (Tsagaan suvarga; Oyutolgoi, Oyut, Bor Ovoo); Porphyry Cu (±Au) (Oyu Tolgoi); Porphyry Au; Granitoid-related Au vein (Alagtolgoi)	Southeastern Mongolia	Granitoids related to Gurvansayhan island arc terrane	Late Devonian to Early Carboniferous. $^{40}Ar/^{39}Ar$ isotopic age for Tsagaan suvarga porphyry Cu deposit is 364.9± 3.5 Ma.	Belt interpreted as forming in a mature island arc or continental-margin arc.
Hongqiling (HQ)	Mafic-ultramafic related Cu-Ni-PGE (Hongqiling); Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite (Guanma)	Northeastern China	Mafic and ultramafic plutons in Hongqiling plutonic and Guanma volcanic sedimentary complexes (too small to be shown on 5 M scale map) intruding and overlapping Zhangguangcailing superterrane and Laoling terrane.	Mississippian. Isotopic ages of 331 to 350 Ma.	Belt interpreted interpreted as forming during extension that occurred after accretion of the Zhangguangcailing superterrane and Laoling terrane. Belt hosted in Mississipian mafic-ultramafic plutons and in overlap volcanic assemblages.
LATE CARBONIFEROUS (PENNSYLVANIAN) THROUGH MIDDLE TRIASSIC (320 to 230Ma) METALLOGENIC BELTS					
Severo-Zemelsk (SZ)	Mafic-ultramafic related Cu-Ni-PGE (Ozernaya River)	Russia, North Offshore (Severnaya and Zemlya Islands)	Mafic-ultramafic plutons related to Tungus plateau basalt, sills, dikes and intrusions intruding Kara continental margin turbidite terrane.	Permian toTriassic	Belt interpreted as related to mafic-ultramafic magmatism of transextension zones related to transform micro plate boundaries and within plate (plume) environment**.**
Birulinsk (Bir)	REE-Li pegmatite (Birulinskoye)	Russia, Northern-Eastern Siberia (Taimyr Peminsula)	Veins and dikes related to zonal metamorphic zones (unit too small to show on 10 M map) intruding Kara continental margin turbidite terrane.	Interpreted as Permian.	Belt interpreted as related to late Paleozoic collision and associated regional metamorphism and granitoid magmatism related to transform micro plate boundaries and within plate (plume) environment.
Norilsk (NR)	Mafic-ultramafic related Cu-Ni-PGE (Norilsk I, II, Oktyabrskoye 3); Basaltic native Cu (Lake Superior type) (Arylakhskoye) Porphyry Cu-Mo (±Au, Ag) (Bolgochtonskoye)	Russia, Northern-Eastern Siberia	Tungus plateau basalt, sills, dikes, and intrusions	Early Triassic. $^{40}Ar/^{39}Ar$ isotopic ages for mafic-ultramafic rocks in Norilsk district is 241.0 to 245.3 Ma. Isotopic age for Cu-Mo deposits is 223.3 Ma	Belt interpreted as related to mantle-derived superplume magmatism that resulted in widespread development of trapp magmatism on North Asian Craton.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Maimecha-Kotuisk (MK)	Fe-Ti (±Ta, Nb, Fe, Cu, apatite) carbonatite (Magan I, Bor-Uryach); REE (±Ta, Nb, Fe) carbonatite (Gulinskoye I); Phlogopite carbonatite (Odikhimcha)	Russia, Northern Yakutia	Volanic flows on North Asian Craton related to Tungus plateau basalt	Late Permian to Early Triassic. According to the $^{40}Ar/^{39}Ar$ isotopic data, age of deposit-related intrusions ranges from 249 to 253 Ma.	Belt interpreted as related to mantle superplume magmatism that resulted in widespread development of trapp magmatism on North Asian Craton. Magmatic rocks include tholeiite, diabase, trachybasalt, melanonephelinite volcanic rocks and intrusive rocks, and ijolite-carbonatite and kimberlite complexes.
Kureisko-Tungsk (KT)	Fe skarn (Suringdakonskoye); Mafic-ultramafic related Cu-Ni-PGE (Bilchany River); Metamorphic graphite (Noginskoye)	Russia, Northern-Eastern Siberia	Replacements and plutons related to Tungus plateau basalt, sills, dikes, and intrusions	Permian to Triassic	Belt interpreted as related to mantle superplume magmatism that resulted in widespread development of trapp magmatism on North Asian Craton along the long-lived West-Siberian rift system and Yenisei sublongitudinal major fault.
West Verkho-yansk (WV)	Au in black shale (Mangazeika); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Kysyltas)	Russia, East-Central Yakutia (Verkhoyansk area)	North Asian Craton Margin - Verkhoyansk fold and thrust belt (Passive continental margin).	Interpreted as Late Carboniferous to Early Permian. Lead from the ores of the Mangazeika deposit have isotopic age of 183 to 120 Ma. Oldest ages of 183 to 174 Ma obtained from the upper section of Carboniferous host rock.	Belt interpreted as forming along passive continental margin of North Asian Craton during rifting.
Central Tungusk (CT)	Hydrothermal Iceland spar (Krutoye, Gonchak)	Russia, Yakutia	Replacements related to Tungus plateau basalt, sills, dikes, and intrusions	Early Triassic. $^{40}Ar/^{39}Ar$ isotopic age for basalt from the northern part of the Tungussk syncline is 248.0 to 248.9 Ma.	Belt interpreted as related to widespread development of trapp magmatism on North Asian Craton. Belt coincides with Triassic tholeiite volcanic and intrusive rocks.
Angara-Ilim (AI)	Fe skarn (Korshunovskoye); REE (±Ta, Nb, Fe) carbonatite (Chuktukonskoye); Weathering crust carbonatite REE-Zr-Nb-Li (Chuktukonskoye)	Russia, Southwest Yakutia	Replacements related to Tungus plateau basalt, sills, dikes, and intrusions intruding North Asian Craton	Late Permian to Early Triassic(?). Isotopic age of related igneous rock ranges from 260 to 200 Ma.	Belt interpreted as related to widespread development of trapp magmatism on North Asian Craton. Fe skarn deposits associated with Triassic explosive and intrusive basaltic trapp complexes in diatremes. REE-Ta-Nb carbonatite deposits associated with alkali-ultramafic intrusions.
Barlaksk (BA)	W-Mo-Be greisen, stockwork, and quartz vein (Kolyvanskoye)	Eastern Siberia, Russia	Replacements related to granitoids of Belokurikha plutonic belt (too small to show at 10 M scale) intruding Kolyvan-Tom back-arc basin	Middle Triassic. Isotopic ages of deposit-related leucogranitic intrusions are 235.9 to 232.0 Ma.	Belt interpreted as related to interplate rifting and associated strike-slip faulting. Belt hosted in intraplate granitoids in the Barlak pluton that intruded along strike-slip faults.
Zashik-hinskiy (Zsh)	Ta-Nb-REE alkaline metasomatite (Zashikhinsky); Clastic sediment-hosted Hg±Sb (Gorkhonskoye)	Russia, Southern-Eastern Siberia (East Sayan)	Granitoids and replacements in Ognit and other complexes (too small to show on 10 M map) intruding Birusa paragneiss and Derbinsky passive continental margin terranes (too small to show at 10 M scale).	Late Carboniferous to Middle Triassic	Belt interpreted as forming during rifting and intraplate magmatism.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Kolyvansk (Kol)	W-Mo-Be greisen, stockwork, and quartz vein (Kolivanskoye, Plotbistchenskoye); W±Mo±Be skarn (Beloretskoye)	Russia, Eastern-Southern Siberia (Gorny Altai Mountains)	Replacements related to granitoids in Belokurikha plutonic belt (too small to show at 10 M scale)	Early Triassic. Rb-Sr isotopic ages for deposit-related REE granite of 245.0 to 241.2 Ma.	Belt interpreted as forming during granitoid magmatism in an interplate environment during Middle Carboniferous accretion of the Gorny Altai and Rudny Altai terranes.
Onor (Onr**)**	Volcanogenic-sedimentary Fe (Xieertala)	Northeastern China	Mandalovoo-Onor terrane (Island arc)	Late Carboniferous	Belt interpreted as forming in an island arc. Belt hosted in marine volcanic, clastic, and carbonate rock.
Duobaoshan (DB)	Porphyry Cu-Mo (±Au, Ag) **(**Duobaoshan)	Northeastern China	Granitoids related to Nora-Sukhotin-Duobaoshan terrane (Island arc)	Pennsylvanian. K-Ar isotopic age for host batholith is 292 Ma.	Belt interpreted as forming in an island arc. Belt hosted subduction-related granodiorite porphyry.
Melgin-Niman (MN)	Felsic pluton U-REE (Chergilen); Porphyry Mo (Melginskoye, Metrekskoye)	Russia, Far East	Granitoids related to Tyrma-Burensk granitic assemblage intruding Bureya metamorphic terrane (too small to show at 10 M scale)	Permian(?)	Belt interpreted as forming during intrusion of Tyrma-Burensk granitic assemblage in a subduction-related granitic belt.
Wuxing (WX)	Mafic-ultramafic related Cu-Ni-PGE (Wuxing)	Northeastern China	Mafic and ultramafic plutons of Wuxing complex intruding Zhangguangcailing continental margin arc superterrane (too small to be shown on 5 M map)	Pennsylvanian	Belt interpreted as forming during extension after accretion of the Zhangguangcailing continental margin arc superterrane. Belt hosted in post-accretionary mafic and ultramafic plutons that intruded along major east-west-trending faults.
Altay (AT)	REE-Li pegmatite; Muscovite pegmatite (Keketuohai, Ayoubulake)	Southwestern Mongolia; Northwestern China	Veins, dikes, and replacements related to granitoids in Altai volcanic-plutonic belt that intrudes Altai continental margin turbidite terrane	Late Carboniferrous. Calc-alkaline anatectic granite with K-Ar isotopic age of 219 Ma.	Belt interpreted as forming in during intrusion of collisional granite that formed during collision of Kazakhstan and North Asian Cratons. Belt interpreted as forming during high-grade metamorphism with crustal melting and generation of anatectic granite.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Central Mongolia (CM)	Fe-Zn skarn; Sn skarn, Zn-Pb (±Ag, Cu) skarn; W±Mo±Be skarn; Cu (±Fe, Au, Ag, Mo) skarn (Erdenekhairkhan); Porphyry Cu-Mo (±Au, Ag) (Zos Uul) Porphyry Mo (±W, Bi); Au skarn (Buutsagaan); Granitoid related Au vein; W-Mo-Be greisen, stockwork, and quartz vein; Basaltic native Cu (Lake Superior type)	Central Mongolia	Replacements and granitoids related to Selenga sedimentary-volcanic plutonic belt	Interpreted as Early to Late Permian.	Belt interpreted as forming along an active continental margin along the margin of the Mongol-Okhotsk Ocean.
Bayanhon-gor-2 (BH-2)	Granitoid-related Au vein (Tsagaan Tsahir Uul); Cu (±Fe, Au, Ag, Mo) skarn (Khohbulgiin, Khondii)	Central Mongolia	Granite and diorite plutons and quartz-porphyry dikes in Telman volcanic-plutonic belt (too small to show on 10 M scale map)	Carboniferous to Permian. Deposit-related Shar burd diorite with K-Ar isotopic age of 341 Ma and Rb-Sr whole-rock age of 250 Ma. K-Ar age of biotite from coarse-grained facies of Shar us gol granite batholith is 235 to 242. Rb-Sr whole-rock isochron age for Daltyn am diorite is 287 Ma.	Belt interpreted as forming in subduction-related gabbro-diorite-granodiorite stocks and dikes. Belt occurs between a volcanic-plutonic belt formed on the inner continental side of an arc, and S-type REE granitoids developed on oceanic side of continental margin arc.
Battsengel-Uyanga-Erdenedalai (BUE)	Granitoid-related Au vein (Mongot, Battsengel, Uyanga groups, Sharga Ovoo, Tsagaan Ovoo)	Central Mongolia	Small stitching plutons that formed in early stage of intrusion of Hangay plutonic belt that intrudes Hangay-Dauria and Onon accretionary wedge terranes.	Late Carboniferous to Permian	Belt interpreted as forming in subduction-related gabbro, diorite, and granodiorite stocks and dikes along along the North Govi active continental margin arc.
Orhon-Selenge (OS)	Porphyry Cu-Mo (±Au, Ag) (Erdenetiin Ovoo, Central, Oyut; Shand; Zuiliin gol)	Central Mongolia	Granitoids in Selenga sedimentary-volcanic plutonic belt.	Triassic. Quartz-sericite metasomatite of the Erdenetiin Ovoo deposit has K-Ar isotopic age 210 to 190 Ma. Explosive breccia has age if 210 Ma. K-Ar age of deposit-related granite ranges from 185 Ma to 240 to 250 Ma. $^{40}Ar/^{39}Ar$ isochron isotopic age of 207± 2 Ma for white mica from highest grade part of Erdenet mine.	Belt interpreted as forming during oblique subduction of oceanic crust of the Mongol-Okhotsk paleoocean under the southern margin of the Siberian continent. Basaltic Cu hosted in basalt and trachybasalt of the mafic volcanic rock in the Permian Khanui Seri Formation.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Buteeliin nuruu (BU)	Peralkaline granitoid-related Nb-Zr-REE (Bayangol); REE-Li pegmatite (Bayangol 1); W-Mo-Be greisen, stockwork, and quartz vein	Northern Mongolia	Granitoids related to Selenga sedimentary-volcanic plutonic belt intruding West Stanovoy terrane.	Early Permian(?) or Mesozoic(?). Interpreted as early Permian according to Pb-Pb zircon age of 275 Ma for strongly foliated granite-gneiss. K-Ar isotopic ages of 89 to 129 Ma for migmatite, gneissic granite, leucogranite, aplite, and pegmatite.	Belt interpreted as related to an Early Permian core complex with granitoids that intrude granite-gneiss and mylonite in the West Stanovoy terrane. Alternatively belt may be related collisional granitoids generated during late Mesozoic closure of Mongol-Okhotsk Ocean.
Laoeling-Grodekov (LG)	Porphyry Cu-Mo (±Au, Ag) (Baikal); Au-Ag epithermal vein (Komissarovskoe).	Russia, Far East, Northeastern China	Granitoids in Laoeling - Grodekov superterrane (Island arc).	Permian	Belt interpreted as forming in an island arc.
Harmagtai-Hongoot-Oyut (HHO)	Porphyry Cu-Mo (±Au, Ag) (Nariinhudag, Hongoot); Porphyry Au; Granitoid-related Au vein (Uhaa hudag and Harmagtai, Shine, Hatsar); Au-Ag epithermal Vein Deposits (Shuteen)	Southern Mongolia	Granitoids related to South-Mongolian volcanic-plutonic belt that intrude Mandalovoo-Onor island arc terrane and Mandah accretionary wedge terranes	Middle Carboniferous to Early Permian	Belt interpreted as forming in a continental margin arc overlapping the Mandalovoo-Onor island arc terrane and Mandah accretionary wedge terranes.
Sumochaganaobao (SM)	Hydrothermal-sedimentary fluorite (Sumochaganaobao)	Northeastern China	Marine sedimentary rocks in Solon terrane (Accretionary wedge)	Early Permian	Belt interpreted as forming during hydrothermal activity and associated with volcanic and sedimentary rock that were incorporated into an accretionary wedge. Belt hosted in volcaniclastic and carbonate rocks of Xilimiao Formation in an accretionary wedge.
Bieluwutu (BL)	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu) (Bieluwutu)	Northeastern China	Carboniferous and Permian volcanic and sedimentary rocks in the small Bieluwutu basin that is part of Daxinganling sedimentary assemblage that overlaps the Wundurmiao accretionary wedge terrane	Pennsylvanian	Belt interpreted as forming during exhalative-sedimentary sedimentation in a restricted marine basin during Carboniferous extension of northern margin of the Northern China Platform during formation of the Solon accretionary wedge terrane. The belt related to magmatism in transtensional zones occurring along transform micro plate boundaries and within plate (plume) environment.
Kalatongke (KL)	Mafic-ultramafic related Cu-Ni-PGE (Kalatongke); Granitoid-related Au vein (Alatasi)	Northwestern China	Waizunger-Baaran terrane (Island arc)	Pennsylvanian	Belt interpreted as forming in an island arc.
Yanbian (Yan)	Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu) (Hongtaiping)	Northeastern China	North Margin accretionary wedge terrane (too small to show at 10 M scale)	Early Permian	Belt interpreted as formed during pre-accretionary Early Permian rift-related marine volcanism. Belt hosted in volcaniclastic rocks incorporated into North Margin accretionary wedge terrane.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Shanxi (SX)	Sedimentary bauxite (Ke'er)	Northern China	Stratiform units in the upper part of Sino-Korean platform overlapping Sino-Korean Craton - West Liaoning-Hebei-Shanxi terrane.	Pennsylvanian	Belt formed during weathering of metamorphic rocks of the Northern China Platform. Bauxite deposits hosted in karst and lagoonal basins in a littoral-shallow sea.
Zibe (ZB)	Sedimentary bauxite (Zibe)	Northern China	Sino-Korea platform sedimentary cover (Proterozoic through Triassic) overlapping Sino-Korean Craton - West Liaoning-Hebei-Shanxi terrane.	Late Permian	Belt formed during weathering of metamorphic rocks of the Northern China Platform. Bauxite deposits hosted in karst and lagoonal basins in a littoral shallow sea.
Mino-Tamba-Chugoku (MTC)	Volcanogenic-sedimentary Mn (Hamayokokawa); Podiform chromite (Wakamatsu); Besshi Cu-Zn-Ag massive sulfide (Yanahara)	Japan	Mino Tamba Chichibu terrane (Accretionary wedge)	Interpreted as Permian (or older) to Jurassic.	Belt is hosted in an accretionary wedge complex composed of marine sedimentary and volcanic rock, and fragments of oceanic crust with ultramafic rock. Besshi deposits are interpreted as forming along a spreading ridge. The belt contains fragments of oceanic crust with podiform chromite deposits hosted in ultramafic rocks, and chert-hosted Mn deposits. Deposits and host rocks were subsequently incorporated into an accretionary wedge.
Hitachi (Hit)	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai types) (Hitachi)	Japan	South Kitakami terrane (Island arc)	Permian	Belt interpreted as forming in an island arc.
LATE TRIASSIC THROUGH EARLY JURASSIC (230 to 175 Ma) METALLOGENIC BELTS					
North Taimyr (NT)	W-Mo-Be greisen, stockwork, and quartz vein (Kolomeitseva River); W±Mo±Be skarn Morzhovoye); Porphyry Cu-Mo (±Au, Ag) (Mamont River)	Russia, Northern-Eastern Siberia (Taimyr Peminsula)	Replacements associated with granitoids (too small to show at 5 M scale) intruding Permian-Triassic volcanic and sedimentary rocks of Lenivaya-Chelyuskin sedimentary assemblage, Central Taimyr superterrane, Kara terrane.	Middle and Late Triassic. Age of deposit-related granitoids is about 223 to 233 Ma.	Belt interpreted as forming during generation of granitoids during and after collision between the Siberian and Kara continents. Belt hosted in intrusions in tectonic blocks bounded by post-orogenic faults.
Byrranga (BR)	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Partizanskoye, Surovoye Lake 1)	Russia, Northern-Eastern Siberia (Taimyr Peminsula)	Veins related to granitoids (too small to show at 10 M scale) intruding North Asian Craton Margin, South-Taimyr fold belt.	Middle to Late Triassic	Belt interpreted as forming during intraplate rifting with extensive trapp magmatism and small intrusions of alkalic granite, syenite, and nepheline syenite, and alkali basalt dike complexes.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Kharadzhulsk (KhD)	Ni-Co arsenide vein (Kharadzhulskoye, Butrakhtinskoye)	West Siberia, West Sayan Mountains, Russia	Veins related to major faults in North Sayan terrane (Island arc) and Minusa molasse basin	Interpreted as Triassic.	Belt interpreted as forming during intraplate rifting and interblock strike-slip faulting between North Sayan terrane and Minusa basin with coeval intrusion of basalt dikes. Deposits hosted in volcanic and sedimentary rocks along faulted dikes, faults, and other structures.
Kalgutinsk (KG)	W-Mo-Be greisen, stockwork, and quartz vein (Kalgutinskoye, (Urzarsaiskoye); Ta-Nb-REE alkaline metasomatite (Akalakhinskoye); Sn-W greisen, stockwork, and quartz vein (Baliktigkhem)	Russia, Southern-Eastern Siberia (Gorny Altai Mountains)	Granitoids and replacements related to Belokurikha plutonic belt (too small to show at 10 M scale) intruding Altai terrane and West Sayan terrane	Early Jurassic. Rb-Sr isotopic age for Chindagatui pluton is 201.0 Ma and 204.0 for Kalguta pluton. U-Pb isotopic ages for Ta spodumene granite in Alakha stock are 183 and 188 Ma and Rb-Sr age is 195 Ma. Rb-Sr age of Li-F granite-porphyry in the Dzulaly stock is 188.0 Ma	Belt interpreted as forming during generation of REE granitoids along transpression zones related to transform micro plate boundaries and within plate (plume) environment.
Mongol Altai (MA)	W-Mo-Be greisen, stockwork, and quartz vein (Ulaan Uul, Tsunheg)	Western Mongolia	Small bodies of leucogranite (too small to show at 5 M scale) that intrude Altai and Hovd Hovd terranes	Interpreted as Late Triassic to Early Jurassic.	Belt interpreted as forming during Mesozoic intraplate rifting related to magmatism along transextension zones along transform micro plate boundaries and within plate (plume) environment.
Chergak (ChG)	Ni-Co arsenide vein (Chergak, Tolailyk)	Russia, Southern-Eastern Siberia (Tuva region)	Veins and associated gabbro intrusions related to Akchem, Severo-Tannuola, and Eldigkhem faults cutting Khemchik-Sistigkhem basin, Tuva molasse basin, and West Sayan terrane	Interpreted as Triassic.	Belt interpreted as forming during Mesozoic intraplate rifting that resulted in magmatism along transextension zones along transform micro plate boundaries and within plate (plume) environment.
Khovuak-sinsk (KhA)	Ni-Co arsenide vein (Hovu-Aksinskoye, Uzun-Oy)	Russia, Southern-Eastern Siberia (Tuva region)	Veins related to Ubsunur-Bayankol fault cutting Tuva molasse basin and Tannuola subterrane	Interpreted as Triassic.	Belt interpreted as forming during Mesozoic intraplate rifting that resulted in magmatism along transextension zones along transform micro plate boundaries and within plate (plume) environment.
Ulug-Tanzek (UT)	Ta-Nb-REE alkaline metasomatite (Ulug-Tanzek)	Russia, Southern-Eastern Siberia (Tuva region)	Replacements related to Ulug-Tanzek granite intrusion (to small to show on 10 M map) that intrudes Sangilen terrane (passive continental margin)	Late Triassic. Isotopic ages of 231 to228 Ma for Bren massive, 217 Ma for Ulug-Tanzek complex, and 209 Ma for younger related intrusive rocks	Belt interpreted as forming during intraplate tectonism and magmatism in an intraplate rift setting. Belt hosted in alkali granite plutons in the Ulug-Tanzek intrusive complex. The belt is characterized by magmatic rocks related to transform micro plate boundaries and within plate (plume) environment.
Orhon-Selenge (OS)			Started in Late Carboniferrous and continued into Middle Triassic		

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
North Hentii (NH)	Granitoid-related Au vein; Au in shear zone and quartz vein (Boroo, Sujigt, Narantolgoi)	Northern Mongolia	Granitoids related to Mongol-Transbaikalia volcanic-plutonic belt intrudes and overlaps Zag-Haraa turbidite basin	Middle Triassic to Middle Jurassic. K-Ar isotopic ages of 166 to 235 Ma for deposit-related Yoroogol gabbro-granite.	Belt is interpreted as forming during granitoid intrusion related to extensional margin of the Khentii collisional uplift.
Central Hentii (CHE)	Sn-W greisen, stockwork and quartz vein (Modot, Tsagaan dabaa); REE-Li pegmatite; Ta-Nb-REE alkaline metasomatite (Janchivlan); W±Mo±Be skarn; Peralkaline peralkaline granitoid-related Nb-Zr-REE (Avdrant)	Mongolia	Replacements and granitoids related to Mongol-Transbaikalia volcanic-plutonic belt that intrudes and overlaps Hangay-Dauria terrane and adjacent units.	Late Triassic to Early Jurassic. Deposit-related granite with Rb-Sr isotopic age of 190.49 Ma and K-Ar age of 188 to 225 Ma.	Belt interpreted as forming during generation of collisional granitoids during closure of the Mongol-Okhotsk Ocean. Small plutons hosting REE deposits intruded in a continental post-collisional event.
Delgerhaan (DE)	Porphyry Cu (±Au); Granitoid-related Au vein (Bayan Uul, Unegt)	Central Mongolia	Granitoids in the Mongol-Transbaikalia volcanic-plutonic belt that intrudes Hangay-Dauria terrane, Ononsky terrane, and Gobi-Khankaisk-Daxinganling volcanic-plutonic belt	Late Triassic. $^{40}Ar/^{39}Ar$ isochron isotopic ages for plagioclase-biotite porphyry, and biotite granodiorite from Bayan Uul ore-field are 220 to 223 Ma.	Belt interpreted as forming during emplacement of a volcanic-plutonic complex along an extensional margin related to collisonaland uplift.
Govi-Ugtaal-Baruun-Urt (GB)	Fe-Zn skarn (Tomortiin Ovoo); Cu (±Fe, Au, Ag, Mo) skarn; Zn-Pb (±Ag, Cu) skarn; Sn skarn (Oortsog ovoo); Fe Skarn; Porphyry Mo (Aryn nuur)	Central and Eastern Mongolia	Replacements related to Mongol-Transbaikalia volcanic-plutonic belt that intrudes and overlies Idermeg terane and Gobi-Khankaisk-Daxinganling volcanic-plutonic belt	Interpreted as Late Triassic to Early Jurassic.	Belt interpreted as forming during early Mesozoic granitoid magmatism associated with North Govi continental margin arc. Belt hosted in Late Triassic to Early Jurassic alaskite, granite, and alkaline granite.
Nuhetdavaa (ND)	W-Mo-Be greisen, stockwork, and quartz vein; Ta-Li ongonite (Yugzer)	Southern Mongolia	Replacements and granitoids related to Mongol-Transbaikalia volcanic-plutonic belt that intrudes and overlies Dongujimqin-Nuhetdavaa terrane and Hailar-Tamsag sedimentary basin.	Interpreted as Late Triassic to Early Jurassic. K-Ar isotopic ages of 210 to 220 Ma.	Belt interpreted as forming during interplate granite magmatism in a late Paleozoic or early Mesozoic late collisional or immediate-succeeding post-collisional event. Age of metallogenic belt and related tectonic origin is not clear.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Harmorit-Hanbogd-Lugiingol (HL)	Sn-W greisen, stockwork, and quartz vein (Khar morit); Ta-Nb-REE Alkaline Metasomatite (Khan Bogd); REE (±Ta, Nb, Fe) carbonatite (Lugiin Gol); Peralkaline granitoid-related Nb-Zr-REE; REE-Li pegmatite	Mongolia	Replacements and granitoids related to South Mongolian volcanic-plutonic belt that intrudes and overlaps the Hutaguul-Xilinhot and Gurvansayhan terranes and Lugyngol overlap volcanic-sedimentary basin.	Middle Triassic to Early Jurassic. Rb-Sr whole-rock isochron age for Lugiin gol nepheline syenite pluton is 244 Ma and whole rock-mineral isochron ages are 222 Ma and 180 to 199 Ma. K-Ar age is 228 to 242 Ma. Khanbogd REE-Nb-Zr deposit is associated with late Paleozoic alkaline granite pluton with Rb-Sr age isotopic of 277 Ma and K-Ar age of 293 Ma.	Belt interpreted as forming during late Paleozoic and early Mesozoic continental rifting along a passive continental margin with generation of calc-alkaline and alkaline granitoids.
Wulashan-Zhangbei (WZ)	Alkaline complex-hosted Au; (Dongping); Au potassium metasomatite (Hadamen); Granitoid-related Au vein	Northern China	Granitoids related to Alashan-Yinshan Triassic plutonic belt (too small to show at 10 M scale) intruding Sino-Korean Craton - Erduosi terrane, Solon terrane, and adjacent units	Middle Jurassic. ^{40}Ar-^{39}Ar isotopic ages is 327 Ma and 157 to 177 Ma for intrusion and deposit potassic feldspar, respectively.	Belt interpreted as forming during granitoids generated above a mantle plume in an extensional tectonic setting. Belt related to Late Triassic to Early Jurassic alkaline to subalkaline granite.
Fanshan (FS)	Magmatic and metasomatic apatite (Fanshan)	Northern China	Mafic-ultramafic plutons occurring along major fault cutting Sino-Korea platform sedimentary cover and Sino-Korean Craton - West Liaoning-Hebei-Shanxi terrane	Late Triassic. Rb-Sr isochron age of 218.8 Ma.	Belt interpreted as forming during intrusion of intraplate mafic-ultramafic plutons associated with the subduction of Kula plate under the Eurasian plate.
Gyeonggi (GA)	Mafic-ultramafic related Ti-Fe (±V) (Soyounpyong-do); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Chilbo); W±Mo±Be skarn (Bupyung)	South Korea	Mafic-ultramafic plutons and granitoids related to Daebu Granite belt intruding South China Craton - Gyenggi terrane	Interpreted as Early Jurassic.	Belt is related to magmatism along transextension zones along transform micro plate boundaries and within plate (plume) environment. Ti-Fe deposits interpreted as forming during intrusion of mafic and ultramafic plutons associated with Late Jurassic to Early Cretaceous Daebo orogeny. Polymetallic vein deposits formed during hydrothermal fluid activity, and skarns formed during contact metasomatism along contact zones of hornblende biotite granite and dikes.
Eungok (EU)	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork; Ni-Co arsenide vein (Eungok,Yungchang)	South Korea	Replacements and granitoids related to Daebu Granite belt intruding Sino-Korean Craton - Yeongnam terrane	Interpreted as starting in Early Jurassic.	Belt is related to magmatic rocks that intruded along transform micro plate boundaries and in a within plate (plume) environment. Belt formed during intrusion of granitoids associated with Late Jurassic to Early Cretaceous Daebo orogeny with intrusion of biotite granite, granite porphyry, and quartz porphyry into granitic gneiss.
Mino-Tamba-Chugoku (MTC)			Started in Late Carboniferous through Middle Triassic		

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
North Kitakami (NK)	Volcanogenic-sedimentary Mn (Nodatamagawa); Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai types) (Taro)	Japan	Mino Tamba Chichibu terrane (Accretionary wedge)	Interpreted Triassic to Early Cretaceous.	Mn deposits formed in syngenetic setting on the ocean floor. Kuroko deposits formed in an island arc. Deposits were subsequently incorporated into accretionary wedge.
Sannae (SA)	Granitoid-related Au vein (Dongjin); Ni-Co arsenide vein	South Korea	Granitoids related to Daebu Granite belt intruding Sino-Korean Craton - Yeongnam terrane	Interpreted as Late Triassic to Early Jurassic.	Belt interpreted as forming during intrusion of Late Triassic to Early Jurassic granitoids during Songrim orogeny. Deposits formed in fissure-filling Au quartz veins along faults in conglomerate in the Maisan Conglomerate that is intruded by Jurassic hornblende biotite granite.
Hongcheon (HO)	Ta-Nb-REE alkaline metasomatite(?) (Hongcheon-Jaun)	South Korea	South China Craton - Gyenggi terrane (Granulite-paragneiss)	Jurassic.	Ta-Nb-REE alkaline metasomatite deposits interpreted as forming during intrusion of syenite of the Jurassic Daebo Granite belt. **Deposit is not in mineral deposit database. Should metallogenic belt be deleted?**
Sambagawa -Chichibu-Shimanto (SCS)	Besshi Cu-Zn-Ag massive sulfide (Besshi); Volcanogenic-sedimentary Mn (Ananai); Cyprus Cu-Zn massive sulfide (Okuki)	Japan	Shimanto accretionary wedge terrane, Mino Tamba Chichibu accretionary wedge terrane, and Sambagawa metamorphic terrane.	Interpreted as Early Jurassic and to Campanian. Age of submarine basaltic volcanism and related Besshi-type deposits interpreted to occur between 200 and 140 Ma.	Mn deposits formed in syngenetic setting on the ocean floor. Besshi and Cyprus deposits formed during submarine volcanism related to spreading ridge. Deposits were subsequently incorporated into an accretionary wedge.
MIDDLE JURASSIC THROUGH EARLY CRETACEOUS (175 to 96 Ma) METALLOGENIC BELTS					
Tari-Bigai (TB)	Carbonate-hosted Hg-Sb (Izvilistaya River)	Russia, Northern-Eastern Siberia (Taimyr Peninsula)	Veins related to major fault cutting North Asian Craton Margin - South-Taimyr fold belt	Interpreted as Early Cretaceous or older.	Belt interpreted as forming during intraplate rifting and generation of alkali basalt.
Verkho-yansk (VK)	Au in shear zone and quartz vein (Djandi, Nikolaevskoe, Otkrytoe); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork; Sn-W greisen, stockwork, and quartz vein (Imtandzha); Au in black shale (Mangazeika 2)	Russia, East-Central Yakutia (Verkhoyansk area)	Veins and replacements in North Asian Craton Margin, Verkhoyansk fold and thrust belt	Interpreted as late Late Jurassic to Early Neocomian.	Belt interpreted as forming during collision of the Kolyma-Omolon superterrane and the North Asian Craton and associated regional metamorphism.
Kular (KU)	Au in shear zone and quartz vein (Emelyanovskoye); Granitoid-related Au Vein (Novoe); Sn-W greisen, stockwork, and quartz vein (Tirekhtyak district)	Russia, East-Central Yakutia (Verkhoyansk area)	Veins in Kular-Nera terrane	Interpreted as late Late Jurassic to Early Neocomian. Deposit-related granite with ^{40}Ar-^{39}Ar isotopic age of 103 Ma.	Belt interpreted as forming during collision of the Kolyma-Omolon superterrane and the North Asian Craton and associated regional metamorphism. Belt occurs in a complex fold and thrust structure with refolded recumbent isoclines. Host rocks metamorphosed at the greenschist facies.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Erikit (ER)	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai types) (Khotoidokh)	Russia, East-Central Yakutia (Verkhoyansk area)	Kolyma-Omolon superterrane (Yakutia) – Uyandina - Yasachnaya volcanic belt and Ilin–Tas back arc basin	Interpreted as Late Jurassic.	Belt interpreted as related to a subduction-related magmatic arc formed on the southwest margin of the Kolyma-Omolon superterrane. Belt hosted in Uyandina-Yasachnaya volcanic belt.
Chybaga-lakh (CH)	Cassiterite-sulfide-silicate vein and stockwork (Kere-Yuryakh); Sn-B (Fe) skarn (ludwigite) (Titovskoe); Granitoid-related Au vein (Chuguluk, Nenneli)	Russia, East-Central Yakutia (Verkhoyansk area)	Veins and replacements in Main granite belt	Interpreted as late Late Jurassic to Early Neocomian.	Belt interpreted as forming during collision of the Kolyma-Omolon superterrane and the North Asian Craton and associated regional metamorphism and generation of anatectic high-alumina granitoids.
Adycha-Nera (AN)	Au in shear zone and quartz vein (Uchui); Sn-W greisen, stockwork, and quartz vein (Imtachan); Granitoid-related Au vein (Delyuvialnoe)	Russia, East-Central Yakutia (Verkhoyansk area)	Veins in Kular-Nera terrane	Interpreted as late Late Jurassic to Early Neocomian.	Belt interpreted as forming in two stages: (1) initial accumulation of disseminated Au in the late Paleozoic early Lower Mesozoic black slate; and (2) mobilization during regional metamorphism and collisional granitoid intrusion during accretion of Kolyma-Omolon superterrane to northeastern margin of the North Asian Craton.
Polousny (PO)	Cassiterite-sulfide-silicate vein and stockwork deposits (Ulakhan-Sala); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork deposits (Aragochan, Dalnee)	Russia, East-Central Yakutia (Verkhoyansk area)	Granitoids related to Northern granite belt (too small to show at 10 M scale)	Interpreted as Middle Cretaceous (Neocomian to Aptian). ^{40}Ar-^{39}Ar isotopic age of 120 to 130 Ma.	Belt interpreted as forming during collision of the Kolyma-Omolon superterrane and the North Asian Craton and associated regional metamorphism and generation of anatectic granitoids.
Yana-Adycha (YAd)	Cassiterite-sulfide-silicate vein and stockwork (Ege-Khaya, Ilin-Tas, Burgochan); Sn-W greisen, stockwork, and quartz vein (Kester)	Russia, East-Central Yakutia (Verkhoyansk area)	Replacements in Transverse granite belt (too small to show at 10 M scale)	Interpreted as mid-Cretaceous.	Belt interpreted as forming during collision of the Kolyma-Omolon superterrane and the North Asian Craton and associated regional metamorphism and generation of anatectic granitoids.
Tompo (TO)	W±Mo±Be skarn (Agylky); Sn-W greisen, stockwork, and quartz vein (Erikag, Dzhuptagan)	Russia, East-Central Yakutia (Verkhoyansk area)	Replacements in Transverse granite belt (too small to show at 10 M scale)	Interpreted as Neocomian.	Belt interpreted as forming during collision of the Kolyma-Omolon superterrane and the North Asian Craton and associated regional metamorphism and generation of anatectic granitoids. Belt occurs along sublatitudinal high-angle, probable strike-slip faults that cut Permian to Middle Jurassic sandstone and shale.
Allakh-Yun' (AY)	Au in shear zone and quartz vein (Yur, Nekur, Bular); Cu (±Fe, Au, Ag, Mo) skarn (Muromets); Au in black shale (Svetly)	Russia, East-Central Yakutia (Verkhoyansk area)	Veins in North Asian Craton Margin, Verkhoyansk fold and thrust belt (Passive continental margin)	Interpreted as Late Jurassic.	Belt interpreted as forming during accretion of the Okhotsk terrane to the North Asian Craton. Belt occurs in Minorsk-Kiderikinsk zone of highly deformed Late Carboniferous and Permian rocks in western South Verkhoyansk synclinorium. Au quartz veins are slightly older than large anatectic granitic plutons of the South Verkhoyansk synclinorium.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Chara-Aldan (CA)	Au potassium metasomatite (Kuranakh); Au skarn (Klin); U-Au (El'kon group); Au in shear zone and quartz vein (Krutoy); Charoite metasomatite (Murunskoye)	Russia, Southern Yakutia	Replacements and granitoids related to South Yakutian subalkaline and alkaline igneous belt intruding North Asian Craton and Central Aldan superterrane	Interpreted as Jurassic to Early Cretaceous.	Belt interpreted as forming in back-arc region of an Andean type continental-margin arc that formed along the Early Cretaceous margin of the North Asian Craton. Belt hosted in subalkaline and alkaline plutonic rocks, including plutons, stocks, and sills of syenite, monzonite, granosyenite, alkali gabbro, and volcanic analogues, as well as zoned alkali-ultramafic plutons.
Kondyor-Feklistov (KDF)	Zoned mafic-ultramafic Cr-PGE (Kondyor)	Russia, Far East	Mafic-ultramafic intrusions (too small to show at 10 M scale) intruded along major fault cuitting North Asian Craton and northeastern part of Tukuringra-Dzhagdy terrane	Early Cretaceous. K-Ar isotopic ages for the zoned mafic-ultramafic intrusions in the Kondyor metallogenic belt range from 110 to 160 Ma. ^{40}Ar-^{39}Ar isotopic age of 127 Ma recently obtained for the alkalic mafic and ultramafic igneous rocks at Ingagli.	Belt interpreted as forming during intrusion of mafic-ultramafic plutons along a deep-seated fault that formed along the North Asian Craton margin during collision and accretion of outboard terranes.
Mavrinsk (MV)	Clastic sediment-hosted Hg±Sb (Mavrinskoye, Orlinogorskoye)	Russia, Southern-Eastern Siberia (Salair Range)	Replacements along major fault between Salair terrane and Kuznetsk orogenic basin	Early Jurassic or younger. K-Ar isotopic age of 190 to 200 Ma for lamprophyre dikes provides a minimum age for Hg deposits.	Belt interpreted as forming during intraplate rifting and interblock strike-slip faulting during the Late Paleozoic to Early Mesozoic.
Kuznetsk (KE)	Volcanic-hosted Hg (Kupriyanovskoye, Belo-Osipovskoye); Carbonate-hosted Hg (Pezass)	Russia, Eastern Siberia	Replacements along major faults cutting Kuznetsk orogenic basin, Altai volcanic-plutonic belt and Telbes-Kitat island-arc terrane.	Middle to Late Jurassic.	Belt interpreted as forming during intraplate rifting and interblock strike-slip faulting during the Late Paleozoic to Early Mesozoic. Belt occurs along the major Kuznetsk fault.
Sistigkhem (SS)	Carbonate-hosted Hg-Sb (Kukshinskoye, Oktyabrskoye)	Russia, Southern-Eastern Siberia (Tuva area)	Replacements along and adjacent to Khemchic-Kurtushiba fault and conjugate faults that bound the Kurtushiba and Alambai terranes.	Interpreted as Middle to Late Jurassic.	Belt is interpreted as related to magmatism along transextension zones along transform micro plate boundaries and within plate (plume) environment.
Eravninsky (Era)	Cassiterite-sulfide-silicate vein and stockwork (Kydzhimitskoye); Carbonate-hosted fluorspar (Egitinskoye)	Russia, Western Transbaikalia	Replacements, volcanic complexes related to Trans-Baikalian-Daxinganling (trbv) sedimentary-volcanic-plutonic belt that intrudes and overlaps the Orhon-Ikatsky terrane, Barguzin-Vitim granitoid belt, and Selenga sedimentary-volcanic plutonic belt	Interpreted as Middle Jurassic to Early Cretaceous.	Belt is interpreted as related to magmatism along transextension zones along transform micro plate boundaries and within plate (plume) environment.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Karengskiy (Krg)	Porphyry Mo (±W, Bi) (Orekitkanskoye)	Russia, Eastern Transbaikalia	Granitoids and volcanic complexes related to Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt that intrudes and overlaps West Stanovoy terrane, Barguzin-Vitim granitoid belt, and Selenga sedimentary-volcanic plutonic belt.	Interpreted as Middle Jurassic to Early Cretaceous.	Belt is interpreted as related to magmatism along transextension zones along transform micro plate boundaries and within plate (plume) environment.
Nerchinsky (Ner)	Granitoid-related Au vein (Darasunskoye); W-Mo-Be greisen, stockwork, and quartz vein (Muoklakanskoye); Fluorspar vein (Usuglinskoye)	Russia, Eastern Transbaikalia	Granitoids and replacements related to Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt intruding and overlapping West Stanovoy terrane, Barguzin-Vitim granitoid belt, and Selenga sedimentary-volcanic plutonic belt	Interpreted as Middle Jurassic to Early Cretaceous.	Belt is interpreted as related to magmatism along transextension zones along transform micro plate boundaries and within plate (plume) environment. The belt is related to granitoids in the Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt.
Shilkinsko-Tukuringrskiy (ShT)	Granitoid-related Au vein (Ukonikskoe); Porphyry Au; Au skarn; Au-Ag epithermal vein; Porphyry Mo (±W, Bi) (Zhirekenskoye) W-Mo-Be greisen, stockwork, and quartz vein; Cassiterite-sulfide-silicate vein and stockwork; Ta-Nb-REE alkaline metasomatite; Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Berezitovoe); Au-Ag epithermal vein (Baleyskoe); Fluorite vein (Kalanguyskoye)	Russia, Eastern Transbaikalia	Granitoids, volcanic rocks, and replacements related to Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt (too small to show at 10 M scale) intruding and overlapping West Stanovoy terrane, Ononsky terrane, Argunsky terrane, and adjacent units.	Interpreted as Middle Jurassic to Early Cretaceous.	Belt is interpreted as related to magmatism along transextension zones along transform micro plate boundaries and within plate (plume) environment. Belt occurs in basins with continental sedimentary rocks and alkaline magmatic plutonic and volcanic rocks that occur along the Mongol-Okhotsk suture that separates various terranes and the North Asian Craton and the Sino-Korean Craton.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
North Stanovoy (NSt)	Granitoid-related Au vein (Bamskoe); Au-Ag epithermal vein (Burindinskoe)	Russia, Far East	Granitoids related to Stanovoy granite belt intruding Tynda terrane	Early Cretaceous	Belt interpreted as forming during late-stage accretion of the Bureya superterrane to the south with the North Asian Craton to the north, during final closure of the Mongol-Okhotsk Ocean.
Djeltu-laksky (Dlt)	Granitoid-related Au vein (Zolotaya Gora)	Russia, Far East	Granitoids related to Stanovoy granite belt intruding Tynda terrane (Stanovoy block) and Dzugdzur anorthositic belt	Early Cretaceous	Belt interpreted as forming during late-stage accretion of the Bureya superterrane to the south with the North Asian Craton to the north, during final closure of the Mongol-Okhotsk Ocean.
North Bureya (NB)	Au-Ag epithermal vein (Pioneer); Granitoid-related Au vein (Pokrovskoe)	Russia, Far East	Veins and granitoids related to Umlekam-Ogodzhin volcanic-plutonic belt that intrudes and overlaps Malokhingansk terrane, Turan terrane of the Bureya superterrane, Gonzha terrane, Nora-Sukhotin-Duobaoshan terrane, and Tukuringra-Dzhagdy terrane	Early Cretaceous	Belt interpreted as forming during formation of Umlekan-Ogodzhin continental-margin arc that formed during subduction of part of ancestral Pacific Ocean plate that is now preserved as tectonically interwoven fragments of the Badzhal, Khabarovsk, and Samarka terranes.
Kerbi-Selemdzha (Ksl)	Au in shear zone and quartz vein (Tokur); Granitoid-related Au vein (Malomyr); Cassiterite-sulfide-silicate vein and stockwork	Russia, Far East	Veins in Tukuringra-Dzhagdy terrane and Badzhal terrane	Middle Triassic inception of Au deposition in sedimentary rocks, and reactivation during Late Jurassic and Early Cretaceous to form Au in shear zone and quartz vein. ^{40}Ar-^{39}Ar isotopic adularia age of 114 Ma at Tokur.	Belt interpreted as forming during collision of the Bureya and Khanka continental-margin arc superterranes with the North Asian Craton and associated regional metamorphism and emplacement of anatectic granitoids.
Sarasinsk (SR)	Carbonate-hosted Hg-Sb (Sarasinskoye); Fluorspar vein	Russia, Eastern-Southern Siberia (Gorny Altai Mountains)	Replacements in Anui-Chuya terrane	Middle to Late Jurassic	Belt is interpreted as related to magmatism along transextension zones along transform micro plate boundaries and within plate (plume) environment. Transtension occurred during interblock strike-slip faulting along the major Sarasinsk-Kurai fault.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Kurai-Tolbo Nuur (KTN)	Carbonate-hosted Hg-Sb; (Aktashskoye); Silica-carbonate (listvenite) Hg (Chagan-Uzunskoye); Volcanogenic-hydrothermal-sedimentary massive sulfide Pb-Zn (±Cu) (Ozernoye 1); Clastic sediment-hosted Hg±Sb; Ag-Pb epithermal vein; Au-Ag epithermal vein; Ni-Co arsenide vein, Ag-Sb vein (Tolbonuur, Tolbo)	Russia, Eastern-Southern Siberia (Gorny Altai Mountains)	Replacements in West Sayan terrane and Hovd terrane	Early and Middle Jurassic. Age of near-deposit altered rocks is 150 to 180 Ma.	Belt interpreted as forming during interplate alkaline basalt magmatism related to a mantle plume. Belt interpreted as forming during intraplate rifting and strike-slip block movements faulting. Belt occurs along complex, major Kuznetsk-Altai fault.
Hovdgol (Hov)	Au-Ag epithermal vein (Hovdgol); Granitoid-related Au vein (Aketishi); Hg-Sb-W vein and stockwork	Western Mongolia; Northwestern China	Veins related to gabbro, diabase, and lamprophyre dikes that intrude Altai terrane and Altai volcanic-plutonic belt	Interpreted as Late Jurassic.	Belt interpreted as forming during interplate alkaline basalt magmatism related to a mantle plume.
Terlig-khaisk (TR)	Volcanic-hosted Hg; Clastic sediment-hosted Hg±Sb (Terligkhaiskoye)	Russia, Eastern-Southern Siberia (Tuva area)	Replacements along fault zone between and along margins of Khemchik-Sistigkhem basin and Kurtushiba terrane	Middle to Late Jurassic.	Belt is interpreted as related to magmatism along transextension zones along transform micro plate boundaries and within plate (plume) environment. Deposits occur along major Khemchik-Kurtushiba fault zone.
Karasug (KA)	Fe-REE carbonatite (Karasugskoye)	Russia, Eastern-Southern Siberia (Tuva area)	Replacements between and along margins of Khemchik-Sistigkhem basin and Tuva molasse basin	Early and Late Cretaceous. K-Ar isotopic ages of112 to 122 Ma for hydrothermal ore. U-Pb age of 115 to 75 Ma for Karasugskoye deposit.	Belt is interpreted as related to magmatism along transextension zones related to transform micro plate boundaries and within plate (plume) environment with intrusion of alkali-ultramafic magmatic rocks along mantle-related faults. Belt occurs along sublatitudinal Chadan-Karasug fault.
Uuregnuur (UN)	Au-Ag epithermal vein (Namiryn gol); Cassiterite-sulfide-silicate vein and stockwork; Sediment-hosted Cu	Western Mongolia	Veins and replacements related to gabbro, diabase, and lamprophyre dikes of Kharig dike complex (too small to show at 5 M scale) that intrude boundaries of Hovd and Lake terranes	Interpreted as Late Mesozoic.	Belt interpreted as forming during intraplate rifting and associated alkaline basaltic magmatism related to a mantle plume.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Dzid-Selenginskiy (DSe)	W-Mo-Be greisen, stockwork, and quartz vein (Dzhidinskoe); Granitoid-related Au vein; Au skarn (Teshig 1) Porphyry Mo (±W, Bi); Mafic-ultramafic related Ti-Fe (±V); Fluorspar vein; Magmatic and metasomatic apatite	Russia, Western Transbaikalia; Northern Mongolia	Veins, replacements, and plutons related to Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt that overlies and intrudes Dzhida terrane, Hamar-Davaa terrane, Orhon-Ikatsky terrane, Selenga sedimentary-volcanic plutonic belt, Barguzin-Vitim granitoid belt, and adjacent units	Interpreted as Middle Jurassic to Early Cretaceous. Isotopic ages of 180 to 170 Ma and 145 to 140 Ma for Gudjir complex granitoids.	Belt interpreted as forming during subalkaline and alkaline granitoid magmatism associated with extensional or back arc rifting related to the Orhon-Selenge continental margin arc.
Khilokskiy (Khl)	Sn-W greisen, stockwork, and quartz vein (Bom-Gorkhonskoye)	Russia, Western Transbaikalia	Veins, replacements, granitoids, volcanic complexes related to Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt that overlies and intrudes Barguzin-Vitim granitoid belt and Selenga sedimentary-volcanic plutonic belt.	Interpreted as Middle Jurassic to Early Cretaceous.	Belt is interpreted as related to magmatism that occurred transpression zones related to transform micro plate boundaries and within plate (plume) environment.
Onon-Chikoiskiy (OCH)	Sn-W greisen, stockwork, and quartz vein (Shumilovskoye); W-Mo-Be greisen, stockwork, and quartz vein (Upper Kumyr)	Russia, Eastern Transbaikalia	Veins, replacements, volcanic complexes and granitoids related to Trans-Baikalian-Daxinganling (trbv) sedimentary-volcanic-plutonic belt that overlies and intrudes Hangay-Dauria terrane, Zag-Haraa turbidite basin, and Selenga sedimentary-volcanic plutonic belt.	Interpreted as Middle Jurassic to Early Cretaceous.	Belt interpreted as related to magmatism that occurred transpression zones related to transform micro plate boundaries and within plate (plume) environment.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Verkhne-Ingodinsky (VIG)	Cassiterite-sulfide-silicate vein and stockwork (Ingodinskoye, Levo-Ingodinskoye)	Russia, Central Transbaikalia	Veins, volcanic complexes, and replacements related to Trans-Baikalian-Daxinganling (trbv) sedimentary-volcanic-plutonic belt that overlies and intrudes Hangay-Dauria terrane and Selenga sedimentary-volcanic plutonic belt	Interpreted as Middle Jurassic to Early Cretaceous.	Belt interpreted as related to magmatism that occurred transpression zones related to transform micro plate boundaries and within plate (plume) environment.
Onon-Turinskiy (OT)	Granitoid-related Au vein (Lubavinskoye); Porphyry Au (Ara-Ilinskoe); Cassiterite-sulfide-silicate vein and stockwork (Khapcheranga, Tarbaldzheiskoe)	Russia, Central Transbaikalia; Northern Mongolia	Veins, volcanic complexes, and replacements related to Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt that overlies and intrudes Selenga sedimentary-volcanic plutonic belt, and Ononsky terrane	Interpreted as Middle Jurassic to Early Cretaceous.	Belt interpreted as related to magmatism that occurred transpression zones related to transform micro plate boundaries and within plate (plume) environment. Belt and related host rocks occurs along sub-meridional Onon-Tura fault.
Aginskiy (AG)	Sn-W greisen, stockwork, and quartz vein (Spokoininskoye); REE-Li pegmatite (Malo-Kulindinskoye); Ta-Nb-REE alkaline metasomatite; Hg-Sb-W vein and stockwork (Barun-Shiveinskoye)	Russia, Eastern Transbaikalia	Veins, volcanic complexes, and replacements related to Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt that overlies and intrudes Argunsky terrane	Interpreted as Middle Jurassic to Early Cretaceous.	Belt interpreted as related to magmatism that occurred transpression zones related to transform micro plate boundaries and within plate (plume) environment.
Tuanjiegou (TJ)	Granitoid-related Au vein (Tuanjiegou)	Northeastern China	Granitoids related to Jilin-Liaoning-East Shandong volcanic-plutonic belt (too small to be shown on 10 M map) that intrudes Heilongjiang terrane and Zhangguangcailing superterrane	Late Jurassic to Early Cretaceous	Belt interpreted as forming during intrusion of post-accretionary granitoids associated with interplate magmatism along deep faults. Belt and host plutonic rocks are related to subduction of Pacific plate under the Euroasian continent.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
East Mongolian-Priargun-skiy-Deerbugan (EMA)	Polymetallic (Pb, Zn, Ag) carbonate-hosted metasomatite (Klichinskoye, Vozdvizhenskoye); Zn-Pb (±Ag, Cu) skarn; Au skarn (Savinskoye-5, Bayandun); Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite (Tsav, Jiawula); Volcanic-hosted Au-base-metal metasomatite (Novo-Shirokinskoye); W-Mo-Be greisen, stockwork, and quartz vein (Tumentsogt); Porphyry Cu-Mo (±Au, Ag) (Wunugetushan); Porphyry Mo (±W, Bi) (Shakhtaminskoye); Granitoid-related Au vein (Urliin Ovoo); Carbonate-hosted As-Au metasomatite (Zapokrovskoye); Au-Ag epithermal vein (Noni, Tsagaanchuluut khudag II, Erentaolegai); Sedimentary siderite Fe; Sn-W greisen, stockwork, and quartz vein (Baga Gazar); Carbonate-hosted Hg-Sb; Fluorspar vein (Solonechnoye); Volcanic-hosted U	Russia, Eastern Transbaikalia; Central and Eastern Mongolia; Northeastern China	Veins, volcanic complexes, replacements, and granitoids related to Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt that overlies and intrudes Argunsky terrane, Idermeg terrane, Gazimur sedimentary basin, Gobi-Khankaisk-Daxinganling volcanic-plutonic belt, Lower Borzja fore-arc basin, Upper Borzja marine molasse basin.	Interpreted as Middle Jurassic to Early Cretaceous. Gold deposits and occurrences with several ages of 190 to 180 Ma and 165 to 175 Ma. K-Ar isotopic age of sericite at Ulaan Ag-Pb-Zn deposit of 161 Ma. K-Ar isotopic age of mica at Dornot uranium deposit is 141, 142, and 143 Ma, K-Ar isotopic age of the granodioritic porphyry is 164 Ma.	Belt interpreted as forming during Middle Jurassic to Early Cretaceous extensional tectonism associated with generation of the Trans-Baikalian-Daxinganling volcanic-plutonic belt. The metallogenic belt is controlled by major, regional northeast-and northwest-trending faults. The northeast-striking faults (Byrkinsky-Urovsky, Gazimur-Urjumkan, Argunsky) control the magmatic and hydrothermal activity and internal structure of the belt.
Ikh-Hairhan (IH)	Sn-W greisen, stockwork, and quartz vein; Ta-Li ongonite (Ikh Khairkhan)	Central Mongolia	Veins, replacements, and granitoids related to Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt that overlies and intrudes Hangay-Dauria terrane	Interpreted as Late Jurassic to Early Cretaceous. K-Ar isotopic ages of 158 Ma and 130 Ma.	Belt is interpreted as related to magmatism along transpression zones along transform micro plate boundaries and within plate (plume) environment**.**

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Mushgaihudag-Olgiihiid (MH)	REE (±Ta, Nb, Fe) carbonatite; (Mushgai hudag) Be-tuff (Teg uul)	Central Mongolia	Stratiform units in Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt that overlies and intrudes Govi Altai, Mandan, Mandalovoo-Onor, and Gurvansayhan terranes	Interpreted as Late Jurassic to Early Cretaceous. Rb-Sr isotopic age of 107 to 125 Ma. K-Ar ages of 115 to 118 Ma.	Belt interpreted as formed in Late Mesozoic rift in post-collisional setting.
Govi-Tamsag (GT)	Sediment-hosted U (Haraat); Evaporite sedimentary gypsum (Shiree Uul, Taragt-2); Sedimentary celestite (Horgo uul); Volcanic-hosted zeolite (Tsagaantsav)	Southern Mongolia	Stratiform units in Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt that overlies and intrudes Dzhida, Govi Altai, Mandalovoo-Onor terranes	Interpreted as Late Jurassic to Early Cretaceous.	Belt is related to Aptian-Albian (Late Cretaceous) and local Paleogene sedimentary rocks deposited in grabens and depressions that overlap the Mesozoic Eastern-Mongolian-Preargune continental rift belt that developed on the Idermeg passive continental margin, Govi-Altai turbidite, and Mandal-Ovoo island arc terranes. The sedimentary U deposits and occurrences formed in the latest stage of a late Mesozoic continental rift. The gypsum deposits and occurrences formed in continental evaporite basins.
Daxinganling (DX)	Zn-Pb (±Ag, Cu) skarn (Baiyinnuoer); Sn skarn; Cassiterite-sulfide-silicate vein and stockwork (Maodeng); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Meng'entaolegai, Aonaodaba); Peralkaline granitoid-related Nb-Zr-REE (Baerzhe); Au-Ag epithermal vein (Guandi)	Northeastern China (Great Xingan Mountains)	Veins, replacements, and granitoids related to Daxinganling volcanic-plutonic belt (too small to show at 10 M scale) that overlies and intrudes including Daxingaling overlap assemblage, and Gobi-Khankaisk-Daxinganling volcanic-plutonic belt	Late Jurassic and Early Cretaceous. Alubaogeshan granite porphyry intrusion with isotopic age of 149 Ma. Duerji granite complex is with U-Pb zircon age of 150 Ma. Rb-Sr age of 125 Ma for Baerzhe. Rb-Sr whole-rock isochron age of 148.31 Ma for Aobaodaba granite porphyry.	Belt is interpreted as forming during interplate extensional tectonism. The extension is interpreted as occurring during Late Jurassic in a back-arc setting with formation a series of volcanic and sedimentary basins and sub-alkaline to alkaline granite. The basins and granitoids are controlled by northeast-north-northeast and east-west striking regional faults that to certain degree reflect the pre-Mesozoic structures.
Bindong (BD)	Zn-Pb (±Ag, Cu) skarn (Ergu-Xishan); W±Mo±Be skarn (Wudaoling); Fe skarn (Chuihongshan)	Northeastern China	Replacements related to small granitoids in the Mesozoic Jihei volcanic and plutonic belt that intrudes and overlies Zhangguangcailing superterrane, Zhangguangcailing sedimentary overlap assemblage, and adjacent units	Late Jurassic to Early Cretaceous. K-Ar isotopic age of 157.8 Ma for Wudaoling quartz porphyry.	Belt interpreted as forming during interplate extensional tectonism and generation of sub-alkaline to alkaline volcanism and related sedimentation along northeast and east-west regional faults.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Laozhuo-shan (LZ)	Granitoid-related Au vein (Laozhuoshan)	Northeastern China	Granitoids related to Jihei volcanic and plutonic belt	Late Jurassic to Early Cretaceous	Belt interpreted as forming during generation of post-accretionary granitoids along major faults during interplate magmatism related to subduction of Pacific Oceanic Plate under the Eurasian Plate..
Ariadny (AR)	Zoned mafic-ultramafic Cr-PGE (Katenskoe); Mafic-ultramafic related Ti-Fe (±V) (Ariadnoe, Koksharovskoe)	Russia, Far East	Plutons intruding Samarkina terrane (Accretionary wedge)	Middle Jurassic and Early Cretaceous. K-Ar isotopic ages of about 160 Ma age	Belt interpreted as forming during generation of ultramafic and gabbroic plutons during underthrusting of the Kula oceanic ridge and formation of bimodal igneous rocks along a transform continental margin.
Samarka (Sam)	Porphyry Cu-Mo (±Au, Ag) (Malakhitovoe); Porphyry Mo (±W, Sn, Bi); W±Mo±Be skarn (Vostok-2, Lermontovsky)	Russia, Far East	Replacements and granitoids in Khungari-Tatibi granitic belt (too small to show at 10 M scale) that intrudes Samarka terrane	Early to mid-Cretaceous. K-Ar isotopic ages of 110 to 115 Ma for host granitoids.	Belt interpreted as forming during generation of S-type grantitoid plutons during underthrusting of the Kula oceanic ridge and formation of bimodal igneous rocks along a transform continental margin.
Hartolgoi-Sulinheer (HS)	Au-Ag epithermal vein (Biluut, Khoit Barjin); Ag-Pb epithermal vein (Biluut); Porphyry Mo; W±Mo±Be skarn (Qiyishan); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Khartolgoi); Carbonate-hosted Hg-Sb (Zuun Togoo Uul); Silica-carbonate (Listvenite) Hg	Southern Mongolia; Northwestern China	Veins and replacements related to latite and lamporphyre dikes in Trans-Baikalian-Daxinganling sedimentary-volcanic-plutonic belt that intrudes and overlies Tsagaan Uul-Guoershan and Solon terranes and Lugyngol volcanic-sedimentary basin.	Interpreted as Late Jurassic to Early Cretaceous.	In northwestern China, the belt interpreted as forming during generation of post-accretionary granite during subduction of Pacific Plate under the Eurasian Plate. In southern Mongolia, the belt is interpreted as forming in result of back arc extension of a late Mesozoic continental margin arc.
Yanshan-2 (YSH)	Cu (±Fe, Au, Ag, Mo) skarn (Shouwangfen); W±Mo±Be skarn (Yangjiazhangzi); Porphyry Mo (±W, Bi) (Dazhuangke); Granitoid-related Au vein (Jinchanggouliang) Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Caijiaying); Au-Ag epithermal vein (Niujuan)	Northeastern China; Northern China	Veins, replacements, and granitoids related to Yanliao volcanic and sedimentary basin and plutonic belt that overlies and intrudes Sino-Korean Craton , West Liaoning-Hebei-Shanxi terrane, Sino-Korea platform sedimentary cover, and adjacent units	Middle Jurassic to Early Cretaceous. K-Ar isotopic age of Hongluoshan granite is of 178 to 186 Ma. K-Ar age for related dike at Jinchanggouliang deposit is about 120 Ma. Quartz diorite and quartz monzonite at Dazhuangke deposit has K-Ar isotopic age of 146 to 168 Ma.	Belt interpreted as forming during interplate magmatism associated with extensional tectonism related to oblique subduction of the Pacific Oceanic Plate beneath Eurasian Plate.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Jiliaolu (JLL)	Zn-Pb (±Ag, Cu) skarn (Huanren); Cu (±Fe, Au, Ag, Mo) skarn (Huatong); Granitoid-related Au vein (Jiaojia); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Ermi); Volcanic-hosted Au-base metal metasomatite (Liujiapuzhi)	Northeastern China; Northern China	Replacements and granitoids related to Jilin-Liaoning-East Shandong volcanic-plutonic belt that overlies and intrudes Sino-Korean Craton - Jilin-Liaoning-East Shandong terrane	Middle Jurassic to Early Cretaceous	Belt interpreted as forming during interplate magmatism associated with extensional tectonism related to oblique subduction of the Pacific Oceanic plate beneath Eurasian continental plate. Belt occurs in about twenty relatively large volcanic basins. belt contains more than 200 granitoid-related vein Au deposits in a district of 23,000 km^2, some large and superlarge, that comprise one quarter of proven Au reserve in China.
North Jilin (NJ)	Zn-Pb (±Ag, Cu) skarn (Tianbaoshan); Granitoid-related Au vein; Porphyry Cu (±Au) (Xiaoxinancha); Porphyry Mo (±W, Bi) (Daheishan); Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite (Sanmen); Au-Ag epithermal vein (Ciweigou); Fluorspar vein	Northeastern China	Replacements and granitoids intruding North marginal plutonic belt of North China Platform, Laoling terrane, and Zhangguangcailing superterrane	Middle Jurassic to Early Cretaceous. Siliceous and mafic volcanic rocks at Ciweigou Au-Ag epithermal deposit are Late Jurassic and have Rb-Sr isochron age of 147.5 Ma.	Belt interpreted as related to magmatism along transpression zones along transform micro plate boundaries and within plate (plume) environment.
Benev (BV)	W±Mo±Be skarn (Benevskoe)	Russia, Far East	Replacements related to granitoids of Khungari-Tatibi granitic belt that intrude Taukha and Sergeevka terranes	Early Cretaceous	Belt interpreted as forming during generation of granitoids during underthrusting of the Kula Oceanic ridge and formation of bimodal igneous rocks along a transform continental margin.
Sambagawa-Chichibu-Shimanto (SCS)			Started in Late Triassic through Early Jurassic		
Kamuikotan (KM)	Podiform chromite (Nitto)	Japan, Hokkaido island	Ultramafic rocks that comprise part of an ophiolite in Kamuikotan complex in Shimanto accretionary wedge terrane	Interpreted as Late Jurassic to Early Cretaceous.	Belt is interpreted as forming during generation of an ophiolite that was incorporated into an accretionary wedge.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Hanxing (HX)	Fe skarn (Zhongguan)	Northern China	Replacements related to Late Jurassic to Early Cretaceous granitoids in Taihanshan volcanic-plutonic belt (too small to be shown at 10 M scale) intruding Sino-Korean Craton - West Liaoning-Hebei-Shanxi terrane	Late Jurassic to Early Cretaceous	Belt interpreted as forming during granitoid plutonism associated with extensional faults related to subduction of Pacific Plate under the Eurasian Plate.
Laiwu (LW)	Fe skarn (Jinling)	Northern China	Replacements related to Late Jurassic to Early Cretaceous granitoids in Jilin-Liaoning-East Shandong volcanic-plutonic belt that intrudes Sino Korean Craton - West Liaoning-Hebei-Shanxi terrane	Late Jurassic to Early Cretaceous. Isotopic ages of 110 to 128 Ma.	Belt interpreted as forming during granitoid plutonism associated with extensional faults related to subduction of Pacific Plate under Eurasian Plate. Host granitoids of the Jinling Complex are interpreted as forming during the Yanshan orogeny.
Taebaegsan (Tae)	Fe skarn (Kangwon, Dongnam, Susuk); Fe-Zn skarn (Yomisan); Zn-Pb (Ag, Cu, W) skarn; W±Mo±Be skarn (Wondong, Sangdong); REE-Li pegmatite; Au in shear zone and quartz vein (Seojom)	South Korea	Replacements and dikes related to Middle Jurassic through Early Cretaceous granitoids in Daebu Granite intruding Yeongnam Meta Complex and Great Limestone Group, (too small to show at 10 M scale).	Interpreted as Middle Jurassic through Early Cretaceous.	Belt interpreted as forming during intrusion of granitoids associated with Late Jurassic to Early Cretaceous Daebo granite that intruded during the Daebo orogeny. Granite consists of biotite granite, feldspar porphyry, and granite porphyry that intrude Precambrian metasedimentary rocks. Deposits formed during contact metasomatism of calcareous layers in metasedimentary rock.
Kitakami (Kit)	Cu (±Fe, Au, Ag, Mo) skarn (Kamaishi); Granitoid-related Au vein (Oya)	Japan	Replacements in Early Cretaceous Hiroshima granitic belt (too small to show at 10 M scale) intruding South Kitakami and Mino-Tamba-Chichibu terranes.	Early Cretaceous (Aptian through Albian). K-Ar isotopic ages of 120 Ma to 110 Ma for deposit-related granitic rocks in the Kitakami Mountains.	Belt interpreted as forming during intrusion of granitoids associated with a continental-margin arc and siliceous magmatism.
CENOMANIAN THROUGH CAMPANIAN (96 to 72 Ma) METALLOGENIC BELTS					
Lower Yana (LY)	Ag-Sb Vein (Kyuchyus); Clastic-sediment-hosted Sb-Au	Russia, East-Central Yakutia (Verkhoyansk area)	Veins and replacements in Kular-Nera terrane	Interpreted as Aptian to Late Cretaceous.	Belt interpreted as forming during post-accretionary extension related to initiation of opening of Eurasia Basin. The belt occurs along the Yana fault that cuts the southeastern Kular sector of the Kular-Nera slate belt.
Chokhchur-Chekur-dakh (CC)	Cassiterite-sulfide-silicate vein and stockwork (Churpunya, Chokurdakh)	Russia, East-Central Yakutia (Verkhoyansk area)	Veins and replacements in Svyatoi Nos volcanic belt (too small to show at 10 M scale)	Interpreted as Aptian to Late Cretaceous. The granitoids are dated by ^{40}Ar-^{39}Ar at 105 to 106 Ma.	Belt interpreted as forming during post-accretionary extension related to initiation of opening of Eurasia Basin. Belt occurs along the Yana fault. Belt hosted in granodiorite, amphibole-biotite granite, and subalkali granite that form part of Svyatoy Nos magmatic arc.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Central Polousny (CP)	Cassiterite-sulfide-silicate vein and stockwork (Ukachilkan); Sn-W greisen, stockwork, and quartz vein (Deputatskoe ; Takalkan)	Russia, East-Central Yakutia (Verkhoyansk area)	Veins and replacements related to Northern granite belt (too small to show at 10 M scale) that intrudes Polousnyi-Debin terrane	Interpreted as Aptian to Late Cretaceous. Deputatskiy stock has K-Ar isotopic age of 108 Ma.	Belt interpreted as forming during post-accretionary extension related to initiation of opening of Eurasia Basin. Belt associated with REE and subalkali granitoids that occur in small stocks.
Turukhansk (TU)	Volcanogenic-sedimentary Fe (Turukhanskoye)	Russia, Eastern Siberia	Stratiform units in Northern, Eastern, and Western Siberia sedimentary basins	Cretaceous to Paleogene	Belt interpreted as forming in a nearshore environment during rewashing of laterite crust weathering material in the shallow-water environment. Material interpreted as derived from trapp basalt of the North Asian Craton.
Eckyuchu-Billyakh (EB)	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Prognoz); Clastic-sediment-hosted Sb-Au; Hg-Sb-W vein and stockwork (Zvyozdochka); Ag-Sb vein vein; Au-Ag epithermal vein	Russia, East-Central Yakutia (Verkhoyansk area)	Veins and replacements related to Transverse granite belt (too small to show at 10 M scale) that intrudes North Asian Craton Margin - Verkhoyansk fold and thrust belt	Interpreted as Aptian to Late Cretaceous. Granitoid stocks and dikes of various composition are have ^{40}Ar-^{39}Ar isotopic ages of older than 120 Ma. Khoboyatu-Echiy granite pluton has ^{40}Ar-^{39}Ar age of 97 Ma.	Belt interpreted as forming during post-accretionary extension related to initiation of opening of Eurasia Basin. Belt hosted in granitoid stocks and dikes that occur at the terminations of the Transverse granitoid belt.
Taryn (Tar)	Clastic-sediment-hosted Sb-Au (Senatachan, Sarylakh, Kupol'noe)	Russia, East-Central Yakutia (Verkhoyansk area)	Veins and replacements in Kular-Nera terrane and North Asian Craton Margin - Verkhoyansk fold and thrust belt	Interpreted as Aptian to Late Cretaceous.	Belt interpreted as forming during post-accretionary extension related to initiation of opening of Eurasia Basin.
Selennyakh (SE)	Carbonate-hosted Hg-Sb (Gal Khaya, Pologoye, Arbat); Volcanic-hosted Hg (Dogdo); Ag-Sb vein (Kysylga)	Russia, East-Central Yakutia (Verkhoyansk area)	Veins and replacements related to Uyandina-Yasachnaya volcanic belt that overlies Omulevka passive continental margin terrane of Kolyma-Omolon superterrane, and adjacent terranes.	Interpreted as Aptian to Late Cretaceous.	Belt interpreted as forming during post-accretionary extension related to initiation of opening of Eurasia Basin.
Khandyga (Kha)	Ag-Sb vein; Carbonate-hosted As-Au metasomatite; Clastic-sediment-hosted Sb-Au (Senduchen); Clastic sediment-hosted Hg±Sb (Seikimyan)	Russia, East-Central Yakutia (Verkhoyansk area)	Veins and replacements in North Asian Craton Margin - Verkhoyansk fold and thrust belt	Interpreted as Aptian to Late Cretaceous.	Belt interpreted as forming during post-accretionary extension related to initiation of opening of Eurasia Basin. Belt occurs in veins and replacements in the southern Verkhoyansk fold and thrust alon the Sette-Daban tectonic zone.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
South Verkho-yansk (SV)	Au in shear zone and quartz vein (Nezhdaninka); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Upper Menkeche); Granitoid-related Au vein; W-Mo-Be greisen, stockwork, and quartz vein; Au-Ag epithermal vein	Russia, East-Central Yakutia (Verkhoyansk area)	Veins related to Late Cretaceous granitoids in South Verkhoyansk granite belt intruding North Asian Craton Margin - Verkhoyansk fold and thrust belt	Interpreted as Aptian to Late Cretaceous.	Belt interpreted as forming during accretion of the Okhotsk terrane to the North Asian Craton and resultant deformation of South Verkhoyansk belt. Au quartz veins are relatively older than large granitic plutons intruding the South Verkhoyansk synclinorium that have ^{40}Ar-^{39}Ar isotopic ages of 120 to 123 Ma.
Upper Udoma (UY)	Cassiterite-sulfide-silicate vein and stockwork (Khoron); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork; Sn-W greisen, stockwork, and quartz vein; Porphyry Mo (±W, Sn, Bi)	Russia, East-Central Yakutia (Verkhoyansk area)	Veins and replacements related to Okhotsk-Chukotka volcanic-plutonic belt that intrudes and overlies North Asian Craton Margin - Verkhoyansk fold and thrust belt	Interpreted as Late Cretaceous.	Belt interpreted as forming during generation of granitoids along an active continental margin arc consisting of the Albian to Late Cretaceous Okhotsk-Chukotka volcanic-plutonic belt.
Kukhtuy-Uliya (Kul)	Au-Ag epithermal vein (Khakandzha, Yurievka); Porphyry Mo (±W, Sn, Bi); Porphyry Sn Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite	Russia, Far East	Veins related to Okhotsk-Chukotka volcanic-plutonic belt that intrudes and overlies Okhotsk terrane	Late Cretaceous and to Paleocene	Belt interpreted as forming during generation of granitoids along an active continental margin arc consisting of the Albian to Late Cretaceous Okhotsk-Chukotka volcanic-plutonic belt.
Bakcharsk (BCh)	Sedimentary siderite Fe (Bakcharskoye); Banded iron formation (BIF, Superior Fe); Sedimentary Fe-V	Russia, Eastern Siberia	Stratiform units in Northern, Eastern, and Western Siberia sedimentary basins	Cretaceous and Paleogene	Belt interpreted as forming in a nearshore environment during rewashing of laterite crust weathering material in the shallow-water environment. Material interpreted as derived from trapp basalt of the North Asian Craton.
Verkhoturovsk (VT)	Bauxite (karst type) (Porozhninskoye 2); Talc (magnesite) replacement; Sedimentary bauxite	Russia, Eastern Siberia (Yenisei Ridge area)	Weathering of units in North Asian Craton, Craton Margin (East Angara fold and thrust belt) and Central Angara terrane	Cretaceous to Paleogene	Belt interpreted as forming during Cretacous and Paleogene tropical weathering.
Chelasin (CHL)	Sn-B (Fe) skarn (ludwigite); Granitoid-related Au vein; Cu (±Fe, Au, Ag, Mo) skarn; Porphyry Cu (±Au (Chelasin)	Russia, Far East	Replacements and granitoids related to Okhotsk-Chukotka volcanic-plutonic belt that intrudes and overlies North Asian Craton and Uda volcanic-plutonic belt	Late Cretaceous to Paleocene	Belt interpreted as forming during generation of granitoids in an active continental margin arc consisting of the Albian to Late Cretaceous Okhotsk-Chukotka volcanic-plutonic belt.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Preddzhug-dzhursky (PRD)	Porphyry Cu-Mo (±Au, Ag_; Porphyry Cu (±Au); Au-Ag epithermal vein (Avlayakan); Granitoid-related Au vein; Cu (±Fe, Au, Ag, Mo) skarn	Russia, Far East	Granitoids related to Okhotsk-Chukotka volcanic-plutonic belt that intrudes and overlies the East Aldan superterrane - Batomga composite terrane, Dzugdzur anorthositic belt, and Ulkan plutonic belt.	Late Cretaceous to Paleocene	Belt interpreted as forming during generation of granitoids along an active continental margin arc consisting of the Albian to Late Cretaceous Okhotsk-Chukotka volcanic-plutonic belt.
Belininsk (Bel)	Bauxite (karst type) (Barzasskoye); Lateritic Ni (Belininskoye); Sedimentary bauxite; Talc (magnesite) replacement	Russia, Southern-Eastern Siberia (Salair Range, Kuznetsk Alatau Mountains)	Weathering of sedimentary rocks in Salair and Telbes-Kitat island-arc terranes, and ultramafic-mafic bodies in Alambai accretionary wedge terrane	Late Cretaceous to Paleocene	Belt interpreted as forming as deuterogenic laterite derived from argillic karst material. Lateritic Ni deposits formed from of weathering crusts on serpentinized ultramafic rocks.
Djotsk (DJ)	Weathering crust Mn (±Fe) (Seibinskoye)	Russia, Eastern Siberia	Weathering of sedimentary rocks in Kizir-Kazir terrane (Island arc) (too small to show at 10 M scale)	Late Cretaceous to Paleogene	Belt interpreted as forming from weathering crusts developed on Neoproterozoic Mn-bearing rocks.
Ezop-Yam-Alin (EYA)	W-Mo-Be greisen, stockwork, and quartz vein (Lednikovy-Sarmaka); Sn-W greisen, stockwork, and quartz vein; Cassiterite-sulfide-silicate vein and stockwork; Porphyry Mo (±W, Sn, Bi) (Ippatinskoe, Olgakanskoe, Shirotnoe)	Russia, Far East	Veins and replacements related to Khingan-Okhotsk volcanic-plutonic belt	Late Cretaceous. Sn granite with isotoics ages of 75 to 100 Ma.	Belt interpreted as forming during generation of granitoids along along the Khingan transform continental-margin arc consisting of the Khingan-Okhotsk volcanic-plutonic belt that is related to oblique subduction of ancestral Pacific Ocean Plate.
Pilda-Limuri (PLL)	Sn-W greisen, stockwork, and quartz vein; W-Mo-Be greisen, stockwork, and quartz vein; Ag-Sb vein (Dyapp); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Uchaminskoye); Granitoid-related Au vein (Agnie-Afanasievskoye)	Russia, Far East	Veins, replacements, and granitoids related to Khingan-Okhotsk volcanic-plutonic belt	Late Cretaceous	Belt interpreted as forming during generation of granitoids along along the Khingan transform continental-margin consisting of the Khingan-Okhotsk volcanic-plutonic belt that is related to oblique subduction of ancestral Pacific Ocean Plate.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Malo-Khingan (MKh)	Porphyry Sn (Khinganskoe); Rhyolite-hosted Sn; Sn-W greisen, stockwork, and quartz vein (Pravourmiiskoe).	Russia, Far East	Granitoids related to Khingan-Okhotsk volcanic-plutonic belt	Late Cretaceous. Probable deposit-related to subalkaline potassium granite with K-Ar ages of 80 to 90 Ma and Rb-Sr whole-rock isochron age of 78 Ma.	Belt interpreted as forming during generation of granitoids along along the Khingan transform continental-margin arc consisting of the Khingan-Okhotsk volcanic-plutonic belt that is related to oblique subduction of ancestral Pacific Ocean Plate.
Badzhal-Komso-molsk (BKS)	Sn-W greisen, stockwork, and quartz vein (Pravourmiyskoe, Solnechnoe, Sobolinoye); Cassiterite-sulfide-silicate vein and stockwork; Cu (±Fe, Au, Ag, Mo) skarn; Porphyry Mo (±W, Sn, Bi)	Russia, Far East	Veins and replacements related to Khingan-Okhotsk volcanic-plutonic belt	Late Cretaceous. K-Ar isotopic ages of 75 to 86 Ma. Rb-Sr age of 95 to 83 Ma.	Belt interpreted as forming during generation of granitoids along the Khingan transform continental-margin arc consisting of the Khingan-Okhotsk volcanic-plutonic belt that related to oblique subduction of ancestral Pacific Ocean Plate.
Durmin (Dur)	Au-Ag epithermal vein (Durmin)	Russia, Far East	Veins related to East Sikhote-Alin volcanic-plutonic belt (too small to show at 10 M scale) that overlies and intrudes Kiselyovka-Manoma terrane (too small to show at 5 M scale)	Interpreted as Late Cretaceous.	Belt interpreted as forming during generation of granitoids along the East-Sikhote-Aline continental-margin arc related to oblique subduction of ancestral Pacific Ocean Plate.
Tumnin-Anyuy (TuA)	Porphyry Sn (Mopau); Cassiterite-sulfide-silicate vein and stockwork; Au-Ag epithermal vein (Tumninskoye)	Russia, Far East	Veins and granitoids related to East Sikhote-Alin volcanic-plutonic belt that overlies and intrudes Kema, Luzhkinsky, and Samarka terranes	Late Cretaceous to Paleocene	Belt interpreted as forming during generation of granitoids along the East-Sikhote-Aline continental-margin arc related to oblique subduction of ancestral Pacific Ocean Plate.
Luzhkinsky (LZH)	Sn-W greisen, stockwork, and quartz vein (Tigrinoe, Zimnee, Arsenyevsky); Cassiterite-sulfide-silicate vein and stockwork (Vysokogorskoe); W-Mo-Be greisen, stockwork, and quartz vein; Porphyry Sn (Yantarnoe); Porphyry Cu (±Au), Porphyry Cu-Mo (±Au, Ag); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork	Russia, Far East	Veins, replacements, and granitoids related to East Sikhote-Alin volcanic-plutonic belt that overlies and intrudes Zhuravlevsk-Amur River terrane	Mid-Cretaceous and early Tertiary between 100 and 50 Ma.	Belt interpreted as forming during generation of granitoids in back-arc of the East-Sikhote-Aline continental-margin arc related to oblique subduction of ancestral Pacific Ocean Plate.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Sergeevka-Taukha (Ser)	Granitoid-related Au vein (Progress, Askold); Boron (datolite) skarn (Dalnegorsk); Zn-Pb (±Ag, Cu) skarn (Nikolaevskoe, Partizanskoe); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork; Porphyry Sn; Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite (Krasnogorskoye); Au-Ag epithermal vein; Porphyry Cu (±Au)	Russia, Far East	Veins and granitoids related to East Sikhote-Alin volcanic-plutonic belt that overlies and intrudes Sergeevka, Samarka, and Taukha terranes	Late Cretaceous and early Tertiary. K-Ar ages of deposits range between 60 and 80 Ma.	Belt interpreted as forming during generation of granitoids along the East-Sikhote-Aline continental-margin arc related to subduction of ancestral Pacific Ocean Plate.
Sambagawa-Chichibu-Shimanto (SCS)			Started in Late Triassic through Early Jurassic		
Hidaka (HD)	Cyprus Cu-Zn massive sulfide (Shimokawa)	Japan, Hokkaido	Stratiform units in Shimanto accretionary wedge terrane	Middle Cretaceous to Eocene	Belt interpreted as forming in basalt generated along the Kula-Pacific ridge. Subsequent structural incorporatation of host rocks and deposits into an accretionary wedge.
Inner Zone Southwest Japan (ISJ)	Zn-Pb (±Ag, Cu) skarn (Kamioka Tochibara); W-Mo-Be greisen, stockwork, and quartz vein (Otani); W±Mo±Be skarn; Cu (±Fe, Au, Ag, Mo) skarn (Bandojima); Porphyry Mo (±W, Sn, Bi); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Ikuno); Fluorspar vein; Metamorphic graphite	Japan	Veins and replacements in Nohi rhyolite volcanic belt and Hiroshima granitic belt that overlie and intrude Hida, Sangun-Hidagaien-Kurosegawa, Akiyoshi-Maizuru, Mino-Tamba-Chichibu terranes (some too small to show at 10 M scale).	Cretaceous to Paleogene. Cretaceous age of deposit-related granitic rocks in Ryoke and Sanyo belts are. Paleogene age mostly for Sanin belt.	Belt interpreted as forming during generation of granitoids along a East Asia magmatic arc related to subduction of of Kula and Pacific plates.

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Wolak (WO)	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Youngdeog); W-Mo-Be greisen, stockwork, and quartz vein (Wolak); W±Mo±Be skarn; Cu (±Fe, Au, Ag, Mo) skarn (Jesamuk); Fe skarn (Susan); Weathering crust Mn (±Fe)	South Korea	Veins and replacements related to Cretaceous Bulgugsa granite that intrudes Gyeonggi Metamorphic Complex, Ogcheon Group, Great Limestone Group, and Daebo Granite (all too small to show at 10 M scale), and Ogcheon terrane.	Interpreted as Cenomanian through Campanian.	Deposits formed during intrusion of Cretaceous Bulgugsa granite (biotite granite, leucogranite, and hornblende granite). Granitoids interpreted as forming during Late Cretaceous to Early Tertiary Bulgugsa orogeny.
Gyeongpuk (GP)	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Darak, Chilgok); W-Mo-Be greisen, stockwork, and quartz vein (Kyeongju); Sn-W greisen, stockwork, and quartz vein (Wangpiri); Fe skarn; Polymetallic Ni vein (Samkwang).	South Korea	Veins and replacements related to Cretaceous Bulgugsa granite (biotite granite and granodiorite) intruding Sino-Korean Craton - Yeongnam terrane.	Interpreted as Cenomanian through Campanian.	Belt interpreted as forming during generation of Bulgugsa granite during Late Cretaceous to Early Tertiary Bulgugsa orogeny. Bulgugsa granite consists of biotite granite, granodiorite, porphyry, and felsic and quartz-porphyry. Deposits consist of hydrothermal, fissure-filling sulfide veins in granite gneiss, granodiorite, and biotite granite.
Gyeongnam (GN)	Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork; Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite (Gwymyeong, Mulkum, Kuryong); Fe skarn Ulsan); W-Mo-Be greisen, stockwork, and quartz vein; Porphyry Mo (±W, Sn, Bi); Cu-Ag vein (Goseong, Tongyoung) Au in shear zone and quartz vein (Cheolma)	South Korea	Veins and replacements related to Cretaceous Bulgugsa granite (biotite and feldspar porphyry) intruding Sino-Korean Craton - Yeongnam terrane.	Interpreted as Cenomanian through Campanian (96-75 Ma).	Belt interpreted as forming during generation of Bulgugsa granite (biotite granite, granodiorite and quartz-porphyry) during Late Cretaceous to Early Tertiary Bulgugsa orogeny. Deposits occur along the fissures and shear zones.
MAASTRICHTIAN THROUGH OLI GOCENE (72 to 24 Ma) METALLOGENIC BELTS					
Popigay (PP)	Impact diamond (Popigay)	Russia, Northern Yakutia	Astrobleme formed on North Asian Craton	Eocene. Tagamite and impact glasses have ^{40}Ar-^{39}Ar isotopic ages of 35.7 Ma.	Belt hosted in Popigay ring structure is interpreted as resulting from meteoritic impact with formation of pseudotachylites, high-grade shock metamorphic minerals, and allogenic breccia.
Lower Yana (LY)			Started in Cenomanian through Campanian		
Chokhchur-Chekurdakh (CC)			Started in Cenomanian through Campanian		
Central Polousnyy (CP)			Started in Cenomanian through Campanian		
Eckyuchu-Billyakh (EB)			Started in Cenomanian through Campanian		

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Taryn (TR)			Started in Cenomanian through Campanian		
Selennyakh			Started in Cenomanian through Campanian		
Khandyga (KH)			Started in Cenomanian through Campanian		
South Verkhoyansk			Started in Cenomanian through Campanian		
Upper Udoma (UY)			Started in Cenomanian through Campanian		
Kukhtuy-Uliya (KU)			Started in Cenomanian through Campanian		
Chelasin (CHL)			Started in Cenomanian through Campanian		
Preddzhugdzhursky (PRD)			Started in Cenomanian through Campanian		
Lower Amur (LAM)	Au-Ag epithermal vein (Mnogovershinnoe); Epithermal quartz-alunite (Iskinskoe); Porphyry Au; Porphyry Cu (±Au); Sn-W greisen, stockwork, and quartz vein	Russia, Far East	Veins and granitoids related to East Sikhote-Alin volcanic-plutonic belt that intrudes and overlies Amur River and Kiselyovka-Manoma accretionary-wedge terranes.	Late Cretaceous and Paleocene. K-Ar isotopic deposit ages of 49 to 69 Ma	Belt interpreted as forming during generation of granitoids along a continental-margin arc related to subduction of ancestral Pacific Ocean Plate.
Kema (Kem)	Ag-Au epithermal vein (Glinyanoe, Tayozhnoe 1); Porphyry Cu-Mo (±Au, Ag) Sukhoi Creek; Porphyry Cu (±Au) Verkhnezolotoe); Porphyry Mo (±W, Sn, Bi)	Russia, Far East	Veins related to East Sikhote-Alin volcanic-plutonic belt that intrudes and overlies the Kema terrane	Early Tertiary	Belt interpreted as forming during generation of granitoids along a continental-margin arc related to subduction of ancestral Pacific Ocean Plate.
Luzhkinsky (LZH)			Started in Cenomanian through Campanian		
Hidaka (HD)			Started in Cenomanian through Campanian		
Inner Zone Southwest Japan (ISJ)			Started in Cenomanian through Campanian		
MIOCENE THROUGH QUATERNARY (24 to 0 Ma)					
Northeast Hokkaido (NEH)	Au-Ag epithermal vein (Konomai); Volcanic-hosted Hg (Itomuka); Hg-Sb-W vein and stockwork (Ryushoden); Clastic sediment-hosted Hg±Sb	Japan, Hokkaido	Veins and replacements in Quaternary Japan volcanic belt and Neogene Japan sedimentary basin that overlies and intrudes Hidaka zone of the Shimanto accretionarry wedge terrane.	Miocene to Quaternary. Two ages of deposits: early stage (14.4 to 11.2 Ma); and late stage (8.1 to 0.3 Ma).	Belt interpreted as forming along an island arc related to subduction of the Pacific Plate beneath eastern Hokkaido Island.

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Northeast Japan (NEJ)	Volcanogenic Zn-Pb-Cu massive sulfide (Kuroko, Altai types) (Kosaka, Shakanai); Au-Ag epithermal vein (Sado, Hosokura, Toyoha); Polymetallic (Pb, Zn±Cu, Ba, Ag, Au) volcanic-hosted metasomatite; Sulfur-sulfide (S, FeS_2) (Horobetsu); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Ashio); Mn vein; Volcanogenic-sedimentary Mn (Kinjo); Chemical-sedimentary Fe-Mn; Limonite from spring water (Gumma)	Japan	Layers and veins in Quaternary Japan volcanic belt and Neogene Japan sedimentary basin that overlie and intrude Hiroshima granitic plutonic belt, and Mino-Tamba-Chichibu and South Kitakami terranes.	Miocene to Quaternary. Many Kuroko-type deposits were formed in middle Miocene, at about 13 Ma. K-Ar ages of vein deposits suggest two stages of formation: early stage (15 to 10 Ma), and late stage (8 to 2 Ma). Sulfur-sulfide (S, FeS2) and limonite deposits formed on Quaternary volcanoes.	Volcanogenic massive sulfide deposits interpreted as forming in back-arc region of an island arc related to subduction of the Pacific Plate beneath eastern Hokkaido Island. Au-Ag epithermal vein deposits interpreted as forming along axial part of an island arc volcanism. Sulfur-sulfide and limonite deposits formed in active island arc. Island arc magmatism related to subduction of Pacific Plate.
Hokuriku-Sanin (Hok)	Au-Ag epithermal vein (Omori); Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork (Taishu); Ag-Sb vein; Clastic-sediment-hosted U	Japan	Veins and replacements related to Neogene Japan sedimentary basin that overlies and intrudes Hiroshima granitic plutonic belt, and Akiyoshi-Maizuru and Mino-Tamba-Chichibu terranes.	Miocene to Pleistocene	Belt interpreted as forming along an island arc during back-arc rifting or axial part of an island arc that was related to subduction of Philippine Sea Plate.

Name (Symbol)	Mineral Deposit Models (Major Deposits)	Country, Region	Unit or Strucutre Related to Origin of Metallogenic Belt	Age Range of Metallogenic Belt	Tectonic Event for Origin of Metallogenic Belt. Comments
Outer Zone Southwest Japan (OSJ)	Sn skarn; Sn-W greisen, stockwork, and quartz vein; Polymetallic Pb-Zn ± Cu (±Ag, Au) vein and stockwork; Clastic-sediment-hosted Sb-Au; Au-Ag epithermal vein (Kishu); Volcanic-hosted Hg; Ag-Sb vein; Zn-Pb (±Ag, Cu, W) skarn (Chichibu); W-Mo-Be greisen, stockwork, and quartz vein; Hg-Sb-W vein and stockwork (Yamatosuigin); Cassiterite-sulfide-silicate vein and stockwork (Obira); Clastic-sediment-hosted Sb-Au	Japan	Veins and replacements related to Neogene Japan sedimentary basin that overlies and intrudes Hiroshima granitic plutonic belt, Sambagawa, Shimanto, and Mino-Tamba-Chichibu terranes.	Middle Miocene. Isotopic age of 15.5 Ma to 13 Ma age for host siliceous igneous rocks.	Belt interpreted as forming along an island arc during back-arc rifting or axial part of an island arc that was related to subduction of Philippine Sea Plate.
Kyushu (Kus)	Au-Ag epithermal vein (Hishikari, Kushikino, Taio)	Japan	Veins and replacements related to Quaternary Japan volcanic belt and Neogene Japan sedimentary basin that overlie and intrude Akiyoshi-Maizuru, Shimanto, and Mino-Tamba-Chichibu terranes.	Pliocene to Quaternary	Belt is interpreted as forming during hydrothermal activitiy along a Pliocene and Quaternary island arc during back-arc rifting or the axial part of an island arc that was related to subduction of Philippine Sea Plate.