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Grade and Tonnage Data for Climax Mo and Creede Epithermal Vein Deposit Models

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Introduction

The purpose of this open-file report is to make available data on the grades and tonnages of deposits and districts used to construct Climax Mo (Singer and others, 1986) and Creede epithermal veins (Mosier and others, 1986) grade and tonnage models. The data presented are those currently used in the MARK3 computer simulation program (Root and others, 1992).

Construction of grade and tonnage models requires the application of geologic and statistical expertise and judgment in the selection and treatment of data. A general discussion of the judgments inherent in model construction are presented in Cox and others (1986). Specific comments relevant to the Climax Mo and Creede Epithermal Vein models are given below.

(1) The Climax Mo grade and tonnage model (model 16) was built with data for individual deposits.

(2) The Creede epithermal vein grade and tonnage model (model 25b) was built with data for districts. An earlier listing of grade and tonnage data as well as geologic data may be found in Mosier and others (1986). Grade and tonnage data presented here have been updated based uponnew data.

(3) Tonnage is the sum of past production, reserves, and resources. In some cases, incomplete production records were augmented by extrapolating known production figures or by using average mining rates and reported assays. If more than one tonnage estimate is available for a particular deposit, the figure associated with the lowest cutoff grade was used. The objective is to estimate the pre-mining tonnage.

(4) Reported grades represent average metal associated with the reported tonnage. Grades are reported as percent metal by weight. All grades are calculated for the stated tonnage.

(5) Although it is desirable that grade and tonnage data be stated at a uniform cutoff grade, cutoff grades are rarely reported in the literature.

Grade and Tonnage Data for Climax Mo Deposits (Model 16)

By D.A. Singer, T.G. Theodore, and D.L. Mosier

DEPOSIT NAME	COUNTRY CODE	TONNAGE (metric tons)	MOLYBDENUM GRADE (percent Mo)
BIG BEN	USMT	18000000.	0.15
CLIMAX	USCO	800000000.	0.2
HENDERSON	USCO	342000000.	0.297
MALMBJERG	GRLD	181000000.	0.15
MT. EMMONS	USCO	150000000.	0.26
MT. HOPE	USNV	600000000.	0.15
PINE GROVE	USUT	200000000.	0.15
QUESTA-GOAT HILL	USNM	424000000.	0.15
REDWELL	USCO	81000000.	0.3

Grade and Tonnage Data for Creede Epithermal Veins (Model 25b)

By D.L. Mosier, Takeo Sato, and D.A. Singer

DEPOSIT NAME	COUNTRY CODE	TONNAGE (metric tons)	GOLD (percent Au)	SILVER (percent Ag)	COPPER (percent Cu)	LEAD (percent Pb)	ZINC (percent Zn)
ANIMAS	USCO	8500000.	0.00034	0.0099	0.45	2.0	0.300
BONANZA	USCO	508000.	0.0001	0.0237	1.20	2.6	0.230
CASAPALCA	PERU	17000000.	0.0001	0.0161	0.30	1.8	3.500
CHAVIN	PERU	315000.	0.0	0.0125	0.80	8.0	12.500
COCO MINA	NCGA	10300000.	0.00017	0.0026	0.0	0.0	3.400
COLQUI	PERU	5310000.	0.00014	0.0132	0.20	1.7	4.900
CREEDE	USCO	3900000.	0.00012	0.0714	0.10	4.0	1.700
EL TIGRE	MXCO	1230000.	0.00086	0.1340	0.25	1.0	1.500
EUREKA	USCO	7200000.	0.00031	0.0050	0.24	2.3	2.940
HOSOKURA	JAPN	14400000.	0.00002	0.0037	0.0	1.5	4.100
KATA	PERU	100000.	0.0	0.0075	0.0	7.0	6.000
LAKE CITY	USCO	810000.	0.00027	0.0223	0.17	5.7	0.090
LOS MANTIALES	AGTN	24000.	0.0	0.0011	0.0	6.0	9.000
MADRIGAL	PERU	1380000.	0.0	0.0110	1.97	2.8	4.900
NOGAL	USNM	43000.	0.0011	0.0044	0.0	7.1	0.400
OGANE	JAPN	476000.	0.00042	0.0094	0.0	1.1	2.700
OE	JAPN	1920000.	0.00013	0.0057	0.10	0.9	2.500
OPHIR	USCO	766000.	0.00058	0.0171	0.10	2.0	0.007
PACHUCA-R d MONTE	MXCO	107000000.	0.00022	0.0461	0.04	0.2	0.750
RED MOUNTAIN	USCO	185000.	0.00051	0.0165	1.04	2.4	0.0
RIO PALLANGA	PERU	4400000.	0.00002	0.0170	0.0	4.0	5.000
SAI	JAPN	111000.	0.00003	0.0091	2.30	0.0	2.200
SNEFFELS	USA	3240000.	0.00144	0.0223	0.45	2.2	2.100
TELLURIDE	USCO	23200000.	0.00055	0.0093	0.31	1.4	1.420
TOYOHA	JAPN	7550000.	0.00003	0.0121	0.0	3.0	7.400
URUACHIC	MXCO	33000.	0.0032	0.1360	0.15	1.6	0.200
YATANI	JAPN	1270000.	0.00013	0.0050	0.10	2.3	4.600

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