

LIST OF ORE DEPOSIT TYPES

PORPHYRY BASE METAL-MOLYBDENUM-GOLD SYSTEMS

A. Porphyry-Hosted

1. Porphyry Molybdenum Systems

- a. Low Fluorine Type - Examples: Boss Mountain, Endako, Hall, Kitsault, Thompson Creek
- b. Climax Type - Examples: Climax, Henderson, Questa, Urad

2. Porphyry Copper

- a. Calc-Alkaline Systems - Examples: Ajo, Bagdad, Bell, Butte, Bisbee, Cananea, Castle Dome, Cebu, Cerro Colorado, Cerro Verde, Chino, Chuquicamata, Collahuasi, Copper Cities, Copper Flat, Cuajone, El Abra, El Salvador, Escondida, Gaspe (Porphyry Mountain), Gibraltar, Granisle, Highland Valley, Inspiration-Miami (includes Bluebird and Van Dyke), Lakeshore, Lomas Bayas, Los Pelambres, Marcopper, Maria, Morenci, Pinto Valley, Quebrada Blanca, Radomiro Tomic, Robinson, Sacaton, San Manuel, Silver Bell, Toquepala, Tyrone, Yerington, Zaldivar
- b. Alkaline Systems - Examples: Similkameen

3. Porphyry Cu-Mo

- a. Calc-Alkaline Systems - Examples: Brenda, Esperanza, La Caridad, Mineral Park, Sierrita

4. Porphyry Cu-Au

- a. Calc-Alkaline Systems - Examples: Bajo de la Alumbrera, Batu Hijau, Bingham Canyon, Bougainville, Dizon, Dome, Ertzberg-Grasberg Complex (Grasberg), Kemess South, McIntyre, Ok Tedi, Sto Tomas
- b. Alkaline Systems - Examples: Afton, Cadia Hill (Cadia Hill, Cadia Quarry), Mount Polley, Ridgeway

5. Porphyry Gold

- a. Calc-Alkaline Systems - Examples: Boddington, Doyon (West zone), Lac Troilus, Refugio
- b. Alkaline Systems
 - 1. Quartz-orthoclase $\pm$ biotite-sericite - Examples: Camflo, Zortman-Landusky
 - 2. Quartz-albite-sericite-carbonate - Examples: Aquarius, Kanowna Belle (?)

B. Wallrock Porphyry

1. Stockwork Mineralization in Unreactive Hosts

a. Copper Wallrock Porphyry

- 1. Calc-Alkaline Systems - Examples: Andina, Bell, Cananea, Cebu, Cerro Colorado, Cerro Verde, Chino, Collahuasi, Continental (Hanover Mountain and Hermosa Mountain), Cuajone, El Abra, El Teniente, El Salvador, Granisle, Huckleberry, Inspiration-Miami, Island Copper, Lakeshore, Lomas Bayas, Los Boncos, Marcopper, Maria (Breccia), Old Reliable (Breccia Pipe), Ray, Sacaton, San Manuel, Superior (Magma Porphyry), Twin Buttes, Tyrone, Zaldivar
- 2. Alkaline Systems - Examples: Similkameen

b. Cu-Mo Wallrock Porphyry

- 1. Calc-Alkaline Systems - Examples: Esperanza, Mineral Park

c. Cu-Au Wallrock Porphyry

1. Calc-Alkaline Systems - Examples: Andacolla (Copper), Bougainville, Bingham Canyon, Dome, Kemess North, McIntyre, Sto Tomas
2. Alkaline Systems - Examples: Cadia Hill (Cadia Hill, Cadia East), Ridgeway

d. Gold Wallrock Porphyry

1. Calc-Alkaline Systems - Examples: Boddington, Paradise Peak (East Zone), Refugio
2. Alkaline Systems - Examples: Kanowna Belle (?)

2. Contact Metasomatic

a. Porphyry Cu Skarn

1. Calc-Alkaline Systems - Examples: Cananea, Christmas, Chino, Continental, Gaspe (Needle Mtn.), Lakeshore, Marcopper, Mission Complex, Robinson, Silver Bell, Twin Buttes
2. Alkaline Systems -

b. Porphyry Cu-Au Skarn

1. Calc-Alkaline Systems - Examples: Battle Mountain (Copper Canyon Subdistrict - East and West Ore Zones), Bingham Canyon (North Ore Shoot, Fortuna), Carr Fork, Ertzberg-Grasberg Complex (Ertzberg, Ertzberg East, IOZ, DOZ, Kucing Liar, Big Gossan), Ok Tedi
2. Alkaline Systems - Examples: Cadia Hill (Big Cadia, Little Cadia), Mount Polley

C. Porphyry Related Base Metal-Related Skarns

a. Copper Skarn

1. Calc-Alkaline Systems - Examples: Antamina, Craigmont, Johnson Camp, Oracle Ridge, Pinos Altos, Rosita, Tintaya, Victoria
2. Alkaline Systems -

b. Lead-Zinc Skarn - Examples: Bismark, El Mochito, Sa Dena Hes, Ward

c. Gold Skarn

1. Calc-Alkaline Systems
 - a. Proximal - Examples: Beal Mountain, McCoy, Siuna, Tenabo
 - b. Distal - Examples: Battle Mountain (Copper Canyon Subdistrict - Fortitude, Minnie-Tomboy, Surprise), Buffalo Valley, Nickel Plate
2. Alkaline Systems - Examples: Diamond Hill, Ortiz (Lukas Canyon), Quesnel River

D. Porphyry-Base Metal-Related High Sulphidation

1. Proximal (Sub-Epithermal) Systems

- a. Porphyry Shoulder Cu-As-Au-Ag - Examples: Batu Hijau
- b. Lithologically-Controlled Cu-As-Au-Ag
 1. Noncalcareous Hosts - Examples: Doyon (No. 1), Equity (Main Zone)
 2. Pyrite Silica Replacements - Examples: Bisbee, Cananea, Main Tintic (Centennial Eureka, Mammoth), Robinson (JD Hill, Star Pointer)

- c. Structurally-Controlled Cu-As-Au-Ag - Examples: Butte, Collahausi (Poderosa Vein), East Tintic (Trixie), Equity (Southern Tail), Mankayan, Mansa Mina (Panel 4), Quiruvilca (proximal), Superior (Magma)

2. Epithermal Systems

- a. Epithermal quartz-alunite-gold - Examples: Choquelimpie, El Indio-Tambo, Goldfield, Guanaco, Hope Brook, La Coipa, Paradise Peak, Pierina, Pueblo Viejo, Red Dome, Summitville, Yanacocha
- b. Hot springs quartz-alunite-Au - Examples: Borealis, Brewer, Red Dome

E. Porphyry Base Metal-Related Low Sulphidation

1. Proximal Quartz-Sulfide-Gold

- a. Calc-Alkaline Systems - Examples: Bonanza (?), Buckskin, Colosseum (?), Detour Lake (?), Dos Cabezas, Doyon (Main zone), Drum, Golden Sunlight, Johnny Mountain, Komis, Lordsburg, Mount Muro, Paracale (?), Rochester (?), San Cristobal, Sleeping Giant, Snip
- b. Alkaline Systems - Examples: Annie Creek (?), Gilt Edge, Golden Reward (?), Lihir

2. Carbonate-Base Metal-Au-Ag

- a. Calc-Alkaline Systems - Examples: Benguet, Bonanza (?), Bulawan, Bulldog, Camp Bird, Candelaria, Cove, El Bronce, Gold Ridge, Idarado, Itogon, Julietta, Kelian, La Colorada (?), Les Mines Selbaie, Montana Tunnels, Mount Leyshon, Mount Muro, Premier, Real de Angeles, Red Dome, Sunnyside, Victoria, Wau
- b. Alkaline Systems - Examples: Misima, Porgera

3. Polymetallic Pb-Zn-Ag

- a. Replacement - Examples: Clayton, East Tintic (Burgin), Encantada, Eureka (Glistler), Gilman, Grantsville, Groundhog, Leadville, Main Tintic (Eureka Hill, Eagle), Ontario, Rubiales (?), Sherman
- b. Veins - Examples: Groundhog, London, Mayflower, Ontario, Quiruvilca (distal)

4. Sediment-Hosted Gold

- a. Calc-Alkaline Systems - Examples: Alligator Ridge, Aqua de la Falda (?), Barneys Canyon, Big Springs, Black Pine, Bullion Monarch, Carlin Complex, Casino, Chimney Creek, Cortez, Cove, Daisy, Dee, Easy Junior, Elder Creek (?), Getchell, Gold Acres, Gold Bar (Atlas), Golden Bear, Golden Butte, Goldstrike (Betze, Post, Mickle), Green Springs, Griffon, Horse Canyon, Illipah, Jerriitt Canyon, Lookout Mountain, Marigold, Melco, Mercur, Minahasa, Northumberland, Pinson, Pipeline, Preble, Quito, Relief Canyon, Ren, Ruby Hill, Santa Gertrudis, Sterling, Taylor (?), Toiyabe, Tonkin Springs, Twin Creeks Complex, White Pine, Windfall-Rustler, Winrock
- b. Alkaline Systems - Examples: Kendall

5. Epithermal Quartz-Gold-Silver

- a. Calc-Alkaline Systems: Examples: Andacollo (Gold), Atlanta, Bonanza (?), Delamar, El Hueso, Fachinal, Florida Mountain (?), Gosowong, Kelian, Lone Tree, Masbate, Mount Muro, Round Mountain, War Eagle Mountain
- b. Alkaline Systems: Examples: Cripple Creek, Ortiz (Cunningham Hill, Carache Canyon), Porgera, Richmond Hill, Vatukoula, Victor

6. Hot Springs Gold-Silver

- a. Calc-Alkaline Systems - Examples: Round Mountain
- b. Alkaline Systems - Examples: Hog Ranch

7. Quartz $\pm$ Albite $\pm$ K-Feldspar-Carbonate-Gold

- a. Quartz-albite-carbonate-pyrite stockworks and breccias
 - 1. Distal - Examples: Hislop, Holloway, Holt McDermott, Kierens, Norlartic
 - 2. Proximal - Examples: Bachelor Lake (?), Kiena
- b. Albite-carbonate-pyrite replacement - Examples: Francoeur
- c. K-feldspar-carbonate-pyrite replacement - Examples: Lac Shortt

INTRUSION-RELATED IRON OXIDE-COPPER-GOLD-REE SYSTEMS

- A. Albite-magnetite-Cu-Au - Examples: Ojos del Solado (Resguardo), Osborne
- B. K-feldspar-sericite-magnetite-hematite-Cu-Au - Examples: Candelaria, Ernest Henry, Ojos del Solado (Santos, Alcaparrosa)
- C. Sericite-hematite-Cu-Au - Examples: Olympic Dam
- D. Quartz-sericite-hematite-Cu-Au - Examples: Olympic Dam
- E. Calc-silicate-magnetite-Cu-Au - Examples: Ojos del Solado (Lar, Bronce)

REDUCED INTRUSION-RELATED GOLD SYSTEMS

A. Reduced Intrusion-Hosted

- 1. Disseminated Au-Mo-Bi-Te $\pm$ W $\pm$ As - Examples: Brewery Creek, Timbarra
- 2. Structurally-Controlled Au-Bi-Te-Mo-W-As
 - a. Deep Level - Examples: Bald Mountain (Top), Fort Knox, Zeravshan (Jilau, Jilau North, Olympic and Khirsthona)
 - b. Shallow Level - Examples: Bald Mountain (RBM)

B. Reduced Intrusion-Related Wallrock Ores

1. Proximal

- a. Contact Metasomatic
 - 1. Cu-Au-Bi $\pm$ Zn Skarn - Examples: Lucky Draw, Nixon Fork, Rio Narcea, Zeravshan (Taror)
 - 2. W-Bi $\pm$ Au $\pm$ Mo Skarn - Examples: Bald Mountain (Top), Mount Hamilton, Red Dome (?), Zeravshan (Taror)
- b. Au-Cu-Mo-W-Bi $\pm$ As $\pm$ Te Breccia Pipes - Examples: Kidston
- c. Structurally-Controlled Au-As-Sb $\pm$ Bi - Examples: Bald Mountain (Rat), Brewery Creek, Grant, Illinois Creek, Ryan Lode, Stibnite, Yellow Pine
- d. Au-As $\pm$ Bi $\pm$ W Replacement - Examples: Ketza River
- e. Au-Bi-As-W $\pm$ Mo Flat Replacement Vein - Examples:

2. Distal

- a. Structurally-Controlled Au-As-Sb $\pm$ Hg - Examples: Bald Mountain (LJ Ridge, 1-3 Zones), Beartrack, Fondaway (?), Kinsley Mountain (?), Little Bald Mountain, True North
- b. Lithological-Controlled Au-As-Sb $\pm$ Hg - Examples: Fondaway (?), True North
- c. Late Peripheral Veins Ag-Pb-Zn $\pm$ Sb $\pm$ As $\pm$ Au - Examples -

C. Reduced Intrusion-Related Epithermal Systems

1. Advanced Argillic Epithermal Au-W-Bi - Examples: Kori Kollo
2. Epithermal Veins/Stockworks Au-Ag-As-Sb-Hg - Examples:

EPITHERMAL ADULARIA-SERICITE GOLD-SILVER SYSTEMS

- A. Hot Springs Gold-Silver - Examples: Buckhorn, Florida Canyon, Ivanhoe, McLaughlin, Republic, San Martin, Sulphur, Wind Mountain
- B. Stockwork/Fissure Veins - Examples: Avino, Aurora, Basin Creek, Blackdome, Boss, Bullfrog (Bullfrog, Montgomery-Shoshone, Bonanza Mtn.), Cactus, Cannon, Castle Mountain, Cerro Mojon, Champagne, Comstock, El Limon, El Penon, Escalante, Flowery, Gold Bar (Angst), Golden Cross, Gold Road, Goldstrike, Gooseberry, Grouse Creek, Hayden Hill, Haywood-Santiago, Kettle, Keystone, Kubaka, Lawyers, Manhattan, Martha, Matapalo, Mesquite, Midas, Moris, Morning Star, Mother Lode, Mule Canyon, Mystic, Olinghouse, Oro Norte, Ovacik, Pajingo, Randsburg, Rawhide, Republic, Rio Chiquito, Rosebud, San Luis (?), Santa Fe, Santa Rosa, Secret Pass, Sibutad (?), Silver Peak (Sixteen-to-One), Sleeper, Standard Hill, St. Cloud, Thunder Mountain, Torres, Trinity, Tuscarora, Vera-Nancy, Waihi, Willard, Wonder, Wood Gulch (?)

DETACHMENT-RELATED GOLD-SILVER SYSTEMS - Examples: Big Horn, Briggs, Cargo Muchacho, Copperstone, La Choya, La Heradura, Mineral Ridge, Picacho

AURIFEROUS ORES IN REGIONALLY METAMORPHOSED TERRAINS

A. Orogenic Gold Deposits

1. Quartz-Carbonate Gold Vein - Examples: Alto (?), Bardoc (Excelsior and Zoroastrian) Beaufor, Bell Creek, Bissett, Brush Creek, Campbell Red Lake, Carson Hill, Casa Berardi, Chimo (Zone 3 and Zone 5), Colomac, Con-Rycon, Contact Lake, Crixas (Mina III), Dead Bullock Soak (Callie), Dickenson Red Lake, Dome, Dumont, Eagle River, Edwards, Ferderber, Fortnum, Gabanintha, Giant Yellowknife, Glimmer (?), Golden Pride, Goldstripe (?), Granny Smith, Hammerdown, Hollinger, Hoyle Pond, Jamestown, Jasper, Joe Mann, Jolu, Joubi, Jubilee, Kalgoorlie (Mount Charlotte, Golden Mile), Kaltails, Kambalda-St. Ives, Kanowna Belle, Kirkland Lake Tails, Kumtor, Kundana, Lake Shore, Lamaque, Leinster (Emu), Lucien C. Beliveau, Macassa, McIntyre, Mahoma (?) New Britiannia, New Celebration, Norseman, North Mara (Nyabirma) Nova Astro, Omai, Owl Creek, Paddington, Pamour, Pierre Beauchemin, Renabie, Royal-Mountain King, San Francisco (?), San Gregorio (?), Seabee, Sigma I, Sigma II, Silidor, Sixteen-to-One, Star Lake, Stock Township, Tartan Lake, Wiluna, Yvan Vezina (?)
2. Turbidite-Hosted Gold Vein - Examples: Carolin, Cosmo Howley, Goodall, Macres Flat, Mount Todd, Muruntau, Pine Creek, Ptarmigan, Stawell (Magdala and Wonga), Telfer, Tulawaka
3. Disseminated/Replacement Ores - Examples: Brasilia, Crixas (Mina Nova), Leinster (Cox-Crusader, Redeemer), Madsen, Plutonic, Reedy, Ropes, Sons of Gwalia, Youanmi

B. Iron Formation Gold - Examples: Chimo (Zone 1 and Zone 2), Cosmo-Howley, Crixas (Mina III), Dead Bullock Soak (Villa, Dead Bullock Ridge and Triumph Hill), Dona Lake, Eastmain, Geita (Nyankanga Geita Hill, Lone Cone), Granites, Homestake, Joutel, Keystone (Farley Lake, MacLellan), Labouchere (?), Lancefield, Lupin, Meekatharra, Mineral Hill, Mount Magnet, Mount Morgans, Musselwhite, Nugget Pond, Sao Bento, Sunrise

C. Copper-Gold Veins - Examples: Camchib, Copper Rand, Opemiska

COPPER-LEAD-ZINC-SILVER VEINS IN REGIONALLY METAMORPHOSED TERRAINS

A. Clastic Metasediment-Hosted Type

1. Cu-Ag Veins - Examples: Black Pine, Coeur, Crescent, Galena, Sunshine
2. Pb-Zn-Ag Veins - Examples: Bunker Hill, Keno Hill, Lucky Friday, Morning, Silvana, Star

B. Plutonic-Hosted (Pb-Zn-Ag) Type - Examples: Beaverdell

SUBMARINE EXHALATIVE BASE AND PRECIOUS METALS SYSTEMS

A. Sedimentary Exhalative (SEDEX) Lead-Zinc Massive Sulfide

1. Shale-Hosted Type - Examples: Faro, Red Dog, Sullivan
2. Irish (Platform Carbonate-Hosted) Type - Examples: Troya
3. Kootenay Arc (Off-Shelf Carbonate-Hosted) Type - Examples - Pend Oreille (?), Van Stone (?)
4. Green River (Carbonate-Evaporite Hosted) Type - Examples: Balmat-Edwards Complex, Black Angel
5. Broken Hill Type - Examples: Black Mountain
6. Evaporite Diapir Related Pb-Zn - Examples: Bougrine

B. Volcanogenic Cu-Pb-Zn Massive Sulfide

1. Volcanic Dominated Hosts

a. Kuroko-Type Massive Sulfide

1. Noranda Sub-Type Cu-Zn - Examples: Ansil, Bruce, Cayeli, Estrades, Flambeau, Flin Flon Complex, Fox, Geco, Golden Grove, Gonzague Langlois, Gray Eagle, Kidd Creek, Lac Dufault (Corbet, Norbec, Millenbach), LaRonde (No. 20N), Lemoine, Louvicourt, Matagami Complex, Mobrun, Mount Lyell, Ruttan, Trout Lake, Snow Lake Complex, Silver Butte, Winston Lake, Zonia

2. Buchans Sub-Type Zn-Pb-Cu - Examples: Brunswick, Caribou, F-Group, Greens Creek, Heath Steele, Hellyer, Lyon Lake, Mattabi, Myra Falls, Neves Crovo, Que River, Samatosum, Thalanga, Toqui (?)

b. Cyprus-Type Massive Sulfide - Examples:

2. Sediment-Dominated Hosts

a. Besshi-Type Massive Sulfide Cu-Zn - Examples: Ducktown, Girilambone, Goldstream, Granduc

C. Subaqueous Hot Springs Au-Ag

1. High Sulphidation - Examples: Bousquet I, Bousquet II, LaRonde (No. 5 zone)
2. Low Sulphidation - Examples: Barite Hill, Big Bell, Eskay Creek, Golden Patricia (?), Haile, Hemlo (David Bell, Golden Giant and Page-Williams), Henty, Lamfoot (?), Mara Rosa (Zacarias), Overlook (?), Ridgeway, Salmita (B and T zones)

LOW TEMPERATURE STRATABOUND BASE METAL SYSTEMS

A. Mississippi Valley Lead-Zinc

1. Appalachian Type - Zinc - Examples: Elmwood-Gordonsville, Mascot, Nanisivik, Newfoundland Zinc
2. Polaris Type - Zinc-Lead - Examples: Gays River, Pend Oreille, Pine Point, Polaris, Van Stone
3. Southeast Missouri Type - Lead-Zinc - Examples: Magmont, Sweetwater, Viburnum Complex, West Fork

- B. Kipushi Copper-Lead-Zinc - Examples: Nifty
- C. Sediment-Hosted Copper - Examples: Troy, White Pine
- D. Volcanic Red Bed Copper - Examples: El Soldado, Ivan-Zar

ARSENIDE-SILVER-COBALT VEIN - Examples: Cobalt

HOT SPRINGS MERCURY - Examples: McDermitt

REPLACEMENT-TYPE TIN - Examples: Renison

MAGMATIC NICKEL-COPPER SYSTEMS

- A. Astrobleme-Hosted Nickel-Copper Type - Examples: Falconbridge Complex, Sudbury Complex
- B. Rift and Continental Flood Basalt Associated Ni-Cu - Examples:
- C. Komatiite-Hosted Nickel-Copper Type - Examples: Namew Lake, Raglan, Thompson Complex
- D. Tholeiitic Intrusion-Hosted Nickel-Copper Type - Examples: Lynn Lake

MAGMATIC PLATINUM GROUP ELEMENT SYSTEMS

- A. Reef Type - Examples: Stillwater, East Boulder
- B. Supersolidus Intrusion Breccia Type - Examples: Lac des Iles

CARBONATITE-HOSTED ORES

- A. Copper - Examples: Palabora
- B. Niobium - Examples: Niobec

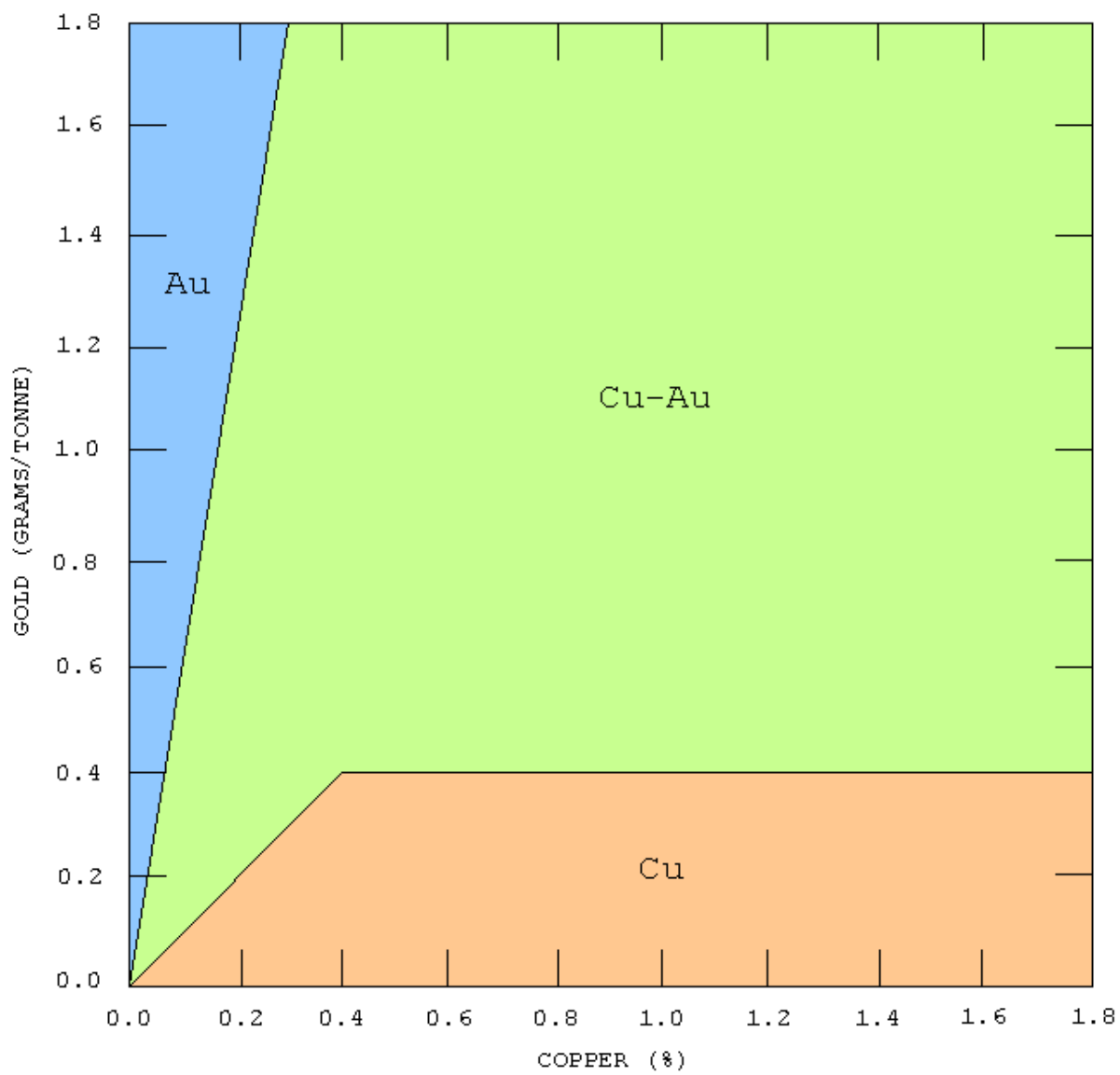
PLACER DEPOSITS

- A. Gold Placer
 - 1. Surficial Placer - Examples: Butcher Boy
 - 2. Buried Channel Placer - Examples: Fish Creek, Gardner's Point, Klondike, Livengood, Ruby, San Juan Ridge, Yaldez Creek, Yuba
 - 3. Marine Placer - Examples: Nome
- B. Tin Alluvial Placer - Examples: Koba

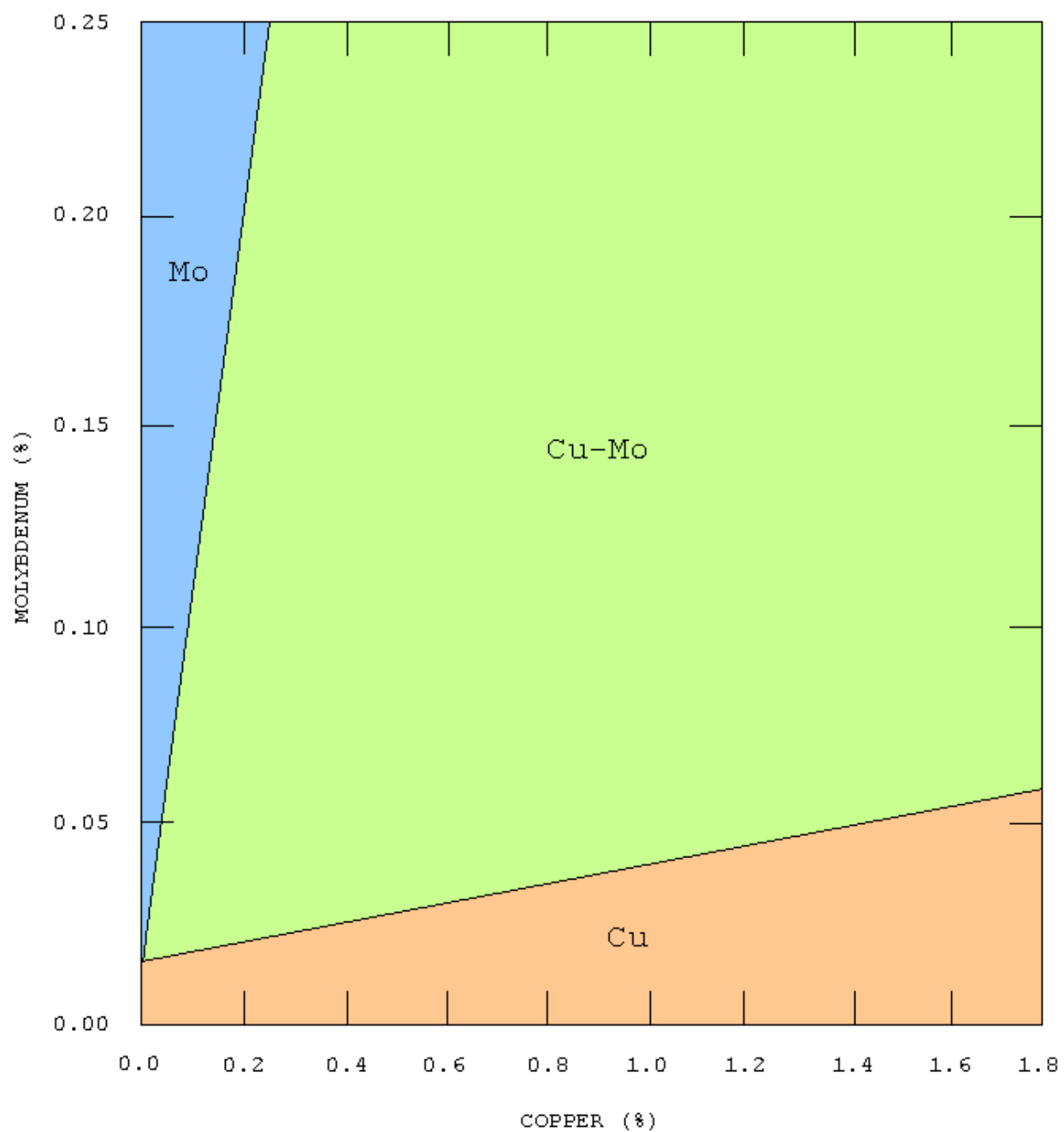
LATERITE DEPOSITS

- A. Gold - Examples: Boddington, Fortnum, Gabanintha (Yagahong), Omai (Wenot Lake), Plutonic, Reedy, Telfer, Tulawaka
- B. Nickel - Examples: Glenbrook (Nickel Mountain)

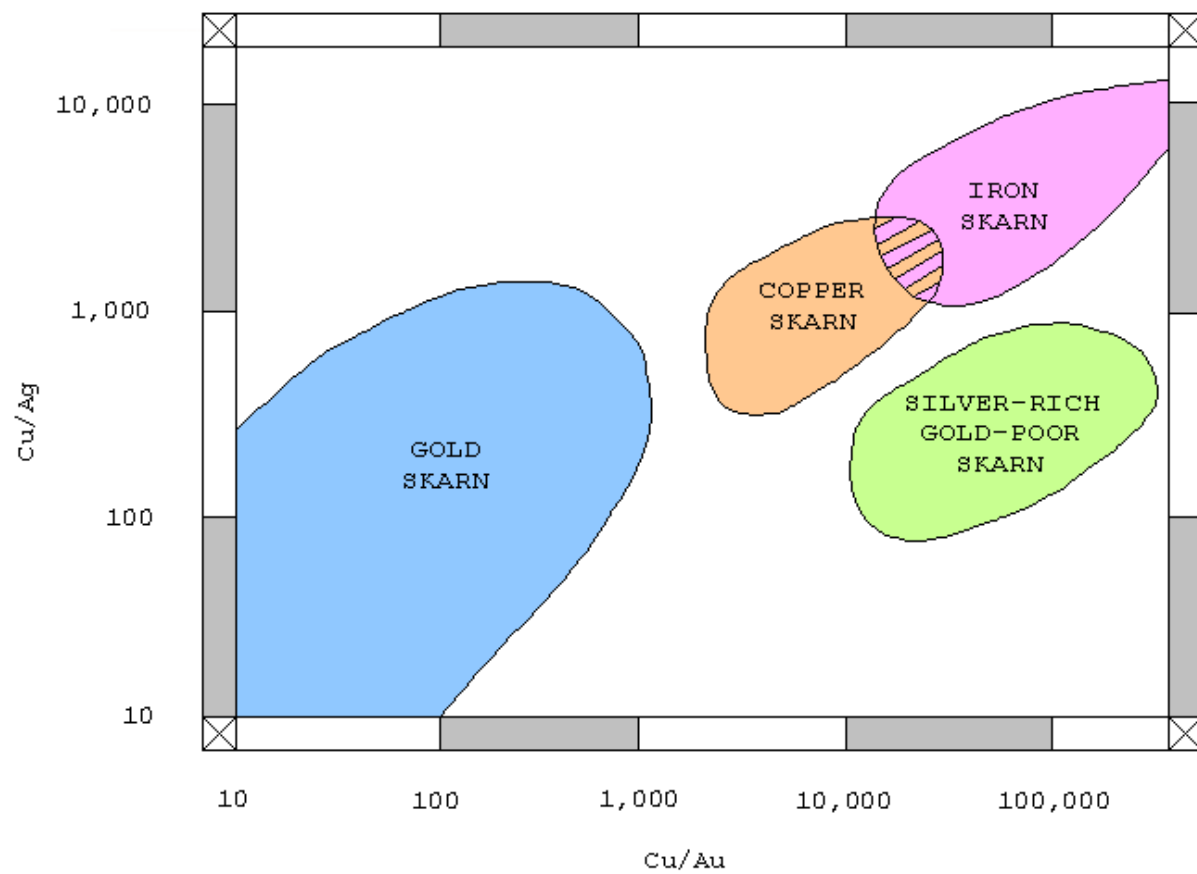
EXOTIC COPPER - Examples: Collahuasi (Huiniquintipa), Chuiquicamata (Mina Sur), El Abra (Ichuno and Lagarto), El Tesoro, El Salvador (Damiana), Emerald Isle



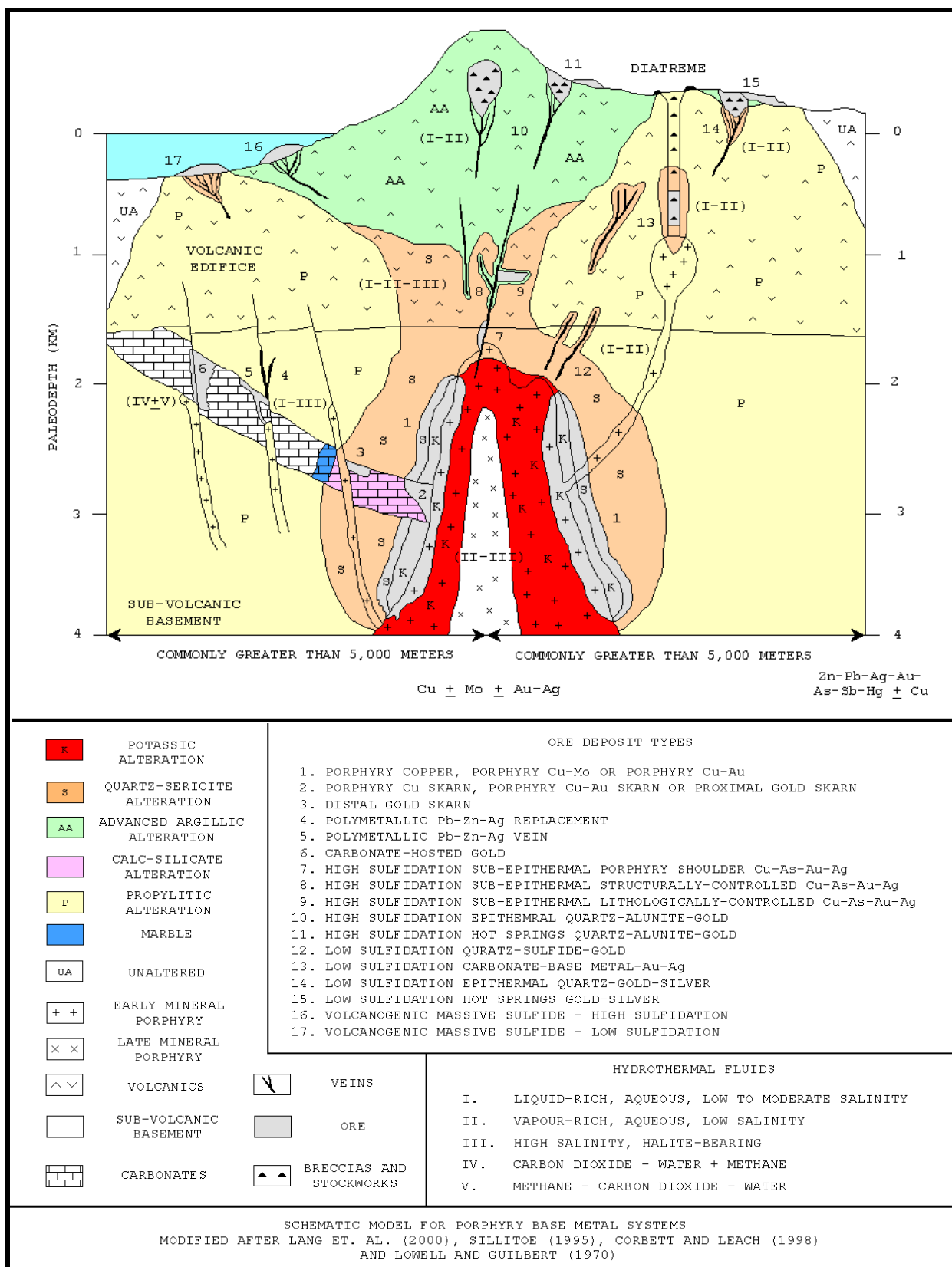
METAL RATIOS OF PORPHYRY COPPER, PORPHYRY COPPER-GOLD
AND PORPHYRY GOLD DEPOSITS
MODIFIED FROM KIRKHAM AND SINCLAIR (1995)

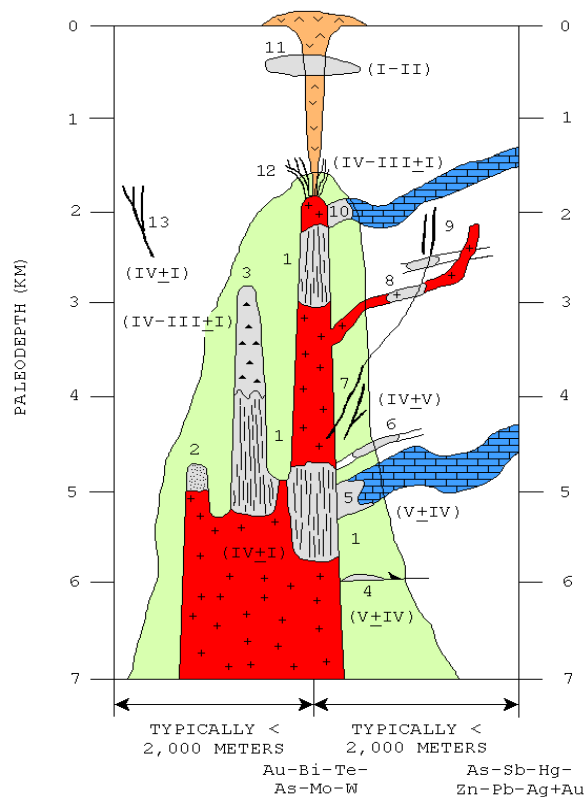


METAL RATIOS OF PORPHYRY MOLYBDENUM, PORPHYRY COPPER-MOLYBDNEUM
AND PORPHYRY COPPER DEPOSITS
MODIFIED FROM KIRKHAM AND SINCLAIR (1995)



PLOT OF Cu/Au VERSUS Cu/Ag RATIOS FOR GOLD SKARNS, COPPER SKARNS,
IRON SKARNS AND SILVER-RICH GOLD-POOR SKARNS
DAWSON (1995) AND ETTLINGER AND RAY (1989)





	INTRUSIVE		CONTACT AUREOLE		SHEETED VEINS
	CARBONATES		ORE		VEIN
	FLOW DOME AND VOLCANIC NECK				BRECCIAS

HYDROTHERMAL FLUIDS

- I. LIQUID-RICH, AQUEOUS, LOW TO MODERATE SALINITY
- II. VAPOUR-RICH, AQUEOUS, LOW SALINITY
- III. HIGH SALINITY, HALITE-BEARING
- IV. CARBON DIOXIDE - WATER + METHANE
- V. METHANE - CARBON DIOXIDE - WATER

ORE DEPOSIT TYPES

1. INTRUSION-HOSTED STRUCTURALLY-CONTROLLED Au-Bi-Te-Mo-W-As
2. DISSEMINATED INTRUSION-HOSTED Au-Mo-Bi-Te + W + As
3. Au-Cu-Mo-W-Bi + As + Te BRECCIA PIPE
4. Au-Bi-As-W + Mo FLAT REPLACEMENT VEIN
5. W-Bi + Au + Mo SKARN
6. Au-As + Bi + W REPLACEMENT
7. STRUCTURALLY-CONTROLLED Au-As-Sb + Bi
8. LITHOLOGICALLY-CONTROLLED Au-As-Sb + Hg
9. STRUCTURALLY-CONTROLLED Au-As-Sb + Hg
10. Cu-Au-Bi + Zn SKARN
11. ADVANCED ARGILLIC EPITHERMAL Au-W-Bi
12. EPITHERMAL VEINS/STOCKWORKS Au-Ag-As-Sb-Hg
13. LATE PERIPHERAL VEINS Ag-Pb-Zn + Sb + As + Au

SCHEMATIC MODEL FOR REDUCED INTRUSION-RELATED GOLD SYSTEMS
MODIFIED AFTER LANG AND BAKER (2001)

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