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Grade and Tonnage Model of Porphyry Cu Deposits in British
Columbia, Canada, and Alaska, U.S.A.

by

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COMMENTS This model applies to the descriptive model for Porphyry Cu deposits (No. 17) by Cox (1986); however, only Porphyry Cu deposits from British Columbia, Canada, and Alaska, U.S.A. were used to construct this subset (table 1). As a group these deposits have significantly smaller tonnages than do the deposits in the Porphyry Cu model. In addition the Cu grades of these deposits are significantly lower than those of the Porphyry Cu model. Figure 1 presents a plot of the tonnages of the deposits. Figure 2 presents a plot of the copper grades of the deposits. Figure 3 presents a plot of the molybdenum grades of deposits that contain more than .001 percent Mo. Figure 4 is a plot of the gold grades of deposits which contain more than .01 grams per ton Au. Figure 5 is a plot of the silver grades of deposits that contain more than .04 grams per ton silver.

REFERENCES CITED

Cox, D.P., 1986, Descriptive model of porphyry Cu, *in* Cox, D.P., and Singer, D.A., eds., Mineral deposit models: U.S. Geological Survey Bulletin 1693, p. 76.

Table 1. Grades and tonnages of porphyry copper deposits in British Columbia, Canada, and Alaska, U.S.A..

(Tonnages in millions of metric tons, copper and molybdenum grades in percent, gold and silver grades in grams per metric ton.
Location Codes: CNBC British Columbia, USAK Alaska. Zero indicates no grade reported for the indicated element.)

DEPOSITS	LOCATION CODE	TONNES	COPPER	MOLYBDENUM	GOLD	SILVER
Afton	CNBC	32.	1.03	0.001	0.600	4.00
Ajax	CNBC	9.1	0.50	0.000	0.000	0.00
An	CNBC	11.	0.17	0.012	0.000	0.00
Axe	CNBC	57.5	0.50	0.012	0.000	0.00
Bell Copper	CNBC	116.	0.48	0.005	0.350	1.00
Berg	CNBC	400.	0.40	0.030	0.050	5.00
Bethlehem	CNBC	394.	0.47	0.016	0.005	0.40
Big Onion	CNBC	18.	0.36	0.000	0.000	0.00
Bond Creek	USAK	500.	0.30	0.020	0.000	0.00
Brenda	CNBC	227.	0.16	0.039	0.013	0.63
CaribooBell (MtPolly)	CNBC	227.	0.26	0.001	0.340	4.00
Cash	CNYT	36.	0.28	0.021	0.170	0.00
Casino	CNYT	378.	0.34	0.040	0.320	1.75
Catface	CNBC	200.	0.30	0.000	0.000	0.00
Copper Giant	CNBC	245.	0.27	0.000	0.200	2.70
Copper Mountain	CNBC	142.	0.57	0.001	0.170	3.90
Dorothy	CNBC	45.	0.25	0.010	0.000	0.00
Eagle	CNBC	29.	0.41	0.000	0.000	3.40
Fish Lake	CNBC	1147.	0.22	0.002	0.410	2.30
Galaxy	CNBC	5.4	0.59	0.000	0.000	0.00
GaloreCreek (Stikine)	CNBC	177.	0.95	0.001	0.430	7.07
Gambier Island	CNBC	102.	0.29	0.018	0.040	1.40
Gibraltar	CNBC	327.	0.37	0.010	0.007	1.03
Gnat Lake	CNBC	25.	0.44	0.000	0.000	0.00
Granisle	CNBC	85.	0.43	0.009	0.120	1.12
Highmont	CNBC	211.	0.27	0.042	0.004	0.90
Huckleberry	CNBC	85.	0.41	0.015	0.025	0.93
Hushamu	CNBC	400.	0.26	0.000	0.340	0.00
Ingerbelle	CNBC	52.	0.43	0.002	0.160	0.63
Iron Mask	CNBC	40.	0.65	0.000	0.000	0.00
Island Copper	CNBC	260.	0.52	0.088	0.180	1.21
June	CNBC	30.4	0.39	0.000	0.000	0.00
Kemess North	CNBC	116.	0.19	0.000	0.380	0.00
Kemess South	CNBC	185.	0.23	0.000	0.650	0.00
Kerr (Sulphurets)	CNBC	125.	0.62	0.000	0.300	0.00
Krain	CNBC	18.1	0.45	0.012	0.000	0.00
Kwanika	CNBC	36.	0.20	0.000	0.000	0.00

Lornex	CNEC	514.	0.43	0.015	0.006	1.20
Lorraine	CNEC	10.	0.70	0.000	0.160	0.00
Maggie	CNEC	181.	0.28	0.028	0.000	0.00
Misty	CNEC	2.7	0.59	0.000	0.000	0.00
Mt. Milligan	CNEC	363.	0.22	0.000	0.560	0.00
Morrison	CNEC	86.	0.42	0.017	0.340	1.00
Ck	CNEC	68.	0.29	0.011	0.000	0.00
Orange Hill	USAK	320.	0.35	0.020	0.000	0.00
Pebble Copper	USAK	550.	0.34	0.000	0.410	0.00
Poison Mountain	CNEC	175.	0.28	0.008	0.170	3.10
Primer	CNEC	23.	0.20	0.000	0.000	0.00
Pyramid	USAK	126.	0.41	0.025	0.000	0.00
Red Chris	CNEC	41.	0.56	0.003	0.650	1.50
Red Dog	CNEC	45.	0.32	0.000	0.400	0.00
Schaft Creek (Liard)	CNEC	907.	0.30	0.020	0.130	1.20
Sugarloaf Hill	CNEC	18.1	0.55	0.000	0.000	0.00
Tarus	USAK	50.	0.30	0.070	0.000	0.00
Trojan	CNEC	1.54	0.35	0.000	0.000	0.00
Valley Copper	CNEC	800.	0.48	0.003	0.006	1.90

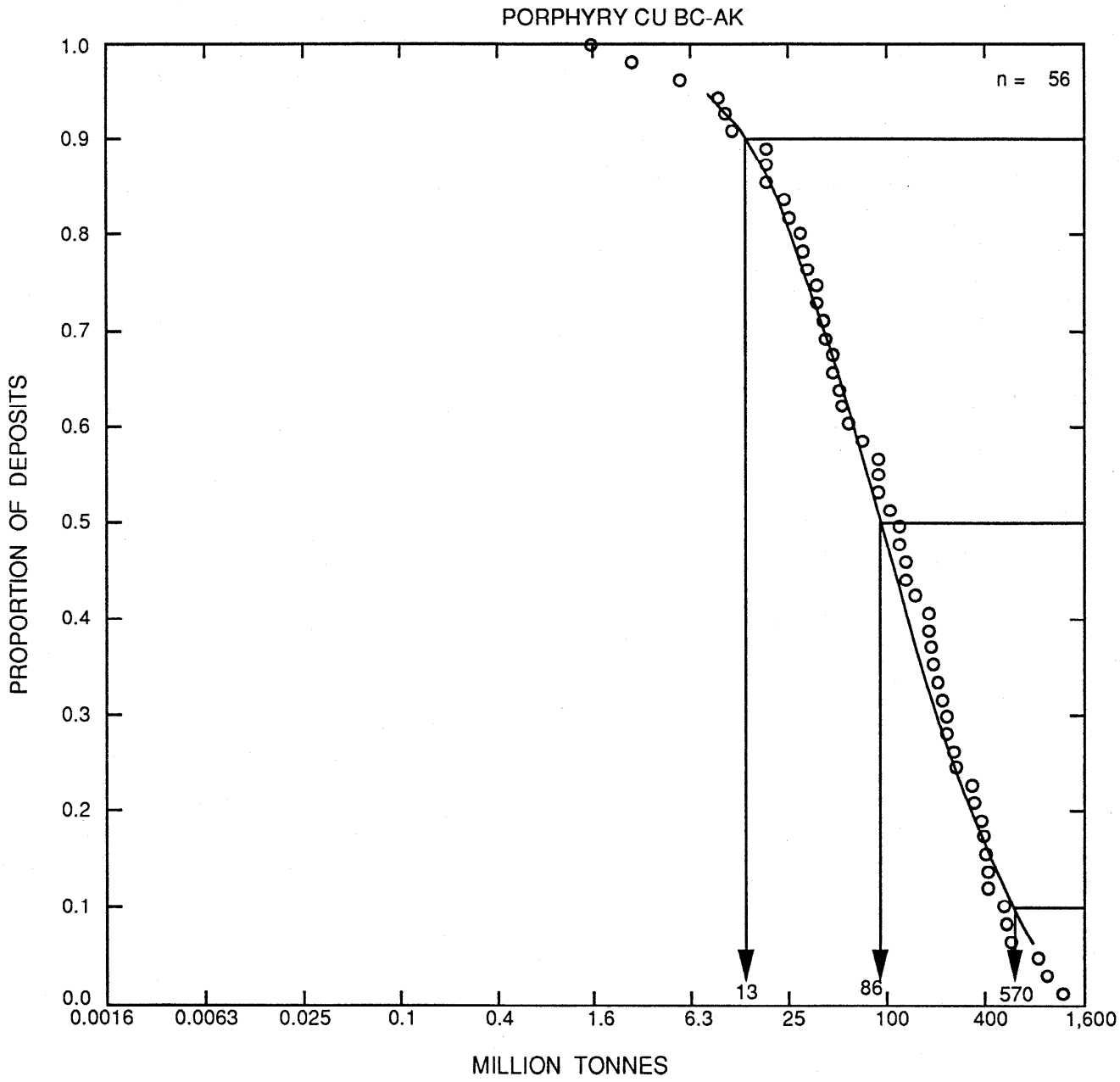


Figure 1. Tonnages of Porphyry Cu deposits in British Columbia and Alaska.

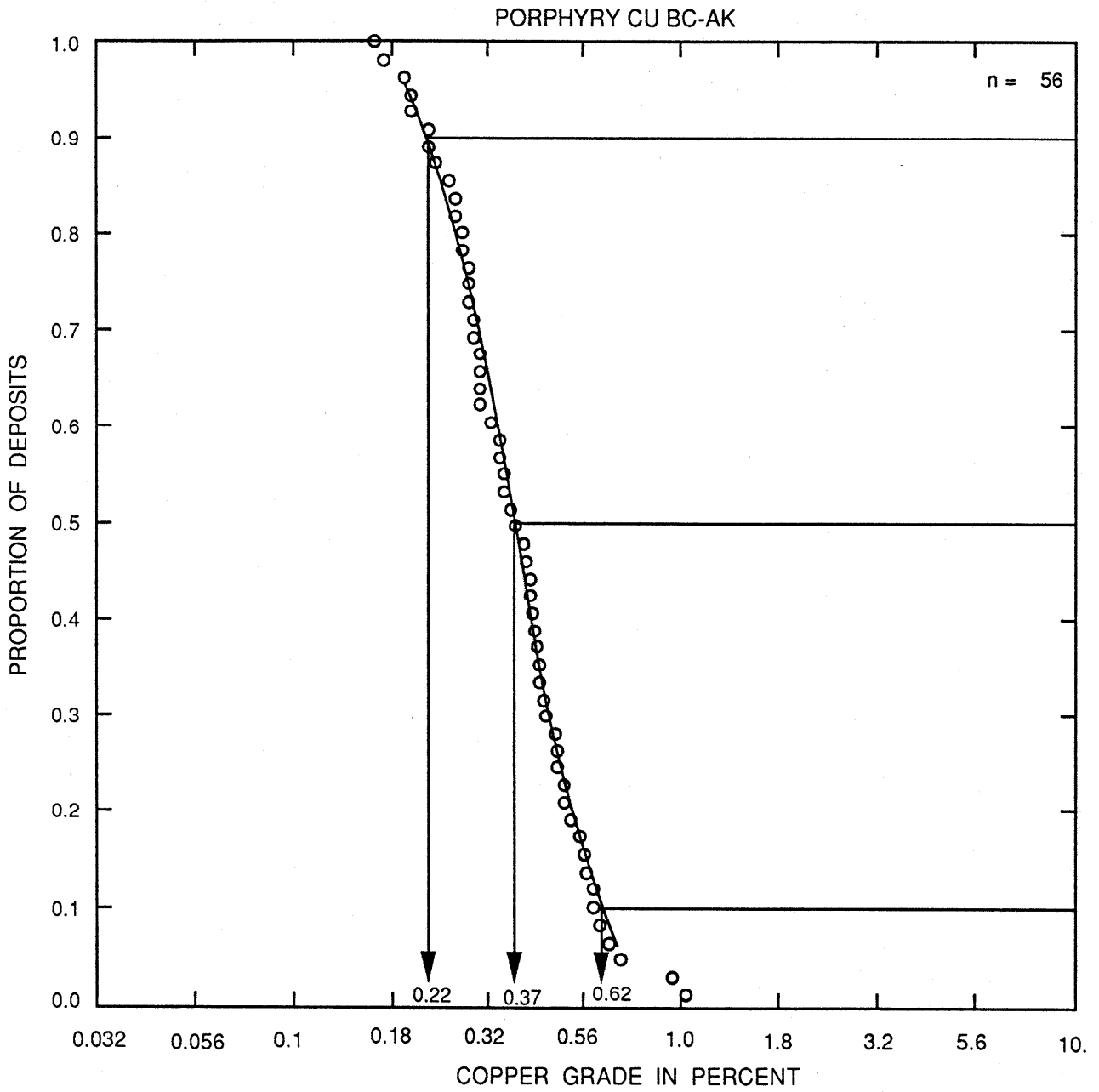


Figure 2. Copper grades of Porphyry Cu deposits in British Columbia and Alaska.

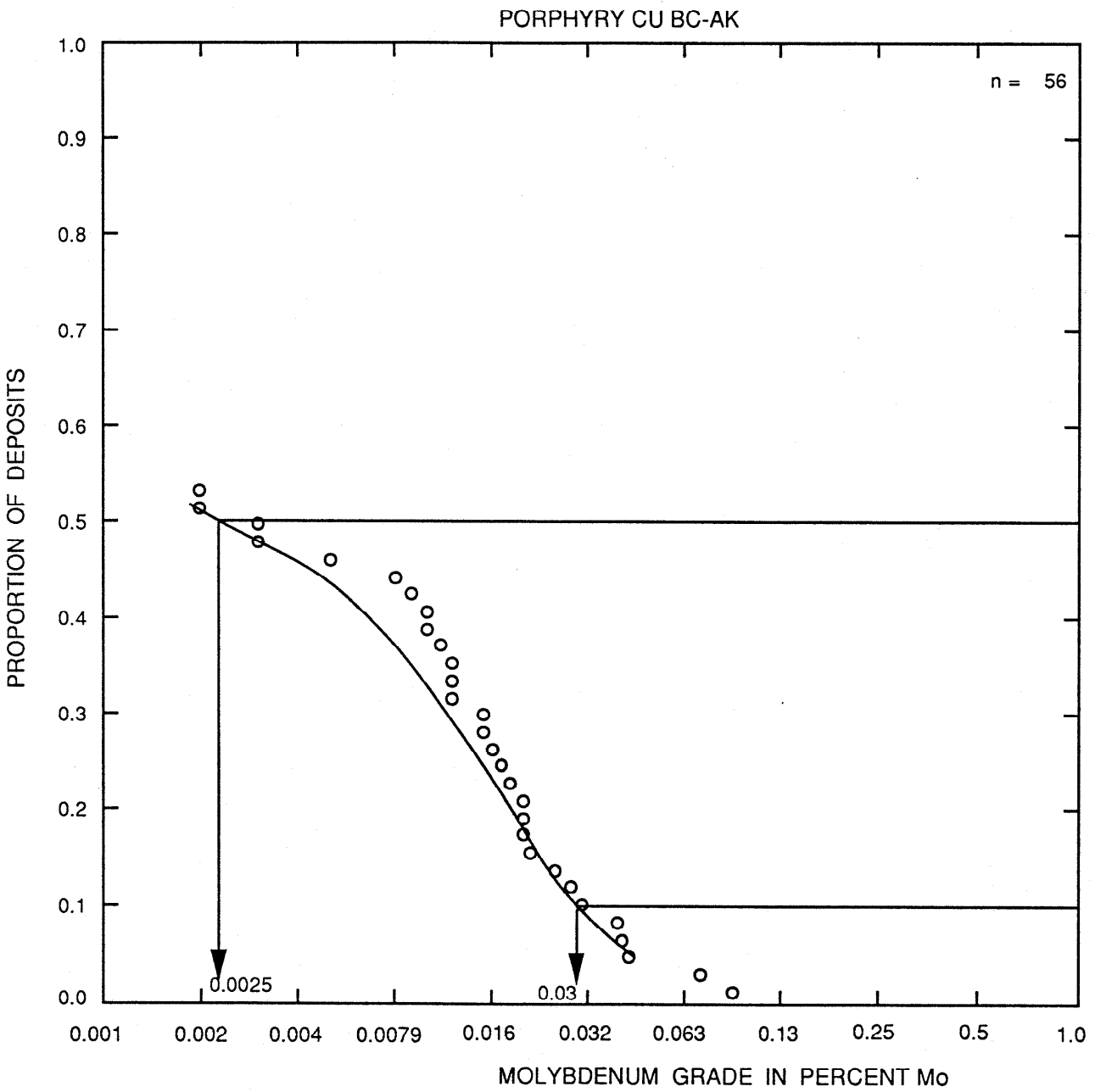


Figure 3. Molybdenum grades of Porphyry Cu deposits in British Columbia and Alaska.

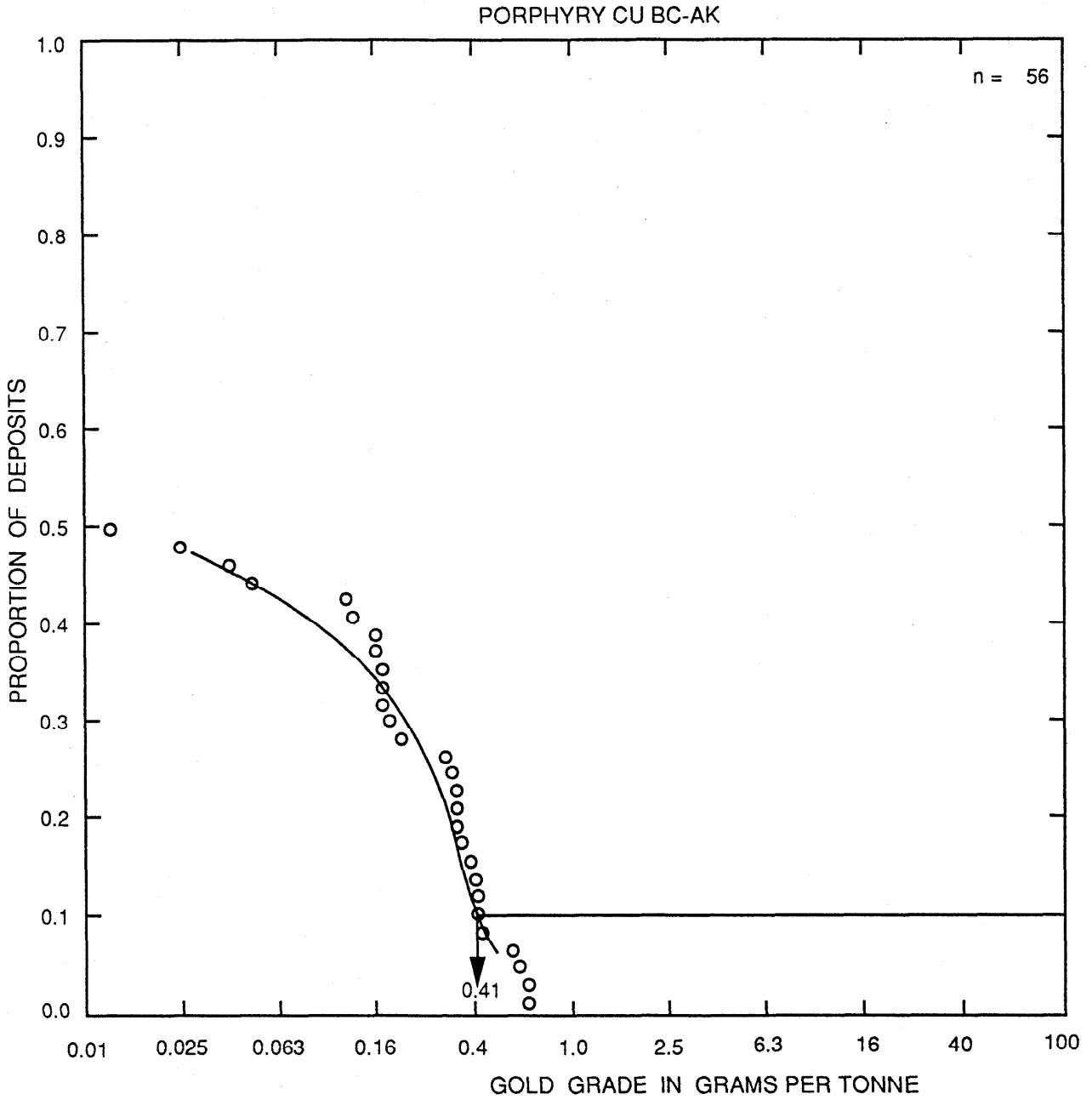


Figure 4. Gold grades of Porphyry Cu deposits in British Columbia and Alaska.

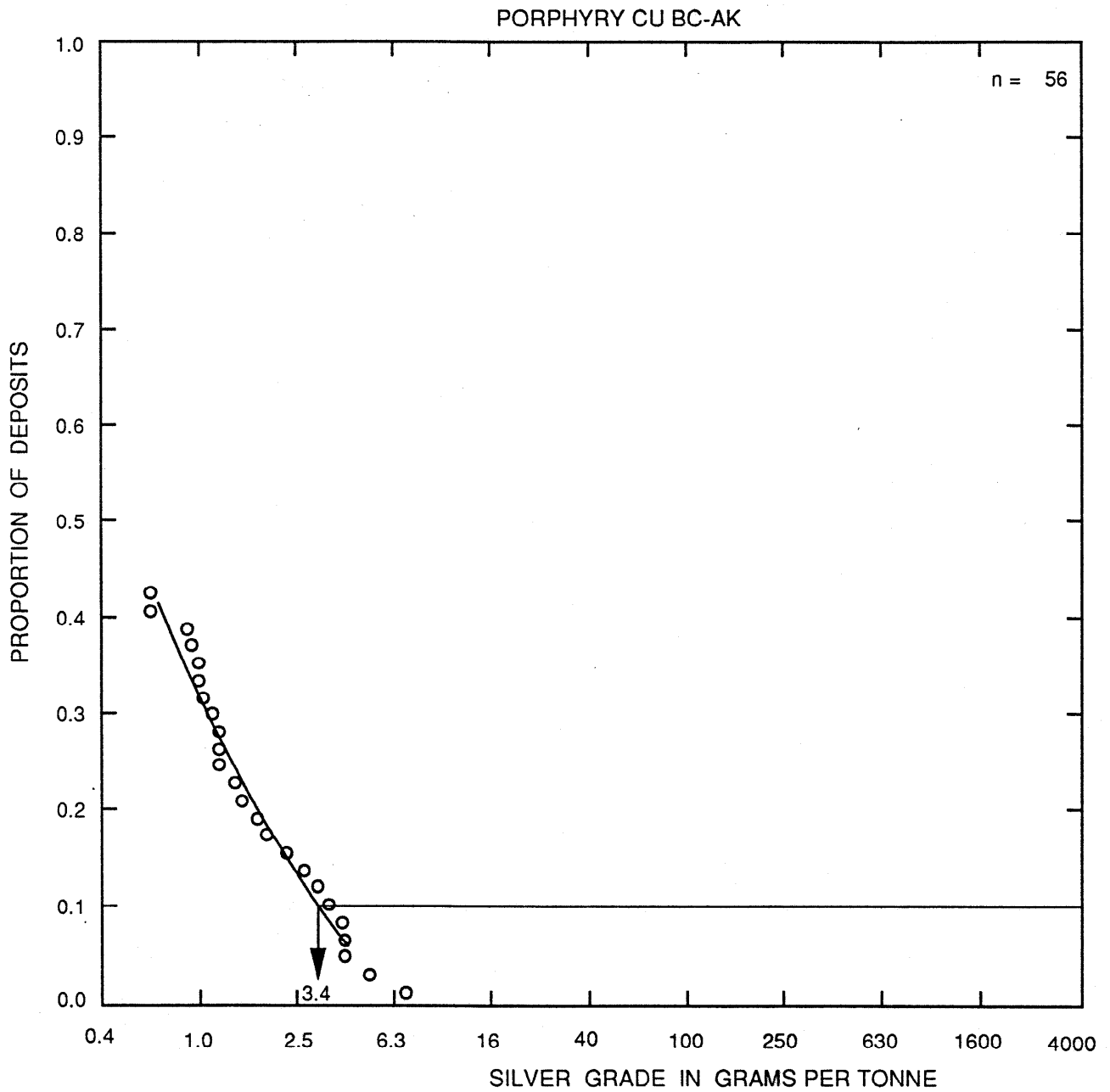


Figure 5. Silver grades of Porphyry Cu deposits in British Columbia and Alaska.