

DESCRIPTIVE MODEL OF Fe SKARN DEPOSITS

By Dennis P. Cox

DESCRIPTION Magnetite in talc-silicate contact metasomatic rocks.GENERAL REFERENCES Einaudi and Burt (1982), Einaudi and others (1981).GEOLOGICAL ENVIRONMENTRock Types Gabbro, diorite, diabase, syenite, tonalite, granodiorite, granite, and coeval volcanic rocks. Limestone and calcareous sedimentary rocks.Textures Granitic texture in intrusive rocks; granoblastic to hornfelsic textures in sedimentary rocks.Age Range Mainly Mesozoic and Tertiary, but may be any age.Depositional Environment Contacts of intrusion and carbonate rocks or calcareous elastic rocks.Tectonic Setting(s) Miogeosynclinal sequences intruded by felsic to mafic plutons. Oceanic island arc, Andean volcanic arc, and rifted continental margin.DEPOSIT DESCRIPTIONMineralogy Magnetite ± chalcopyrite ± Co-pyrite ± pyrite ± pyrrhotite. Rarely cassiterite in Fe skarns in Sri-granite terranes.Texture/Structure Granoblastic with interstitial ore minerals.Alteration Diopside-hedenbergite + grossular-andradite + epidote. Late stage amphibole ± chlorite ± ilvaite.Ore Controls Carbonate rocks, calcareous rocks, igneous contacts and fracture zones near contacts. Fe skarn ores can also form in gabbroic host rocks near felsic plutons.Weathering Magnetite generally crops out or forms abundant float.Geochemical and Geophysical Signature Fe, Cu, Co, Au, possibly Sn. Strong magnetic anomaly.EXAMPLES

Shinyama, JAPN	(Uchida and Iiyama, 1982)
Cornwall, USPA	(Lapham, 1968)
Iron Springs, USUT	(Mackin, 1968)

GRADE AND TONNAGE MODEL OF Fe SKARN DEPOSITS

By Dan L. Mosier and W. David Menzie

COMMENTS Some of the data represent districts. See figs. 66-67.DEPOSITS

<u>Name</u>	<u>Country</u>	<u>Name</u>	<u>Country</u>
Adaevka central	URRS	Alagada	PORT
Adaevka north	URRS	Aleshinka	URRS
Adaevka south	URRS	Argonaut	CNBC
Agalteca	HNDR	Asvan	TRKY
Ain Mokra	ALGR	Auerbach	URUR
Ain Oudrer	ALGR	Ayazmant	TRKY
Akatani	JAPN	Baghain	IRAN

Baisoara	RMNA	Kambaikhin east	URRS
Beck	USCA	Kambaikhin north	URRS
Beni Douala	ALGR	Karamadazi	TRKY
Benkala	URRS	Kaunisvaara-Masugnsbyn	SWDN
Bessemer	CNON	Kesikkopru	TRKY
Bizmisen-Akusagi	TRKY	Kozyrevka	URRS
Blairton	CNON	Kroumovo	URRS
Bolsherechensk	URRS	Kruglogorsk	URRS
Bulacan	PLPN	Kurzhunkul	URRS
Brynor	CNBC	La Carmen	MXCO
Calabogie	CNON	La Laguna	DMRP
Camiglia	ITLY	La Paloma	MXCO
Capacmarca	PERU	La Piedra Iman	MXCO
Capitan	USNM	Las Animas Cerro Prieto	MXCO
Carmen	CILE	Las Truchas	MXCO
Cave Canyon	USCA	Larap-Calambayungan	PLPN
Cehegin	SPAN	Lava Bed	USCA
Chichibu	JAPN	Lebyazhka	URRS
Childs Mine	CNON	Livitaca-Velille	PERU
Colquemarca	PERU	Lomonosov	URRS
Copper Flat	USNM	Maanshan	HONG
Cuchillo-Negro	USNM	Mac	CN13C
Daiquiri	CUBA	Marbella	SPAN
Ilammer Nissar	PKTN	Marmoraton	CNON
Dannemora	SWDN	Martinovo	BULG
Dayton	USNV	Maslovo	URRS
Divrigi	TRKY	Mati	PLPN
Dungun	MDGS	Mogpog	PLPN
Dzama	URRS	Monte Carmelo	NCRG
Eagle Mountain	USCA	Munesada	JAPN
El Pedroso	SPAN	Nimpkish	CNBC
El Sol y La Luna	MXCO	Novo Maslovo	URRS
El Volcan-Piedra Iman	MXCO	Novo Peschansk	URRS
Eltay	URRS	Ocna de Fier	RMNA
Estyunin	URRS	Old Dad Mountains	USCA
Fierro-Hannover	USNM	Orogrande	USNM
Gallinas	USNM	Osokino-Aleksandrovsk	URRS
Giresun	TRKY	Pambuhan Sur	PLPN
Gora Magnitnaya	URRS	Pampachiri	PERU
Gora Vysokaya	URRS	Paracale	PLPN
Hatillo	DMRP	Pena Colorada	MXCO
Hierro Indio	AGTN	Perda Niedda	ITLY
Huacravilca	PERU	Persberg	SWDN
Hualpai	CNBC	Peschansk	URRS
Huancabamba	PERU	Picila	MXCO
Hull	CNQU	Piddig	PLPN
Imanccasa	PERU	Plagia	GREC
Ino	JAPN	Pokrovsk	URRS
Iron Duke	CNBC	Rankin	CNON
Iron Hat	USCA	Recibimiento	MXCO
Iron Mike	CNBC	Rondoni	PERU
Iron Mountain (Colfax Co.)	USNM	Rose	CNBC
Iron Mountain (Sierra Co.)	USNM	Rudna Glava	YUGO
Iron Springs	USUT	Sabana Grande	DMRP
Jedway	CNBC	Samli	TRKY
Jerez de los Caballeros	SPAN	San Carlos	MXCO
Jib	CNBC	San Juan de Chacna	PERU
Jicarilla	USNM	San Leone	ITLY
Jones Camp	USNM	Sankyo	JAPN
Juncos	CNBC	Santa Lucia	PERU
Kachar	URRS	Santa Rita	USNM
Kalkan	TRKY	Sarbay	URRS
Kambaikhin central	URRS	Senor de Huarquisa	PERU

Model 18d--Con.

Severnoe I	URRS	Tepustete	MXCO
Severnoe II	URRS	Texada	CNBC
Severnoe III	URRS	Tovarnica	YUGO
Shagyrkul	URRS	Tsaitsukou	CINA
Shasta-California	USCA	Val Di Peio	ITLY
Shinyama	JAPN	Valuev	URRS
Silver Lakes	USCA	Vorontsovka	URRS
Sorka	URRS	Vulcan	USCA
Sosva	URRS	Vyhne	CZCL
South Sarbay	URRS	Wagasennin	JAPN
Takanokura	JAPN	Yellow Jacket	USNM
Tapairihua	PERU	Zanitza	MXCO
Techa	URRS	Zarikan	IRAN
Tecolote	USNM	Zeballos	CNBC

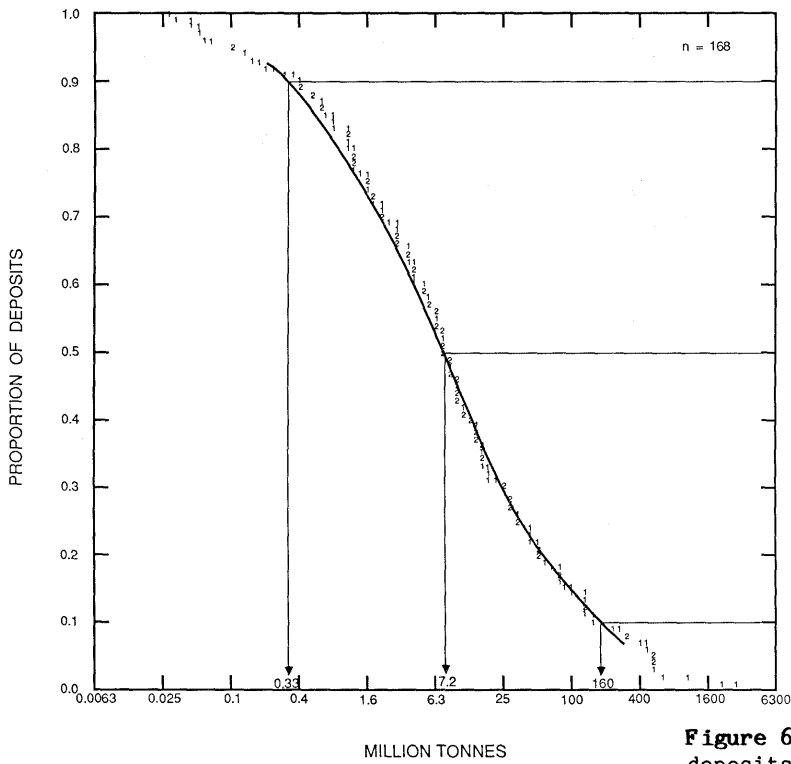


Figure 66. Tonnages of Fe skarn deposits. Individual digits represent number of deposits.

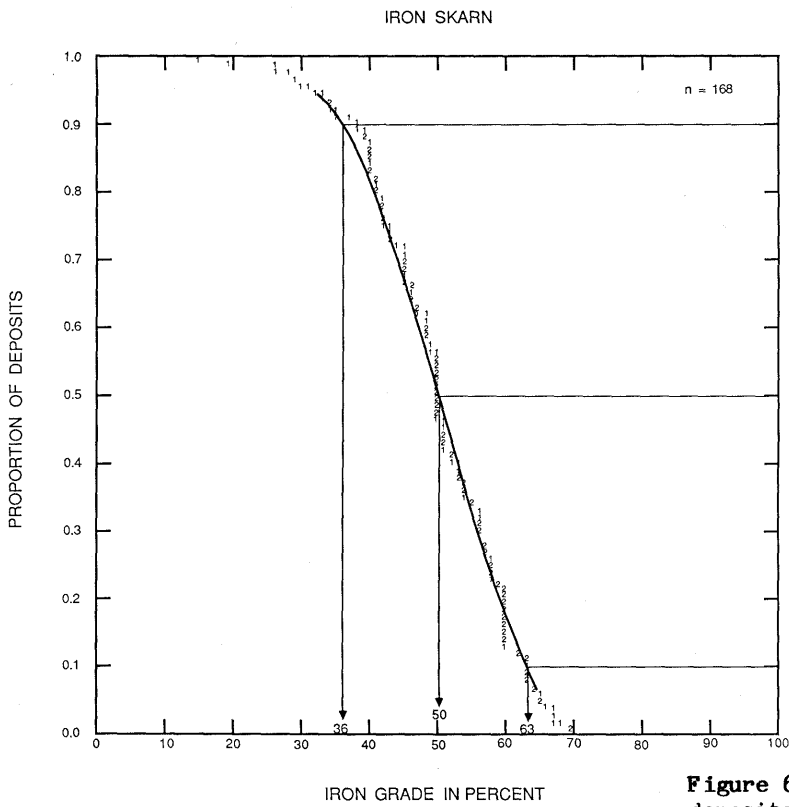


Figure 67. Iron grades of Fe skarn deposits. Individual digits represent number of deposits.