Appendix D. Worksheets for numerical mineral deposit models

The model number for each numerical model refers to the model number of the corresponding descriptive model described in Cox and Singer (1986). The worksheets are designed so that the worksheet for each model can be reproduced and used to score a particular mineral occurrence, prospect, or deposit. Space is provided for entering the scores of individual attributes, partial scores of headings, and the total model score. The explanations of the pair of numbers that follows some of the attributes and of the rules for scoring attributes are described in the text.

Worksheet for Numerical Model of S tillwater Ni-Cu

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Paleozoic Mesozoic Tertiary

RockTypes: Ultramafic-plutonic (5 -5) Gabbro (4 -2) Dunite (3 -1) Peridotite (3 -1)

Pyroxenite (3 -1) Anorthosite(3 - 1)

TextureStructure: Stratiform Massive

Alteration:

Mineralogy: Pyrrhotite (2 -5) Chalcopyrite (2 -5) Pentlandite (2 -5)

Cobalt-sulfides (2 -5)

GeochemicalSignature: Cu (4 -5) Ni (4 -5) PGE (4 -5) Mg (2 -5)____

Geophysicalsignature:

AssociatedDeposits: Stillwater-Ni-Cu Bushveld-Cr Merensky-Reef-PGE

Bushveld-Fe-Ti-U Placer- Au-PGE Placer-PGE-A u

MaxScore: 1645

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalS ignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Bushveld Cr

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Paleozoic Mesozoic Tertiary

RockTypes: Ultramafic-plutonic (5 -5) Gabbro (4 -2) Dunite (3 -1)

Peridotite (3 -1) Pyroxenite (3 -1) Anorthosite (3 -1)

TextureStructure: Massive Disseminated Bedded

Alteration:

Mineralogy: Chromite (4 -5) Ilmenite (2 -4) Magnetite (2 -4) Pyrrhotite (2 -5)

Pentlandite (4 -4) Chalcopyrite (2 -5)

Geochemicalsignature: Cr (4 -5) PGE (4 -5) Mg (2 -5)____

Geophysicalsignature:

AssociatedDeposits: Bushveld-Cr Stillwater-Ni-Cu Merensky-Reef-PGE

Bushveld-Fe-Ti-V Placer-PGE-Au Placer-Au-PGE

MaxScore: 1705

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Merensky Reef PGE

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Paleozoic Mesozoic Tertiary

RockTypes: Ultramafic-plutonic (5 -5) Gabbro (4 -3) Dunite (3 -1) Peridotite (3 - 1)

Pyroxenite (3 -1) Anorthosite (3 -1)

TextureStructure: Massive Disseminated

Alteration:

Mineralogy: Pyrrhotite (2 -5) Chalcopyrite (2 -5) Pentlandite (3 -5) Chromite (4 -3)

Graphite (2 -3)

Geochemicalsignature: PGE (4 -5) cu (2 -5) Ni (3 -5) Cr (3 -5) Ti (2 -4)

Mg (2 -5)____

Geophysicalsignature:

AssociatedDeposits: Merensky-Reef-PGE Stillwatcr-Ni-Cu Bushvcld-Cr

Bushveld-Fe-Ti-V Placer-PGE- Au Placer- Au-PGE

MaxScore: 1750

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature:_____ Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Bushveld Fe-Ti-V

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Paleozoic Mesozoic Tertiary

RockTypes: Ultramafic-plutonic (5 -5) Gabbro (4 -2) Anorthosite (4 -2)

TextureStructure: Massive

Alteration:

Mineralogy: Magnetite (2 -5) Ilmenite (2 -5) Sulfides (2 -5)

Geochemicalsignature: Fe (3 -5) Ti (3 -5) V (3 -5)____

Geophysicalsignature:

AssociatedDeposits: Bushveld-Fe-Ti-V Bushveld-Cr Stillwater-Ni-Cu

Merensky-Reef-PGE Placer-PGE- Au Placer- Au-PGE

MaxScore: 1420

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Duluth Cu-Ni-PGE

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Paleozoic Mesozoic Tertiary

RockTypes: Ultramafic-plutonic (5 -5) Peridotite (4 -2) Pyroxenite (4 -2)

Anorthosite (3 -2) Evaporites (2 -1)

TextureStructure: Massive Disseminated

Alteration:

Mineralogy: Pyrrhotite (2 -3) Pentlandite (3 -5) Chalcopyrite (2 -5)

Cubanite (3 -4) Graphite (2 -3)

Geochemicalsignature: Ni (4 -5) cu (4 -5) PGE (2 -5) co (2 -4)

Ti (2 -4)

Geophysicalsignature:

AssociatedDeposits: Duluth-Cu-Ni-PGE

MaxScore: 9 10

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Noril'sk Cu-Ni-PGE

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Paleozoic

RockTypes: Basalt (5 -5) Ultramafic-plutonic (5 -5) Gabbro (4 -2)

Volcanic-breccia (3 - 1) Evaporites (2 - 1)

TextureStructure: Lenses Massive Disseminated

Alteration:

Mineralogy: Pyrrhotite (2 -3) Pentlandite (3 -5) Chalcopyrite (2 -5)

Cubanite (3 -4) Millerite (2 -3) Valleriite (2 -3) Pyrite (2 -4).

Bomite (2 -3) Gersdorffite (3 -2) Sperrylite (3 - 2) Polarite (2 -2)

Arsenides (2 -3) Antimonides (2 -3)

Geochemicalsignature: Ni (4 -5) cu (4 -5) co (2 -5) Pt (2 -5)

Pd (2 -5)

Geophysicalsignature:

AssociatedDeposits: Noril'sk-Cu-Ni-PGE

MaxScore: 1195

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Komatiitic Ni-Cu

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Cretaceous ____ Tertiary

RockTypes: Ultramafic-plutonic (5 -5) Komatiite (5 -5)

TextureStructure: Lenses Massive Disseminated

Alteration:

Mineralogy: Pyrite (2 -4) Pyrrhotite (2 -5) Chalcopyrite (2 -5) Pentlandite (4 -5)

GeochemicalSignature: Mg (2 -5) Ni (4 -5) cu (4 -5) PGE (2 -4) Pd (2 -4)

Geophysical Signature:

AssociatedDeposits: Komatiitic-Ni-Cu

MaxScore: 760

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature:_____ Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Dunitic Ni-Cu

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian

RockTypes: Ultramafic-plutonic (5 -5) Dunite (4 -2) Peridotite (4 -2)

TextureStructure: Massive Lenses

Alteration: Serpentinization (5 -2)

Mineralogy: Pyrrhotite (2 -5) Pentlandite (3 -5) Magnetite (2 -5) Pyrite (2 -4)

Chalcopyrite (2 -5) Chromite (3 -5)

Geochemicalsignature: Ni (4 -5) cu (4 -4) PGE (2 -5) Cr (2 -5)____ Co (2 -5)____

Mg (2 -5)____

GeophysicalSignature:

AssociatedDeposits: Dunitic-Ni-Cu Komatiitic-Ni Synorogenic-synvolcanic-Ni

Talc-carbonate-Ni-Au Layered-sedimentary-Ni

MaxScore: 1895

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Synorogenic-synvolcanic Ni-Cu

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Mafic-plutonic (5 -5) Gabbro (4 -2) Ultramafic-plutonic (4 -4)

Anorthosite (3 -1)

TextureStructure: Disseminated

Alteration:

Mineralogy: Pyrrhotite (2 -5) Pentlandite (4 -5) Chalcopyrite (2 -5) Pyrite (2 -3)

Magnetite (2 -4) Graphite (2 -3)

GeochemicalSignature: Ni (4 -5) cu (4 -5) co (2 -5) PGE (3 -5)

Geophysicalsignature:

AssociatedDeposits: Synorogenic-synvolcanic-Ni-Cu Komatiitic-Ni-Cu Dunitic-Ni-Cu

Talc-carbonate-Ni-Au

MaxScore: 1345

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: GeophysicalSignature:_____

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Anorthosite Ti

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian

RockTypes: Anorthosite (5 -5) Ferrodiorite (4 -2) Gabbro (3 -1) Charnockite (2 -1)

Jutunite (2 -1)

TextureStructure: Massive-replacement Contact-metasomatic

Alteration:

Mineralogy: Ilmenite (3 -5) Rutile (3 -2) Apatite (2 -3)

GeochemicalSignature: Ti (4 -5) P (2 -5) Zr (2 -4)

Geophysicalsignature: Magnetic-high

AssociatedDeposits: Anorthosite-Ti

MaxScore: 755

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Podiform chromite

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Phanerozoic

RockTypes: Ultramafic-plutonic (5 -5) Dunite (4 -2) Peridotite (4 -2) Ophiolite (4 -2)

TextureStructure: Massive Disseminated

Alteration: Serpentinization (5 -2)

Mineralogy: Chromite (4 -5) Ferrichromite (4 -5) Magnetite (2 -3) Laurite (3 -2)

Geochemicalsignature: Cr (5 -5)

GeophysicalSignature:

AssociatedDeposits: Podiform-chromite Limassol-Forest-Co-Ni

MaxScore: 1325

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Limassol Forest Co-Ni

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Paleozoic____ Mesozoic____

RockTypes: Serpentinite (5 -5)____ Ultramafic-plutonic (5 -4)____

TextureStructure: Veins____

Alteration: Serpentinization (5 -2)____ Silicification____ Carbonation____

Mineralogy: Pyrrhotite (2 -5)____ Pyrite (2 -4)____ Pentlandite (3 -3)____ Chalcopyrite (2 -4)____

Valleriite (3 -4)____ Loellingite (3 -2)____ Niccolite (3 -2)____ Maucherite (2 -2)____

Skutterudite (2 -2)____ Gersdorffite (2 -2)____ Cobaltite (2 -4)____ Magnetite (2 -4)____

Chromite (3 -3)____ Mackinawite (2 -2)____ Pararammelsbergite (2 -2)____

GeochemicalSignature: As (2 -5)____ Co (4 -5)____ Ni (4 -5)____

GeophysicalSignature:

AssociatedDeposits: Limassol-Forest-Co-Ni____Podiform-chromite____

Ni-laterite____ Co-Ni-Cu-ophiolite-sulfide____

MaxScore: 2125

Partial Scores

AgeRange:_____RockTypes:_____TextureStructure:_____Alteration:_____

Mineralogy:_____GeochemicalSignature:_____GeophysicalSignature:_____

AssociatedDeposits:_____

Model Score:_____

Worksheet for Numerical Model of Serpentine-hosted asbestos

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Paleozoic Mesozoic Tertiary

RockTypes: Serpentinite (5 -5) Ultramafic-plutonic (5 -5)

TextureStructure: Gash-filling Ribbon-veins

Alteration: Silicification (5 -2) Carbonation (5 -2) Serpentinization (5 -5)

Mineralogy: Chrysotile (3 -5) Asbestos (5 -5) Magnetite (2 -4)

Brucite (2 -3) Talc (3 -3) Tremolite (2 -2) Actinolite (2 -2)

GeochemicalSignature: Mg (2 -5)

Geophysicalsignature: Magnetic-high

AssociatedDeposits: Serpentine-hosted-asbestos Podiform-chromite

MaxScore: 2090

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Alaskan PGE

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Paleozoic Mesozoic

RockTypes: Ultramafic-plutonic (5 -5) Zoned-ultramafic (5 -5) Dunite (3 -1)

Peridotite (3 - 1) Pyroxenite (3 - 1) Gabbro (2 -1) Felsic-plutonic (2 - 1)

Intermediate-plutonic (2 - 1)

TextureStructure: Zoned-complex

Alteration: Serpentinization (5 -2)

Mineralogy: Chromite (4 -5) Pentlandite (2 -2) Pyrrhotite (2 -3) Gold (2 -3)

Arsenides (2 -4) Magnetite (2 -4) Cooperite (2 -3) Bornite (2 -3)

Chalcopyrite (2 -3)

Geochemicalsignature: Cr (4 -5) PGE (4 -5) Ti (2 -4) V (2 -4)____ cu (2 -5)

Ni (2 -5) S (2 -5)____ As (2 -4)

Geophysicalsignature:

AssociatedDeposits: Alaskan-PGE Placer-PGE- Au Placer-Au-PGE

MaxScore: 1925

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: GeophysicalSignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Carbonatite deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Apatite-magnetite-rocks (4 -2) Sovite (3 - 1) Ankerite-carbonatite (3 -1)
Fenite (2 -1) Ijolite (2 -1) Dunite (2 - 1) Picrite-porphyrites (2 - 1)
Alkalic-fenitized-gneiss (2 - 1)

TextureStructure: Zoned-complex

Alteration: Fenitization (5 -2) Chloritization

Mineralogy: Apatite (3 -4) Magnetite (2 -4) Pyrochlore (2 -4) Columbite (2 -4)
Perovskite (2 -4) Niocalite (2 -4) Barite (2 -4) Strontianite (2 -3) Siderite (2 -3)____
Rhodochrosite (2 -2) Ankerite (2 -3) Bastnaesite (2 -4) Chlorite (2 -2)
Parisite (2 -2) Monazite (2 -3) Breunnerite (2 -3) Calcite (2 -4) Dolomite (2 -4)____
Fluorite (2 -4) Pyrrhotite (2 -4) Ilmenite (2 -2) Molybdenite (2 -4)
Chalcopyrite (2 -5) Pyrite (2 -4) Sphalerite (2 -4)

GeochemicalSignature: REE (4 -5) Th (2 -5) U (2 - 5) Ti (2 -4) Zn (2 -4)
Nb (2 -4)____ Y (3 -5)____ Ce (3 -5) Mo (2 -4) cu (2 -3) V (2 -5)____ P (2 -5)____
Mn (2 -3) S (2 -5)____ La (3 -5) Sm (3 -5) Pb (2 -3) Zr (2 -4) Ba (2 -4)
Eu (3 -5)

Geophysicalsignature: Radioactive-anomaly Magnetic-high

AssociatedDeposits: Carbonatite

MaxScore: 2570

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature:_____ Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Diamond pipes

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Paleozoic Mesozoic ____ Tertiary

RockTypes: Kimberlite (5 -4) Olivine-lamproite (3 - 1) Leucite-lamproite (3 -1)

TextureStructure: Diatreme Pipe Breccia

Alteration: Serpentinization (5 -2)

Mineralogy: Diamond (5 -5) Bort (5 -5) Carbonado (5 -5)

GeochemicalSignature: Cr (2 -5) Ti (2 -5) Mn (2 -4) Ni (2 -5)

co (2 -4) PGE (3 -4) Ba (2 -3)

Geophysicalsignature:

AssociatedDeposits: Diamond-pipes Diamond-placers

MaxScore: 14 15

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of W skarn deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Calcareous-Rocks (5 -5) Felsic-plutonic (5 -5)

TextureStructure: Skarn

Alteration: Diopside Hedenbergite Andradite Spessartine

Mineralogy: Scheelite (4 -5) Molybdenite (2 -2) Pyrrhotite (2 -2) Sphalerite (2 -2)

Chalcopyrite (2 -2) Bomite (2 -2) Arsenopyrite (2 -2) Pyrite (2 -4)

Magnetite (2 -3)

GeochemicalSignature: W (4 -5) Mo (2 -5) Zn (2 -4) cu (2 -4) Sn (2 -5)

Bi (2 -4) Be (2 -5) As (2 -4)

Geophysicalsignature:

AssociatedDeposits: W-skarn Zn-skarn Sn-W-skarn

MaxScore: 1670

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Sn skarn deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Granite (5 -5) Biotite-leucogranite (4 -2) Muscovite-leucogranite (4 -2)

Felsic-dikes (2 -1) Calcareous-Rocks (5 -5)

TextureStructure: Skarn Breccia

Alteration: Greisenization (5 -2)

Mineralogy: Cassiterite (4 -5) Scheelite (4 -4) Sphalerite (2 -4) Chalcopyrite (2 -4)

Pyrrhotite (2 -4) Magnetite (2 -3) Pyrite (2 -3) Arsenopyrite (2 -3) Fluorite (4 -4)

GeochemicalSignature: Sn (4 -5) W (4 -5)____ F (4 -4)____ Be (2 -4) Zn (2 -4)

Pb (2 -3) cu (2 -4) Ag (2 -3)____ Li (2 -4) Rb (2 -5) cs (2 -4) Re (2 -4)

B (2 -5)____

Geophysicalsignature:

AssociatedDeposits: Sn-skarn W-skarn Sn-greisen Sn-veins Sn-replacement

MaxScore: 2390

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Replacement Sn

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Calcareous-Rocks (5 -5) Felsic-plutonic (5 -5)

TextureStructure: Massive-replacement

Alteration: Greisenization (5 -2)

Mineralogy: Pyrrhotite (2 -4) Arsenopyrite (2 -4) Cassiterite (4 -5) Chalcopyrite (2 -4)

Ilmenite (2 -3) Fluorite (4 -5)

GeochemicalSignature: Sn (4 -5) As (2 -5) cu (2 -5) B (2 -4)____ W (4 -4)____ F (4 -5)____

Li (2 -5) Pb (2 -4) Zn (2 -4) Rb (2 -5)

GeophysicalSignature:

AssociatedDeposits: Replacement-Sn Sn-greisen Quartz-tourmaline-cassiterite-veins

W-skarn Sn-skarn

MaxScore: 2030

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of W veins

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Paleozoic Mesozoic Tertiary

RockTypes: Felsic-plutonic (5 -5) Sandstone (3 - 1) Shale (3 -1)

TextureStructure: Veins

Alteration: Albitization Sericitization Chloritization

Mineralogy: Wolframite (4 -5) Molybdenite (2 -5) Bismuthinite (4 -4) Pyrite (2 -4)

Pyrrhotite (2 -3) Arsenopyrite (2 -5) Bornite (2 -3) Chalcopyrite (2 -5)

Scheelite (4 -4) Cassiterite (4 -5) Beryl(2 -3) Fluorite (4 -4)

Geochemicalsignature: W (4 -5) Mo (2 -5) Sn (4 -5) Bi (2 -5) As (2 -3)

cu (2 -3) Pb (2 -3) Zn (2 -3) Be (4 -3) F (4 -4)____

Geophysicalsignature:

AssociatedDeposits: W-veins Sn-veins

MaxScore: 1795

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Sn veins

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian____ Phanerozoic____

RockTypes: Felsic-plutonic (5 -5)____ Granite (5 -5)____ Biotite-leucogranite (3 -2)____

Muscovite-leucogranite (3 -2)____ Pelitic-rocks (2 -1)____

TextureStructure: Veinlets____ Open-space-filling____

Alteration: Sericitization____ Tourmalinization____ Silicification____ Chloritization____

Hematization____

Mineralogy: Cassiterite (4 -5)____ Wolframite (3 -4)____ Arsenopyrite (2 -4)____ Molybdenite (2 -4)____

Hematite (2 -4)____ Scheelite (3 -3)____ Beryl (2 -3)____ Galena (2 -3)____ Chalcopyrite (2 -4)____

Sphalerite (2 -3)____ Stannite (3 -4)____ Bismuthinite (3 -3)____

GeochemicalSignature: Sn (4 -5)____ As (3 -4)____ W (3 -5)____ B (3 -4)____ Li (2 -4)____

Rb (2 -4)____ Cs (2 -4)____ Be (2 -4)____ REE (2 -4)____ U (2 -4)____ Th (2 -4)____ Nb (2 -4)____

Bi (2 -3)____ F (3 -5)____

GeophysicalSignature:

AssociatedDeposits: Sn-veins____ Sn-greisen____ Sn-skarn____ Sn-replacement____

MaxScore: 2430

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:_____

Mineralogy:_____ GeochemicalSignature:_____ GeophysicalSignature:_____

AssociatedDeposits:_____

Model Score:_____

Worksheet for Numerical Model of Sn greisen deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Felsic-plutonic (5 -5) Granite (5 -5) Leucogranite (4 -4)

Muscovite-leucogranite (3 -2) Biotite-leucogranite (3 -2)

TextureStructure: Greisen Veinlets ____ Stockwork

Alteration: Greisenization (5 -2) Albitization (5 -2) Tourmalinization (3 -2)

Mineralogy: Cassiterite (4 -5) Molybdenite (4 -5) Arsenopyrite (3 -5) Topaz (4 -2)

Tourmaline (4 -2) Beryl (2 -4) Wolframite (2 -3) Bismuthinite (2 -2)

Fluorite (4 -3) Calcite (1 -3) Pyrite (2 -4)

GeochemicalSignature: Sn (4 -5) F (5-5) ____ B (5-4) ____ Mo (2 -5) Rb (2 -4)

cs (2 -4) Be (2 -3) REE (2 -4) U (2-4) ____ Th (2 -4) Nb (2-4) ____ Ta (2 -4)

Li (2 -4) W (2-3) ____ As (2 -4) Bi (2 -3)

GeophysicalSignature:

AssociatedDeposits: Sn-greisen Sn-veins Sn-replacement

MaxScore: 2930

Partial Scores

AgeRange: ____ RockTypes: ____ TextureStructure: ____ Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits: ____

Model Score:

Worksheet for Numerical Model of Climax Mo deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Tertiary

RockTypes: Felsic-plutonic (5 -5) Granite (4 -5) Rhyolite (4 -3)

TextureStructure: Stockwork Veinlets____

Alteration: Silicification (5 -2) Potassic (5 -2)

Mineralogy: Molybdenite (4 -5) Fluorite (4 -5) K-feldspar (2 -5) Pyrite (2 -4)

Wolframite (2 -3) Cassiterite (4 -3) Topaz (4 -3)

GeochemicalSignature: Mo (4 -5) Sn (4 -3) W (4 -5)____ Rb (3 -5) Pb (2 -4)

Zn (2 -3) F (3 -5)____ Th (2 -3) K (2 -2)____ cs (2 -4) Li (2 -4) Nb (2 -3)

Ta (2 -3) Mn (2 -4) Re (2 -5)

GeophysicalSignature:

AssociatedDeposits: Climax-MO Ag-base-metal-veins Fluorspar

MaxScore: 2445

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Porphyry Cu

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Felsic-plutonic (5 -5) Tonalite (4 -1) Monzogranite (4 -1) Syenite (4 -1)

TextureStructure: Stockwork Veinlets____

Alteration: Sodic-calcic Potassic (5 -2) Phyllic (5 -2) Argillic (5 -2)

Propylitic (5 -2)

Mineralogy: Chalcopyrite (3 -5) Pyrite (2 -5) Molybdenite (3 -4) Magnetite (2 -3)

Bornite (3 -2) Gold (3 -4)

GeochemicalSignature: Cu (4 -5) Mo (3 -5) Au (2 -3) Ag (2 -4)____ W (2 -3)____

B (2 -3)____ Pb (2 -4) Zn (2 -4) As (2 -3) Sb (2 -3) Se (2 -3) Te (2 -4)

Mn (2 -4) Rb (2 -3) Bi (2 -2) Sn (2 -3)____ K (1-2)____ Fe (1 -2)

GeophysicalSignature:

AssociatedDeposits: Porphyry-Cu Base-metal-skarn Epithermal-veins

Polymetallic-replacement Volcanic-hosted-massive-replacement

MaxScore: 3600

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: GeophysicalSignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Porphyry Cu, skarn-related deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Felsic-plutonic (5 -3) Calcareous-Rocks (5 -5)

TextureStructure: Skarn Veinlets____

Alteration: Potassic (5 -2) Marble Phyllic (5 -2)

Mineralogy: Chalcopyrite (3 -5) Pyrite (2 -4) Magnetite (3 -3) Sphalerite (2 -3)

Tennantite (3 -3) Scheelite (2 -2)

Geochemicalsignature: Cu (3 -5) Mo (3 -5) Pb (2 -3) Zn (2 -3) Au (2 -4)

Ag (2 -5)____ W (2 -2)____ Bi (2 -2) Sn (2 -3)____ As (2 -3)____ Sb (2 -3) Se (1 -3)

GeophysicalSignature:

AssociatedDeposits: Porphyry-Cu-skam-related Cu-skarn Replacement-Pb-Zn-Ag

MaxScore: 2200

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Cu skarn deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Felsic-plutonic (4 -2) Calcareous-Rocks (5 -5) Hornfels (2 -1)

TextureStructure: Skarn

Alteration: Calc-silicates

Mineralogy: Chalcopyrite (4 -5) Bornite (4 -5) Pyrite (2 -5) Magnetite (2 -4)

Hematite (2 -3) Pyrrhotite (2 -3)

Geochemicalsignature: Cu (3 -5) Au (2 -4) Ag (2 -5)____ Pb (2 -4) Zn (2 -4)

B (2 -2)____ co (2 -2) Mo (2 -4) W (2 -2)____ As (1 -2) Sb (1 -2)

Bi (1 -2) S (2 -3)____

GeophysicalSignature: Magnetic-high

AssociatedDeposits: Cu-skarn Porphyry-Cu Zn-skarn Polymetallic-replacement

Fe-skarn

MaxScore: 1740

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Zn-Pb skam deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Felsic-plutonic (4 -3) Calcareous-Rocks (5 -5)

TextureStructure: Skarn

Alteration: Calc-silicates

Mineralogy: Sphalerite (3 -5) Galena (3 -5) Pyrrhotite (2 -4) Pyrite (2 -4)
Magnetite (2 -3) Chalcopyrite (3 -4) Bornite (3 -3) Arsenopyrite (2 -3)
Scheelite (2 -3) Bismuthinite (2 -3) Stannite (2 -2) Fluorite (2 -5) Gold (2 -2)
Silver (2 -2)

Geochemicalsignature: Zn (3 -5) Pb (3 -5) Mn (2 -5) cu (2 -5) Au (2 -4)
Ag (2 -5)____ As (2 -4) W (2 -3)____ Sn (2 -3) F (2 -3)____ Be (1 -2) co (2 -3)
S (1 -3)____

Geophysicalsignature:

AssociatedDeposits: Zn-Pb-skarn Cu-skarn

MaxScore: 1505

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Fe skam deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Calcareous-Rocks (5 -5) Felsic-plutonic (5 -3) Diabase (2 -1)

TextureStructure: Skarn

Alteration: Calc-silicates

Mineralogy: Magnetite (4 -5) Chalcopyrite (2 -4) Pyrite (2 -4) Pyrrhotite (2 -4)

Geochemicalsignature: Fe (4 -5) cu (2 -4) co (2 -2) Au (2 -5) Be (2 -2)

B (2 -2)____ Zn (2 -2) Sn (1 -1)

Geophysicalsignature: Magnetic-high

AssociatedDeposits: Fe-skam

MaxScore: 960

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Carbonate-hosted asbestos

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Serpentinite (5 -5) Diabase (2 -2) Siliceous-limestone (2 - 1)

Cherty-dolomite (2 - 1)

TextureStructure: Gash-filling Ribbon-veins

Alteration: Calc-silicates

Mineralogy: Chrysotile (4 -5) Asbestos (4 -5) Serpentine (3 -5) Magnetite (2 -5),

Calcite (2 -5)

GeochemicalSignature: Mg (3 -5)

GeophysicalSignature:

AssociatedDeposits: Carbonate-hosted-asbestos Contact-metamorphic-magnetite Talc

MaxScore: 1085

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Polymetallic replacement deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Calcareous-Rocks (5 -5) Shale (3 -2)

TextureStructure: Replacement Massive

Alteration: Dolomitization Silicification Chloritization Pyritization

Mineralogy: Enargite (2 -3) Sphalerite (2 -5) Argentite (2 -3) Tetrahedrite (2 -4)

Digenite (2 -2) Chalcopyrite (2 -4) Galena (2 -4) Proustite (2 -4)

Pyargyrite (2 -4) Pyrite (2 -5) Marcasite (2 -4) Barite (2 -4)

GeochemicalSignature: Cu (2 -5) Pb (2 -5) Ag (2 -4)____ Zn (2 -5) Mn (2 -4)

Au (2 -4) As (2 -3) Sb (2 -3) Bi (2 -3) Ba (2 -3) Ge (1 -2) Te (2 -3)

S (2 -5)____

GeophysicalSignature:

AssociatedDeposits: Polymetallic-replacement Zn-Pb-skarn Porphyry-Cu

MaxScore: 1805

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Replacement Mn

Deposit,Prospect,orOccurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Calcareous-Rocks (5 -5) Felsic-plutonic (5 -5)

TextureStructure: Veins Open-space-filling

Alteration:

Mineralogy: Rhodochrosite (4 -5) Rhodonite (4 -3) Calcite (2 -4) Barite (2 -3)

Fluorite (2 -3) Pyrite (2 -4) Chalcopyrite (2 -3) Galena (2 -2) Sphalerite (2 -3)

GeochemicalSignature: Mn (4 -5) cu (2 -4) Ag (2 -4)____ Au (2 -4) Pb (2 -4)

Zn (2 -4)

Geophysical Signature:

AssociatedDeposits: Replacement-Mn Polymetallic-veins Polymetallic-replacement

Cu-skarn Zn-skam Porphyry-Cu

MaxScore: 1690

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemical Signature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Porphyry Sn

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Felsic-plutonic (5 -5) Felsic-volcanic-rocks (5 -5)

Calc-alkaline-pyroclastics (3 - 1)

TextureStructure: Disseminated Veinlets____

Alteration: Tourmalinization Sericitization Propylitic Argillic

Mineralogy: Cassiterite (4 -5) Pyrite (2 -5) Pyrrhotite (2 -3) Stannite (4 -4)

Chalcopyrite (2 -4) Sphalerite (2 -4) Arsenopyrite (2 -3)

Geochemicalsignature: Sn (4 -5) B (2 -4)____ Ag (2 -4)____ Pb (2 -4) Zn (2 -4)

As (2 -4) Sb (2 -4) cu (2 -4) Ba (2 -4) F (1-2)____

Geophysicalsignature:

AssociatedDeposits: Porphyry-Sn Sn-vein Sn-polymetallic

MaxScore: 1730

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Sn-polymetallic veins

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Rhyolite (5 -5) Tuff-breccia (3 -2) Basalt (2 -1) Chert (2 -1)

Slate (2 -1)

TextureStructure: Veins

Alteration:

Mineralogy: Cassiterite (4 -5) Chalcopyrite (3 -5) Sphalerite (3 -5) Pyrrhotite (2 -5)

Pyrite (2 -5) Galena (2 -4) Scheelite (3 -3) Wolframite (2 -4)

Arsenopyrite (2 -4) Bismuthinite (2 -4) Argentite (2 -3) Gold (2 -4)

Magnetite (2 -3) Molybdenite (2 -3)

Geochemicalsignature: Sn (4 -5) Zn (2 -5) Pb (2 -5) W (3-4)____ Ag (2-5)____

Bi (3 -3) As (2 -4) Sb (2 -4) B (2-4)____ F (1-2)____

Geophysical Signature:

AssociatedDeposits: Sn-polymetallic-veins Polymetallic-replacement Epithermal-Ag-veins

Porphyry-Sn

MaxScore: 1750

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Porphyry Cu-Au

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Cretaceous____ Cenozoic

RockTypes: Felsic-plutonic (5 -5) Felsic-volcanic-rocks (4 -4) Mafic-volcanic-rocks (4 -3)

Shoshonite (3 -1)

TextureStructure: Stockwork Veinlets____

Alteration: Chloritization Propylitic

Mineralogy: Chalcopyrite (4 -5) Bornite (4 -4) Gold (4 -5)

Geochemicalsignature: Cu (4 -5) Au (4 -5) Ag (2 -5)____ Mo (2 -4) Pb (2 -4)

Zn (2 -4) Mn (2 -4) K (1 -2)____

Geophysicalsignature:

AssociatedDeposits: Porphyry-Cu-Au Porphyry-Cu-Mo Placer-Au

MaxScore: 1455

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Porphyry Cu-MO

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Felsic-plutonic (5 -5) Tonalite (3 -2) Monzogranite (3 -2)

TextureStructure: Stockwork Veinlets____

Alteration: Chloritization (5 -2) Potassic (5 -2) Propylitic (5 -2) Phyllic (5 -2)

Mineralogy: Chalcopyrite (4 -5) Pyrite (2 -5) Molybdenite (4 -5)

GeochemicalSignature: Cu (5 -5) Mo (5 -5) Ag (2 -5)____ W (2 -4)____ Pb (2 -4)

Zn (2 -4) Au (2 -5) As (2 -5) Sb (2 -4) Te (2 -4) Mn (2 -4) Rb (2 -3)

K (1 -2)____ Re (2 -4)

GeophysicalSignature: Magnetic-low

AssociatedDeposits: Porphyry-Cu-Mo Cu-skarn Zn-skarn Fe-skarn Placer-Au

Polymetallic-replacement Volcanic-hosted-massive-replacement

MaxScore: 3585

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: GeophysicalSignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Porphyry Mo, low-F

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Mesozoic Tertiary

RockTypes: Felsic-plutonic (5 -5) Felsic-hypabyssal(5 -2) Tonalite (3 -1)

Granodiorite (3 -1) Monzogranite (3 -1) Quartz-monzonite (3 - 1)

TextureStructure: Stockwork Veinlets____

Alteration: Potassic (5 -2) Propylitic (5 -2) Phyllic (5 - 2) Argillic (5 -2)

Silicification (5 -2)

Mineralogy: Molybdenite (4 -5) Pyrite (2 -5) Scheelite (2 -4) Chalcopyrite (3 -5)

Tetrahedrite (2 -4)

GeochemicalSignature: Mo (2 -5) cu (2 -4) W (2 -4)____ Re (2 -2) Zn (2 -2)

Pb (2 -2) Au (2 -2) Ag (2 -2)____ K (1 -2)____ F (1 -2)____

GeophysicalSignature:

AssociatedDeposits: Porphyry-MO-low-F Porphyry-Cu-Mo Cu-skarn

Volcanic-hosted-Cu-As-Sb

MaxScore: 3495

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Volcanic-hosted Cu-As-Sb

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Tertiary

RockTypes: Andesite (3 -3) Dacite (3 -3) Flows (3 -3) Breccia (2 -2) Tuff (2 -2)

TextureStructure: MassiveBreccia-filling

Alteration: Silicification

Mineralogy: Pyrite (2 -5) Enargite (3 -5) Luzonite (2 -5) Tennantite (3 -4)

Covellite (3 -3) Chalcocite (3 -3) Bornite (3 -3) Tetrahedrite (3 -4)

Sphalerite (3 -3)

Geochemicalsignature: As (3 -5) Sb (3 -3) Bi (2 -3) cu (3 -5) Zn (2 -4)

Au (2 -4) Ag (2 -5)____ B (1 -2)____ Sn (1 -2) S (2 -5)____

GeophysicalSignature:

AssociatedDeposits: Volcanic-hosted-Cu-As-SbPorphyry-Cu-Mo Porphyry-MO-low-F

MaxScore: 1535

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy:Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Au-Ag-Te veins

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Hypabyssal(5 -5) Basalt (4 -4)____ Mafic-volcanic-rocks (4 -4)

Shoshonite (5 - 1)

TextureStructure: Veins

Alteration: Propylitic

Mineralogy: Tellurides (4 -5) Calaverite (3 -5) Sylvanite (3 -5) Hessite (3 -5)____

Coloradoite (3 -5) Pyrite (2 -5) Galena (2 - 4) Sphalerite (2 -3) Tetrahedrite (2 -4)

Stibnite (2 -3)

Geochemicalsignature: Au (3 -5) Ag (3 -5)____ Te (3 - 5) Cu (2 -4)____ Pb (2 -4)____

Zn (2 -3) Sb (2 -4) Hg (2 -4)____ F (2 -4)____ Ba (2 -3) Sr (2 -3) PGE (2 -2)

Tl (1 - 2)

Geophysicalsignature:

AssociatedDeposits: Au-Ag-Te-veins Polymetallic-veins Polymetallic-replacement

MaxScore: 1730

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: GeophysicalSignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Polymetallic veins

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Regional-Metamorphic (5 -1) Felsic-plutonic (4 -2)

Felsic-volcanic-rocks (4 -2) Mafic-volcanic-rocks (3 -2)

TextureStructure: Veins

Alteration: Propylitic

Mineralogy: Gold (2 -5) Carbonates (5 -4) Pyrite (2 -5) Sphalerite (2 -5)

Chalcopyrite (2 -4) Galena (2 -4) Arsenopyrite (2 -3) Tetrahedrite (2 -4)

Tennantite (2 -4) Argentite (2 -3) Hematite (2 -3)

Geochemicalsignature: Zn (2 -5) cu (2 -5) Pb (2 -5) As (2 -4) Sb (2 -5)

Au (2 -5) Ag (2 -5)____ Mn (2 -5) Ba (2 -4) B (1 -2)____ Ge (1 -2) Bi (1 -2)

Te (1 -2) F (1 -2)____

Geophysicalsignature:

AssociatedDeposits: Polymetallic-veins Porphyry-Cu-Mo Porphyry-MO-low-F

Polymetallic-replacement Placer-Au

MaxScore: 1910

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Basaltic Cu

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Proterozoic Triassic Jurassic Tertiary

RockTypes: Mafic-volcanic-rocks (4 - 1) Basalt (4 -1) Calcareous-Rocks (4 - 1)

Breccia (3 -1) Tuff (2 -1) Red-beds (3 -1)

Tuffaceous-sandstone (2 - 1)

TextureStructure: Breccia Open-space-filling

Alteration: Carbonates

Mineralogy:, Copper (4 -5) Silver (2 -5) Chalcocite (3 -4) Bomite (2 -3)

Chalcopyrite (2 -4) Pyrite (2 -3)

Geochemicalsignature: Cu (4 -5) Ag (2 -4)____ Zn (2 -3) B (1 -2)____ co (1 -1)

GeophysicalSignature:

AssociatedDeposits: Basaltic-Cu Sediment-hosted-Cu Volcanogenic-Mn

MaxScore: 1355

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature:_____ GeophysicalSignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Cyprus massive sulfide

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian____ Paleozoic Mesozoic Tertiary

RockTypes: Ophiolite (4 - 1) Ultramafic-plutonic (4 -2) Basalt (4 -1) Diabase (2 -1)

Fine-grained-metasedimentary-rocks (2 - 1) Chert (2 -1)

TextureStructure: Massive

Alteration: Feldspar-destruction (5 -2) Silicification Chlorite

Mineralogy: Pyrite (2 -5) Chalcopyrite (3 -5) Sphalerite (3 -4) Marcasite (2 -2)

Pyrrhotite (2 -3)

Geochemicalsignature: Mn (2 -4) Fe (2 -5) cu (3 -5) Zn (3 -5) S (3 -5)____

Ag (2 -4)____ Au (2 -4) co (2 -3)

Geophysicalsignature:

AssociatedDeposits: Cyprus-massive-sulfide.

MaxScore: 1585

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Besshi massive sulfide

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Paleozoic Mesozoic Tertiary

RockTypes: Tuff (5 -2) Shale (4 -1) Breccia (3 - 1) Iron-formation (3 -1)

Chert (3 -1) Sandstone (5 -1)

TextureStructure: Fine-grained Massive

Alteration: Chloritization

Mineralogy: Pyrite (3 -5) Pyrrhotite (3 -4) Chalcopyrite (3 -5) Sphalerite (3 -5)

Magnetite (2 -4) Valleriite (2 -2) Galena (2 -3) Bornite (2 -3) Tetrahedrite (3 -3)

Cobaltite (2 -2) Cubanite (2 -3) Stannite (2 -2) Molybdenite (2 -2)

Geochemicalsignature: Cu (3 -5) Zn (3 -5)____ co (2 -4) Ag (2 -5)____ Ni (2 -3)

Cr (2 -3) Au (2 -4)

GeophysicalSignature:

AssociatedDeposits: Besshi-massive-sulfide

MaxScore: 1400

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Volcanogenic Mn

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Paleozoic Mesozoic Tertiary

RockTypes: Chert (2 -1) Tuff (3 -2) Volcaniclastic-rocks (5 -5)

Felsic-volcanic-rocks (2 -2) Mafic-volcanic-rocks (2 -2)

TextureStructure: Massive

Alteration: Spilitic (5 -2)

Mineralogy: Rhodochrosite (4 -4) Braunite (4 -2) Hausmannite (4 -2) Bementite (4 -2)

Neotocite (2 -2) Alleghanyite (2 -2) Spessartine (2 -3) Rhodonite (4 -4)

Maganite (4 -2) Pyrolusite (2 -2) Coronadite (2 -2) Cryptomelane (2 -2)

Hollandite (2 -2) Todorokite (2 -2)

Geochemicalsignature: Mn (4 -5) Zn (2 -3) Pb (2 -3) cu (2 -3) Ba (2 -3)

Geophysicalsignature:

AssociatedDeposits: Volcanogenic-Mn Kuroko-massive-sulfide

MaxScore: 1790

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: GeophysicalSignature:_____

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Blackbird Co-Cu

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Metasedimentary-rocks (5 -5) Fine-g-rained-metasedimentary-rocks (4 -4)

Mafic-metavolcanic-rocks (3 -3) Iron-formation (2 - 1)

TextureStructure: Massive Disseminated

Alteration: Silicification Chloritization

Mineralogy: Cobaltite (4 -5) Chalcopyrite (5 -5) Pyrite (2 -5) Pyrrhotite (2 -5)

Arsenopyrite (2 -5) Magnetite (2 -5) Gold (2 -3) Silver (2 -3)

GeochemicalSignature: Fe (2 -5) As (3 -5) B (2 -3)____ co (4 -5) cu (2 -5)

Au (2 -3) Ag (2 -3)____ Mn (2 -4)

Geophysicalsignature:

AssociatedDeposits: Blackbird-Co-Cu Besshi-massive-sulfide

MaxScore: 14 10

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemical Signature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Hot-spring Au-Ag

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Tertiary Quaternary

RockTypes: Rhyolite (5 -5)

TextureStructure: Veins Stockwork Breccia

Alteration: Silicification (5 -2)

Mineralogy: Gold (3 -5) Pyrite (2 -5) Stibnite (3 -3) Realgar (3 -4)

Arsenopyrite (2 -3) Sphalerite (2 -4) Chalcopyrite (2 -3) Fluorite (2 -3)

Geochemicalsignature: Au (3 -5) As (3 -5) Sb (3 -4) Hg (2 -4)___ Tl (2 - 4)

Ag (3 -5)___

Geophysicalsignature:

AssociatedDeposits: Hot-spring-Au-Ag Epithermal-quartz-veins Hot-spring-Hg

Placer-Au

MaxScore: 1700

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature:_____ Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Creede epithermal veins

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Tertiary

RockTypes: Felsic-volcanic-rocks (5 -5) Mafic-volcanic-rocks (5 -5)

TextureStructure: Veins

Alteration: Zoned (5 -2)

Mineralogy: Galena (2 -5) Sphalerite (2 -5) Chalcopyrite (2 -5)

Copper-sulfosalts (3 -5) Silver-sulfosalts (3 -5) Gold (3 -4) Tellurides (3 -3)

Bomite (2 -2) Arsenopyrite (2 -2)

Geochemicalsignature: Au (3 -4) As (3 -4) Sb (3 -4) Hg (2 -2)____ Pb (2 -5)

Zn (2 -5) cu (2 -5)

GeophysicalSignature:

AssociatedDeposits: Creede-epithermal-veins Placer-Au Epithermal-quartz-alunite-Au

Polymetallic-replacement

MaxScore: 1835

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Comstock epithermal veins

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Tertiary

RockTypes: Felsic-volcanic-rocks (5 -5)

TextureStructure: Veins

Alteration: Zoned (5 -2)

Mineralogy: Argentite (3 -5) Gold (3 -5) Silver-sulfosalts (3 -4) Naumannite (2 -4)

Galena (2 -4) Sphalerite (2 -4) Chalcopyrite (2 -4) Tellurides (3 -3)

Hematite (2 -3) Arsenopyrite (2 -2)

GeochemicalSignature: Au (3 -5) As (3 -4) Sb (3 -4) Hg (3 -3)____ cu (2 -5)

Ag (2 -5)____ Pb (2 -5)

Geophysicalsignature:

AssociatedDeposits: Cornstock-epithermal-veins Placer-AuEpithermal-quartz-alunite-Au

MaxScore: 1655

Partial Scores

AgeRange:_____RockTypes:_____TextureStructure:_____Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Sado epithermal veins

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Tertiary

RockTypes: Felsic-volcanic-rocks (5 -5)

TextureStructure: Veins

Alteration: Silicification

Mineralogy: Gold (3 -5) Argentite (3 -4) Chalcopyrite (2 -5) Sulfosalts (3 -5)

Tellurides (3 -4) Galena (2 -4) Sphalerite (2 -4)

Geochemical Signature: Au (3 -5) Ag (2 -5) ___ cu (2 -5)

Geophysicalsignature:

AssociatedDeposits: Sado-epithermal-veins Placer-Au Quartz-alunite-Au

MaxScore: 1100

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature:_____ Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Epithermal quartz-alunite Au

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Felsic-volcanic-rocks (5 -5)

TextureStructure: Veins Pipe

Alteration: Zoned (5 -2)

Mineralogy: Gold (3 -5) Enargite (3 -5) Pyrite (2 -5) Silver-sulfosalts (3 -5)

Chalcopyrite (2 -4) Bomite (2 -3) Tellurides (3 -3) Galena (2 -4) Sphalerite (2 -4)

Huebnerite (2 -2)

GeochemicalSignature: Au (3 -5) As (3 -5) cu (2 -5) Te (3 -3) W (2-1)

GeophysicalSignature:

AssociatedDeposits: Epithermal-quartz-alunite-Au Porphyry-Cu Polymetallic-replacement

Volcanic-hosted-Cu-As-Sb

MaxScore: 1730

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Volcanogenic U

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Archean Proterozic ____ Paleozoic Mesozoic Tertiary

RockTypes: Felsic-volcanic-rocks (5 -5) Mafic-volcanic-rocks (5 -5) Alkali-rhyolite (3 -2)

Trachyte (3 -2)

TextureStructure: Breccia Open-space-filling

Alteration: Kaolinite ____ Montmorillonite Alunite ____ Silicification (4 - 1) Adularia (4 -1)

Mineralogy: Coffinite (4 -5) Uraninite (4 -5) Brannerite (4 -5) Pyrite (2 -5)

Realgar (2 -3) Orpiment (2 -3) Leucoxene (2 -3) Molybdenite (2 -4)

Fluorite (2 -4) Quartz (1 -4) Adularia (2 -4) Barite (1 -3)

GeochemicalSignature: U (4 -5) Hg (3 -4) ____ As (3 -4) Sb (3 -4) F (3 -5) ____ Mo (3 -5)

W (2 -2) ____ REE (2 -3) Li (3 -4) Ba (1 -1)

GeophysicalSignature:

AssociatedDeposits: Volcanogenic-U Sandstone-U Fluorspar

MaxScore: 25 15

Partial Scores

AgeRange: _____ RockTypes: _____ TextureStructure: _____ Alteration:

Mineralogy: GeochemicalSignature: _____ Geophysicalsignature:

AssociatedDeposits: _____

Model Score:

Worksheet for Numerical Model of Epithermal Mn

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Tertiary

RockTypes: Tuff (4 -3) Breccia (3 -2) Agglomerate (2 - 1) Rhyolite (3 -2)

TextureStructure: Veins

Alteration: Kaolin

Mineralogy: Rhodochrosite (4 -5) Manganocalcite (4 -5) Barite (2 -5) Zeolite (2 - 5)

GeochemicalSignature: Mn (4 -5)____ Fe (2 -5)____ P (3 -4)____ W (2 -3)____

Geophysical Signature:

AssociatedDeposits: Epithermal-Mn Epithermal- Au-Ag

MaxScore: 1025

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Rhyolite-hosted Sn

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Tertiary____

RockTypes: Alkali-rhyolite (4 -3)____ Rhyolite (5 -3)____

TextureStructure: Veinlets____

Alteration:

Mineralogy: Cassiterite (4 -5)____ Hematite (2 -5)____ Cristobalite (3 -5)____ Fluorite (4 -3)____

Tridymite (3 -5)____ Opal (2 -5)____ Chalcedony (2 -5)____ Beudantite (3 -2)____

Mimetite (3 -2)____ Adularia (3 -4)____ Durangite (2 -2)____ Topaz (4 -3)____

GeochemicalSignature: Sn (4 -5)____

GeophysicalSignature:

AssociatedDeposits: Rhyolite-hosted-Sn____ Climax-Mo____

MaxScore: 1120

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:_____

Mineralogy:_____ GeochemicalSignature:_____ GeophysicalSignature:_____

AssociatedDeposits:_____

Model Score:_____

Worksheet for Numerical Model of Volcanic-hosted magnetite

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Mesozoic Cenozoic

RockTypes: Alkaline-volcanic-rocks (5 -3)____ Mafic-volcanic-rocks (4 -4) Felsic-plutonic (2 - 1)

TextureStructure: Massive-replacement

Alteration: Calc-silicates

Mineralogy: Magnetite (4 -5) Apatite (2 -5)____

Geochemicalsignature: Fe (4 -5) P (4 -5X--- v (4 -4)____ Ba (2 -3)____ F (2 -3)____ Bi (2 - 3)

cu (2 - 3) co (2 - 5)

Geophysicalsignature: Magnetic-high____

AssociatedDeposits: Volcanic-hosted-magnetite Sedimentary-Fe____

MaxScore: 1110

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature: _____

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Carbonate-hosted Au-Ag

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Carbonaceous-limestone (4 -2) Carbonaceous-dolomite (4 -2)

Carbonaceous-shale (4 -2)

TextureStructure: Replacement

Alteration: Amorphous-carbon

Mineralogy: Gold (4 -5) Pyrite (2 -5) Realgar (2 -5) Orpiment (2 -5)

Arsenopyrite (2 -3) Cinnabar (2 -3) Fluorite (2 -3) Barite (2 -3) Stibnite (2 -3)

GeochemicalSignature: Au (4 -5) Ag (2 -5)____ As (3 -5) Hg (2 -4)____ W (2 -4)____

Mo (2 -2) Sb (2 -4) Tl (2 -4)____ F (2 -2)____ NH3 (2 -3) C (2 -5)____ Ba (2 -3)

Geophysicalsignature:

AssociatedDeposits: Carbonate-hosted-Au-Ag W-Mo-skarn Porphyry-Mo Placer-Au

Stibnite-barite-veins

MaxScore: 1835

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemical Signature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Hot-spring Hg

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Tertiary Cretaceous____

RockTypes: Siliceous-sinter (5 -5) Mafic-volcanic-rocks (3 - 1) Tuff (3 -1)

Tuff-breccia (2 - 1)

TextureStructure: Vein Disseminated

Alteration: Kaolinization

Mineralogy: Cinnabar (5 -5) Mercury (5 -3) Marcasite (2 -2) Stibnite (2 -1)

GeochemicalSignature: Hg (4 -5) As (3 -5) Sb (3 -5) Au (2 -3) B (2 -3)____

Geophysicalsignature:

AssociatedDeposits: Hot-spring-Hg Hot-spring-Au

MaxScore: 1115

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Almaden Hg

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Volcaniclastic-rocks (5 -5) Tuff (3 -2) Vent-breccia (3 -2)

TextureStructure: Disseminated

Alteration:

Mineralogy: Cinnabar (4 -5) Mercury (5 -5) Pyrite (2 -3)

GeochemicalSignature: Hg (4 -5) As (3 -4) Sb (3 -4) B (2 -3)

Geophysicalsignature:

AssociatedDeposits: Almaden-Hg S tibnite-veins

MaxScore: 910

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemical Signature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Silica-carbonate Hg

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Tertiary

RockTypes: Serpentinite (4 -4) Siltstone (3 -2) Graywacke (3 -2)

TextureStructure: Replacement

Alteration: Silicification (5 -2)

Mineralogy: Cinnabar (4 -5) Mercury (5 -5) Pyrite (2 -5) Stibnite (3 -4)

Chalcopyrite (2 -4) Sphalerite (2 -4) Galena (2 -4) Bornite (2 -3)

GeochemicalSignature: Hg (4 -5) Sb (3 -4) cu (2 -3) Zn (2 -3) B (2 -3)____

Geophysicalsignature:

AssociatedDeposits: Silica-carbonate-Hg S tibnite-veins

MaxScore: 1475

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalS ignature: GeophysicalS ignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Simple Sb deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Paleozoic____ Mesozoic____ Tertiary____

RockTypes: Rock-Types (5 -5)____

TextureStructure: Vein____ Massive____

Alteration: Silicification____ Sericitization____ Argillic____

Mineralogy: Stibnite (4 -5)____ Pyrite (2 -3)____

GeochemicalSignature: Sb (2 -5)____ Fe (2 -4)____ As (2 -4)____ Au (2 -4)____ Ag (2 -4)____

Hg (2 -3)____ W (2 -3)____ Pb (2 -3)____ Zn (2 -3)____

GeophysicalSignature:

AssociatedDeposits: Simple-Sb____Low-sulfide-Au-quartz-veins____Hot-spring-Au-Ag____

Carbonate-hosted-Au-Ag____ Placer-Au____

MaxScore: 1585

Partial Scores

AgeRange:_____RockTypes:_____TextureStructure:_____Alteration:_____

Mineralogy:_____GeochemicalSignature:_____GeophysicalSignature:_____

AssociatedDeposits:_____

Model Score:_____

Worksheet for Numerical Model of Disseminated Sb deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Paleozoic Mesozoic Tertiary

RockTypes: Rock-Types (5 -5)

TextureStructure: Vein Disseminated

Alteration: Silicification Sericitization Argillic

Mineralogy: Stibnite (2 -5) Pyrite (2 -4)

GeochemicalSignature: Sb (4 -5) Fe (2 -3) As (3 -5) Au (2 -5) Hg (2-3)____

W (2-3)____ Pb (2 -3) Zn (2 -3)

Geophysicalsignature:

AssociatedDeposits: Disseminated-Sb Simple-Sb Low-sulfide-Au-quartz-veins

Hot-spring-Au-Ag Carbonate-hosted-Au-Ap Placer-Au

MaxScore: 1720

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Kuroko massive sulfide

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Archean Proterozoic Phanerozoic

RockTypes: Felsic-volcanic-rocks (5 -5) Mafic-volcanic-rocks (5 -5)

Volcaniclastic-rocks (4 - 1) Pelites (3 -1) Shale (2 -1)____

TextureStructure: Massive Stockwork Breccia

Alteration: Zeolites Montmorillonite Silicification

Mineralogy: Pyrite (2 -5) Sphalerite (3 -5) Chalcopyrite (3 -5) Pyrrhotite (2 -3)

Galena (2 -4) Barite (2 -2) Tetrahedrite (2 -4) Tennantite (2 -4) Bornite (2 -3)

Magnetite (1 -3) Gahnite (2 -3) Gypsum (1 -2) Anhydrite (1 -2)

Geochemicalsignature: Pb (4 -5) Au (3 -3) Mg (2-3)____ Zn (4 -5) cu (3 -5)

Ba (2 -2) As (2-4)____ Ag (4-5)____ Se (2 -2) Sn (2 -4)____ Fe (2-5)____

GeophysicalSignature:

AssociatedDeposits: Kuroko-massive-sulfide Epithermal-quartz-adularia-veins

Volcanogenic.Mn Algoma.Fe

MaxScore: 2110

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature:_____ Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Algoma Fe

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Archean

RockTypes: Iron-formation (5 -5) Mafic-volcanic-rocks (3 -2) Felsic-volcanic-rocks (3 -2)

Volcaniclastic-rocks (4 -4)

TextureStructure: Banded

Alteration:

Mineralogy: Magnetite (4 -5) Hematite (4 -5) Siderite (2 -3)

GeochemicalSignature: Fe (2 -5) Mn (2 -3)

Geophysicalsignature: Magnetic-high

AssociatedDeposits: Algoma-Fe Kuroko-massive-sulfide Homestake-Au

MaxScore: 1010

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Quartz pebble conglomerate Au-U

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian

RockTypes: Conglomerate (5 -5) Sandstone (3 -1)

TextureStructure: Replacement

Alteration:

Mineralogy: Gold (3 -5) Pyrite (2 -4) Uraninite (3 -5) Brannerite (3 -5)

Zircon (2 -3) Chromite (2 -3) Monazite (2 -3) Leucoxene (2 -3)

Geochemicalsignature: Au (3 -5) U (3 -4)___ PGE (2 -4) REE (2 -3) Zr (2 -3)

As (2 -2) C (2 -4)___

Geophysicalsignature: Radioactive-anomaly

AssociatedDeposits: Quartz-pebble-conglomerate-Au-U Placer-Au

Low-sulfide-Au-quartz-veins Homestake- Au Superior-Fe

MaxScore: 1520

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Olympic Dam Cu-U-Au

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian____

RockTypes: Alkali-granite (5 -2)____ Breccia (5 -3)____ Felsic-volcanic-rocks (3 -2)____ Tuff (2 -1)____

TextureStructure: Breccia____ Veins____

Alteration: Hematite____ Chlorite____ Sericite____ Quartz____

Mineralogy: Hematite (2 -5)____ Bornite (2 -3)____ Chalcopyrite (2 -5)____ Chalcocite (2 -5)____

Fluorite (2 -4)____ Barite (2 -4)____

GeochemicalSignature: Cu (4 -5)____ U (4 -4)____ Co (2 -3)____ Au (3 -5)____ Ag (2 -5)____

REE (2 -3)____ F (2 -3)____ Ba (2 -3)____ Fe (2 -5)____

GeophysicalSignature: Radioactive-anomaly____

AssociatedDeposits: Olympic-Dam-Cu-U-Au____

MaxScore: 1425

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:_____

Mineralogy:_____ GeochemicalSignature:_____ GeophysicalSignature:_____

AssociatedDeposits:_____

Model Score:_____

Worksheet for Numerical Model of Sandstone-hosted Pb-Zn

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Proterozoic Paleozoic Mesozoic Tertiary

RockTypes: Sandstone (5 -5) Conglomerate (3 -1) Siltstone (3 -1)

TextureStructure: Stratiform

Alteration: Recrystallization

Mineralogy: Galena (4 -5) Sphalerite (4 -5) Pyrite (2 -4) Barite (2 -3)

Fluorite (2 -3)

GeochemicalSignature: Pb (4 -5) Zn (4 -5) Ba (3 -3) C (2 -3)____ F (2 -3)____

Ag (2 -4)____ Ni (1 -1) As (1 -2) Sb (1 -2) Bi (1 -1)

Geophysicalsignature:

AssociatedDeposits: Sandstone-hosted-Pb-Zn Sediment-hosted-Cu

MaxScore: 1190

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature:_____ Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Sediment-hosted Cu

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Proterozoic Phanerozoic

RockTypes: Red-beds (5 -5) Green-shale (3 - 1) Sandstone (5 -5) Shale (3 -2)

TextureStructure: Stratiform

Alteration: Reduction (5 -3)

Mineralogy: Chalcocite (4 -4) Pyrite (2 -4) Bomite (3 -4) Silver (2 -4)

GeochemicalSignature: Cu (4 -5) Ag (3 -5)____ Pb (2 -3) Zn (2 -3) U (2 -4)____

Ga (1 -2) V (2 -2)____ co (1 -2) Mo (2 -3) C (2 -4)____

Geophysicalsignature:

AssociatedDeposits: Sediment-hosted-Cu Sandstone-U Basalt-Cu Kipushi-Cu-Pb-Zn

MaxScore: 1820

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalS ignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Sandstone U

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Devonian Carboniferous Permian Mesozoic Tertiary

RockTypes: Sandstone (5 -5) Feldspathic-sandstone (4 -4) Tuffaceous-sandstone (3 -3)

Mudstone (3 -1)

TextureStructure: Stratiform

Alteration: Reduction Leaching Oxidation

Mineralogy: Uraninite (4 -5) Coffinite (4 -5) Pyrite (2 -5)

Geochemicalsignature: U (4 -5) V (2 -5)____ C (3 -5)____ Mo (2 -4) Se (2 -5)

cu (2 -4) Ag (2 -5)____

Geophysicalsignature: Radioactive-anomaly

AssociatedDeposits: Sandstone-U Sediment-hosted-V Sediment-hosted-Cu

MaxScore: 1505

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Sedimentary exhalative Zn-Pb

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Proterozoic Phanerozoic

RockTypes: Shale (5 -5) Black-shale (4 -4) Chert (2 -1) Calcareous-Rocks (4 -2)

Turbidites (2 - 1) Tuffites (2 -1)

TextureStructure: Disseminated

Alteration: Tourmalinization Leaching Albitization Chloritization

Mineralogy: Pyrite (2 -4) Pyrrhotite (2 -3) Sphalerite (4 -5) Galena (4 -5)

Barite (2 -3) Chalcopyrite (3 -4) Marcasite (2 -4) Arsenopyrite (2 -3)

Bismuthinite (2 -2) Molybdenite (1 -2) Enargite (1 - 1)

GeochemicalSignature: Zn (4 -5) Ag (3 -5)____ Pb (4 -5) Mn (2 -4) B (2 -3)____

Ba (2 -4) co (l -2) cu (3 -5) Mo (2 -2) Sn (l -2) As (2 -3)

Sb (1 -2) Bi (1 -1) S (2 -5)____ C (2 -4)____ NH3 (2 -3)

Geophysical Signature:

AssociatedDeposits: Sedimentary-exhalative-Zn-Pb Bedded-barite

MaxScore: 1970

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Bedded barite

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Proterozoic Phanerozoic

RockTypes: Shale (5 -2) Chert (4 -2) Calcareous-Rocks (3 -2) Argillite (2 -1)____

Greenstone (2 -1) Sandstone (2 -1)

TextureStructure: Stratiform

Alteration: Barite

Mineralogy: Barite (5 -5) Witherite (2 -3) Pyrite (2 -3) Galena (2 -3)

Sphalerite (2 -3)

Geochemicalsignature: Ba (5 -5) S (2 -5)____ C (2 -4)____ Zn (2 -3)

Geophysicalsignature: Gravity-high

AssociatedDeposits: Bedded-barite Sedimentary-exhalative-Zn-Pb

MaxScore: 1155

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Emerald veins

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Cretaceous Tertiary

RockTypes: Black-shale (4 -4) Calcareous-Rocks (2 -2) Evaporites (2 -2)

TextureStructure: Banded Veins

Alteration: Homfels

Mineralogy: Emerald (5 -5) Beryl (3 -5) Pyrite (2 -5) Fluorite (2 -5) Rutile (2 -5)

GeochemicalSignature: Be (3 -5) Na (2 -5) Mg (2 -4)____ REE (2 -2) cs (2 -3)

F (2 -3)____

Geophysicalsignature:

AssociatedDeposits: Emerald-veins

MaxScore: 875

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature:_____ Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Southeast Missouri Pb-Zn

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: CambrianOrdovician

RockTypes: Dolomite (5 -5)

TextureStructure: Open-space-filling

Alteration: Dolomitization

Mineralogy: Galena (3 -5) Sphalerite (3 -5) Chalcopyrite (3 -4) Pyrite (2 -5)

Marcasite (2 -4)

GeochemicalSignature: Pb (3 -5) Zn (3 -5) cu (2 -5) Mo (2 -4) Ag (2-4)____

co (2 -4) Ni (2 -4) Cd (2 -4) As (1 -2) Sb (1 -1) F (1-2)____

Br (1 -3) C (1-3)____

Geophysicalsignature:

AssociatedDeposits: Southeast-Missouri-Pb-Zn Volcanic-hosted-magnetite

MaxScore: 1115

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Appalachian Zn

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Proterozoic Paleozoic Triassic

RockTypes: Carbonate-rocks (5 -5)

TextureStructure: Open-space-filling

Alteration: Silicification

Mineralogy: Sphalerite (4 -5) Pyrite (2 -4) Marcasite (2 -4)

Geochemicalsignature: Zn (4 -5) Pb (4 -3) Mg (2 -5)____ Ba (2 -3) Cd (2 -4)

F (2 -3)____

GeophysicalSignature:

AssociatedDeposits: Appalachian-Zn

MaxScore: 785

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Kipushi Cu-Pb-Zn

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian____ Phanerozoic____

RockTypes: Calcareous-Rocks (5 -5)____ Dolomite (5 -5)____ Breccia (4 -4)____ Shale (3 -2)____

TextureStructure: Massive-replacement____

Alteration: Dolomitization (4 -2)____ Siderite____ Silicification____

Mineralogy: Pyrite (2 -5)____ Bornite (2 -5)____ Chalcocite (2 -4)____ Chalcopyrite (2 -4)____

Carrollite (2 -4)____ Sphalerite (2 -4)____ Tennantite (2 -5)____ Galena (2 -3)____ Enargite (2 -2)____

GeochemicalSignature: Cu (2 -5)____ Zn (2 -5)____ Pb (2 -5)____ As (2 -5)____ Co (2 -3)____

Ag (2 -5)____ Ge (2 -3)____ Mo (2 -3)____ W (2 -3)____ Sn (2 -3)____ Bi (2 -3)____ U (2 -4)____

V (2 -3)____ Mg (2 -5)____ Ga (2 -3)____

GeophysicalSignature:

AssociatedDeposits: Kipushi-Cu-Pb-Zn____ Sedimentary-Cu____ U-veins____

Sedimentary-exhalative-Zn-Pb____

MaxScore: 2175

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:_____

Mineralogy:_____ GeochemicalSignature:_____ GeophysicalSignature:_____

AssociatedDeposits:_____

Model Score:_____

Worksheet for Numerical Model of Superior Fe

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Proterozoic

RockTypes: Iron-formation (5 -5) Sandstone (2 -2) Shale (2 -2)____ Dolomite (2 -2)

TextureStructure: Banded

Alteration:

Mineralogy: Hematite (2 -5) Magnetite (2 -5) Siderite (2 -3)

Geochemicalsignature: Fe (2 -5) Mn (2 -3)

GeophysicalSignature: Magnetic-high

AssociatedDeposits: Superior-Fe Sedimentary-Mn

MaxScore: 740

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: GeophysicalSignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Sedimentary Mn

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Calcareous-Rocks (5 -5) Clay (3 -2) Shell-rocks (2 -2)

TextureStructure: Oolites Pisolites

Alteration: Supergene

Mineralogy: Mn-carbonates (4 -5) Mn-oxides (4 -5) Glauconite (2 -3)

GeochemicalSignature: Mn (4 -5) V (2 -4)____

Geophysicalsignature:

AssociatedDeposits: Sedimentary-Mn Sediment-hosted-Cu

MaxScore: 890

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: GeophysicalSignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Upwelling-type phosphate deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Paleozoic Mesozoic Tertiary

RockTypes: Phosphorite (5 -5) Calcareous-Rocks (3 -2) Pelites (2 -1) Chert (2 -1)

TextureStructure: Pellets Nodules

Alteration:

Mineralogy: Apatite (3 -5) Fluorapatite (3 -5) Siderite (2 -4) Carnotite (2 -4)

Geochemical Signature: P (4 -5) N (4 -3)____ F (2 -5)____ C (2 -4)____ U (2 -5)____

GeophysicalSignature: Radioactive-anomaly

AssociatedDeposits: Upwelling-type-phosphate Sedimentary-Mn

MaxScore: 965

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature:_____ GeophysicalSignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Warm-current-type phosphate deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Cretaceous Tertiary

RockTypes: Phosphatic-limestone (5 -2) Phosphative-sandstone (5 -2)

Diatomaceous-material(2 -2) Chert (2 -2)

TextureStructure: Pellets Fossil-fragments____

Alteration:

Mineralogy: Fluorapatite (4 -5)

Geochemicalsignature: P (4 -5) C (2 -3)____ U (2 -5)____ N (4 -3)____ F (2 -5)____

Geophysicalsignature:

AssociatedDeposits: Warm-current-type-phosphate

MaxScore: 730

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Low-sulfide Au-quartz veins

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Greenstone (5 -5) Metasedimentary-rocks (5 -2)

Mafic-metavolcanic-rocks (4 -2) Graywacke (4 -2) Chert (2 -1)

TextureStructure: Veins Shear-zone

Alteration: Silicification (5 -2) Siderite____ Ankerite ___ Albite____ Carbonates

Mineralogy: Gold (5 -5) Pyrite (4 -5) Galena (3 -3) Chalcopyrite (3 -3)

Arsenopyrite (3 -3) Pyrrhotite (2 -1)

GeochemicalSignature: Au (4 -5) As (4 -5)____ Ag (4 -5)____ Pb (3 -4) Zn (2 -3)

Te (1 -2)

Geophysicalsignature:

AssociatedDeposits: Low-sulfide-Au-quartz-veins Placer-Au-PGE Kuroko-massive-sulfide

Homestake-Au____

MaxScore: 2370

Partial Scores

AgeRange: _____ RockTypes: _____ TextureStructure: _____ Alteration:

Mineralogy: Geochemical Signature: Geophysicalsignature:

AssociatedDeposits: _____

Model Score:

Worksheet for Numerical Model of Homestake Au

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Archean

RockTypes: Metavolcanic-rocks (5 -5) Komatiite (2 -2) Volcaniclastic-rocks (2 -2)____

Iron-formation (5 -5) Felsic-plutonic (3 -3)

TextureStructure: Bedded Veins Lenses

Alteration: Zoned (5 -2)

Mineralogy: Gold (4 -5) Pyrite (2 -5) Pyrrhotite (2 -4) Arsenopyrite (3 -4)____

Magnetite (2 -4) Sphalerite (2 -3) Chalcopyrite (2 -3)

Geochemicalsignature: Au (4 -5) Fe (2 -3) As (3 -4)____ B (2 -4)____ Sb (3 -4)____

PGE (2 -3) Bi (3 -3) Hg (3 -3)____

GeophysicalSignature:

AssociatedDeposits: Homestake-Au Kuroko-massive-sulfide Algoma-Fe____

Low-sulfide-Au-quartz-veins

MaxScore: 1940

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Unconformity U-Au

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Proterozoic

RockTypes: Fine-grained-metasedimentary-rocks (4 -4) Carbonaceous-pelites (4 -4)

Carbonate-rocks (2 - 1)

TextureStructure: Breccia-filling Veins Disseminated

Alteration: Chloritization

Mineralogy: Pitchblende (4 -5) Uraninite (4 -5) Coffinite (4 -5) Pyrite (2 -3)

Chalcopyrite (2 -4) Galena (2 -4) Sphalerite (2 -3) Arsenopyrite (2 -3)

Niccolite (2 -3)

GeochemicalSignature: U (4 -5) Mg (2 -4)____ P (2 -4)____

Geophysicalsignature: Radioactive-anomaly Electromagnetic-anomaly

Associated Deposits: Unconformity-U-Au

MaxScore: 1030

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemical Signature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Gold on flat faults

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian____ Phanerozoic____

RockTypes: Breccia (5 -5)____ Mylonite (3 -3)____ Igneous (2 -4)____

TextureStructure: Stockwork____ Veins____ Breccia____

Alteration: Iron-oxides____ Silicification____ Carbonate-rocks____

Mineralogy: Gold (4 -5)____ Hematite (2 -5)____ Chalcopyrite (2 -4)____

GeochemicalSignature: Au (4 -5)____ Cu (2 -5)____ Fe (2 -4)____ F (3 -4)____ Ba (2 -3)____

GeophysicalSignature:

AssociatedDeposits: Gold-on-flat-faults____

MaxScore: 1015

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:_____

Mineralogy:_____ GeochemicalSignature:_____ GeophysicalSignature:_____

AssociatedDeposits:_____

Model Score:_____

Worksheet for Numerical Model of Lateritic Ni

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Ultramafic-plutonic (5 -5) Serpentinite (3 -2)

Textures tructure: Pisolites

Alteration:

Mineralogy: Garnierite (4 -5) Goethite (3 -5)

Geochemicalsignature: Ni (2 -5) co (2 -5) Cr (2 -5)

GeophysicalSignature:

AssociatedDeposits: Lateritic-Ni Podiform-chromite Serpentine-hosted-asbestos

Placer-PGE-Au Placer-Au-PGE

MaxScore: 1165

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Laterite-type bauxite deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Cretaceous Cenozoic

RockTypes: Aluminous-silicate-rocks (5 -5)

TextureStructure: Pisolites Massive Nodules

Alteration: Bauxite (5 -5)

Mineralogy: Gibbsite (4 -5) Boehmite (4 -4) Hematite (2 -4) Goethite (3 -4)

Anatase (2 -4)

Geochemicalsignature: Al (4 -5) Ga (3 -3)

Geophysicalsignature:

AssociatedDeposits: Laterite-type-bauxite

MaxScore: 1055

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature:_____ Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Karst-type bauxite deposits

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Paleozoic Mesozoic Cenozoic

RockTypes: Felsic-volcanic-rocks (2 -2) Aluminous-silicate-rocks (4 -2)

TextureStructure: Pisolites Massive Nodules

Alteration: Bauxite (5 -5)

Mineralogy: Gibbsite (4 -5) Boehmite (4 -4) Hematite (2 -4) Goethite (3 -4)

Anatase (2 -4)

Geochemicalsignature: Al (4 -5) Ga (4 -3)

GeophysicalSignature:

AssociatedDeposits: Karst-type-bauxite

MaxScore: 1085

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemicalsignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Placer Au-PGE

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Cenozoic

RockTypes: Gravel (5 -5) Conglomerate (5 -1)

TextureStructure: Placer

Alteration:

Mineralogy: Gold (4 -5) Magnetite (2 -5) Ilmenite (2 -4)

GeochemicalSignature: Au (4 -5) Ag (2 -5X-- As (2 -4) Hg (2 -3)____ Sb (2 -2)

cu (2 -3) Fe (2 -4) S (2 -2)____

Geophysicalsignature:

AssociatedDeposits: Placer-Au-PGE Porphyry-Cu Cu-skarn Polymetallic-replacement

Low-sulfide-Au-quartz-veins

MaxScore: 1390

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature:_____ Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Placer PGE-Au

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Cenozoic

RockTypes: Gravel (5 -5) Conglomerate (5 -1)

TextureStructure: Placer

Alteration:

Mineralogy: PGE (4 -5) Gold (4 -5) Magnetite (2 -5) Chromite (2 -4) Ilmenite (2 -4)

GeochemicalSignature: Au (4 -4) PGE (4 -5) Ag (2 -4)____ As (2 -4) Hg (2 -3)____ Sb (2 -2)

cu (2 -3) Fe (2 -4) S (2 -2)____ Cr (2 -5)

Geophysicalsignature:

AssociatedDeposits: Placer-PGE-Au Alaska-PGE

MaxScore: 1120

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: Geophysicalsignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Shoreline placer Ti

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Sand (5 -5)

TextureStructure: Placer

Alteration:

Mineralogy: Ilmenite (4 -5) Rutile (3 -5) Zircon (2 -4)

GeochemicalSignature: Ti (4 -5) Zr (2 -5) REE (2 -5) Th (2 -5) U (2 -5) ____ Fe (2 -4)

Geophysicalsignature: Radioactive-anomaly Induced-polarization-anomaly

AssociatedDeposits: Shoreline-placer-Ti

MaxScore: 720

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: GeophysicalSignature:

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Diamond placers

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Cenozoic

RockTypes: Gravel (5 -5) Conglomerate (2 -1)

TextureStructure: Placer

Alteration:

Mineralogy: Diamond (5 -5) Bort (5 -5) Ballas (5 -5)

GeochemicalSignature: Cr (2 -3) Ti (2 -5) Mn (2 -4) Ni (2 -4) co (2 -3)

PGE (2 -4) Ba (2 -3) Nb (2 -4)____ Mg (2 -3)____

Geophysicalsignature:

AssociatedDeposits: Diamond-placers Diamond-pipes

MaxScore: 1000

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: GeochemicalSignature: GeophysicalSignature:_____

AssociatedDeposits:_____

Model Score:

Worksheet for Numerical Model of Alluvial placer Sn

Deposit,Prospect,or Occurrence:

Location:

Description:

AgeRange: Precambrian Phanerozoic

RockTypes: Gravel (5 -5) Conglomerate (2 -1)

TextureStructure: Placer

Alteration:

Mineralogy: Cassiterite (4 -5) Magnetite (3 -5) Ilmenite (2 -5) Zircon (2 -5)

Monazite (3 -5) Allanite (2 -5)

GeochemicalSignature: Sn (4 -5) As (2 -5) B (3 -5)____ F (3 -5)____ W (3 -4)____ Zn (2 -5)

Be (2 -5) Zr (1 -1) N-b (1 -3)____ Ta (1 -3)

Geophysicalsignature:

AssociatedDeposits: Alluvial-placer-Sn

MaxScore: 925

Partial Scores

AgeRange:_____ RockTypes:_____ TextureStructure:_____ Alteration:

Mineralogy: Geochemical Signature: Geophysicalsignature:

AssociatedDeposits:_____