



Preliminary Map From Notes Atlas 7: 750 000, 1970

The map, which is part of the atlas of metal and nonmetal provinces in the conterminous United States (Tooker, 1970), shows the distribution of known deposits and occurrences of the critical metals columbium and tantalum with the objective of showing relations to provinces and their potential as sources of these metals. The map is a preliminary report and is not intended to be used as a basis for making decisions on the basis of the map. It is intended to be used as a guide to the study of the geology and mineral resources of the conterminous United States. The map is a preliminary report and is not intended to be used as a basis for making decisions on the basis of the map. It is intended to be used as a guide to the study of the geology and mineral resources of the conterminous United States.

**INTRODUCTION**  
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**COLUMBIUM AND TANTALUM PROVINCES**  
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**EXPLANATION**  
1. Inferred boundary of columbium or tantalum province—NUMBER INDEX IN TABLE 1  
2. Approximate boundary of major geologic region in the conterminous United States  
3. Inferred boundary separating accreted oceanic and island arc crust, subparallel with the Pacific and Atlantic Ocean coastlines and composed of rocks of Phanerozoic age, from old continent crust in the interior composed of Precambrian basement and Phanerozoic cover rocks  
4. Approximate boundary for area containing (a) columbium-bearing granite or (b) columbium-tantalum placer within a province  
5. Deposit that has produced columbium and (or) tantalum and contains additional potentially minable (primary or byproduct) minerals; currently not in production  
6. Type B, inactive columbium mine  
7. Type B, inactive tantalum mine  
8. Occurrence locality that has had no columbium and (or) tantalum production but may contain potentially minable (primary or byproduct) minerals; locality generally has not been fully evaluated  
9. Type C, possible columbium source—SUPERPOSED CROSS (+) INDICATES CARBONATITE ORIGIN  
10. Type C, possible tantalum source

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Scale 1:5,000,000

Province location	Geology	Preliminary estimate of resource potential <sup>1</sup>	Status of geologic resource information	
No.	State	Area	High Medium Low Adequate Insufficient	
1	Idaho and Nevada	Idaho batholith	I, II, III, IV, V	— X — — —
2	Montana	Bearpaw Mountains	IV	— X — — —
3	California	Southern California batholith	II, III	— X — — —
3a	Do	Sierra Nevada batholith	II, III	— X — — —
4	Do	Mountain Pass	I	— X — — —
5	Arizona	Southwest	III	— X — — —
6	Colorado and Wyoming	Front Range	III, IIII	— X — — —
7	Wyoming	Copper Mountain	III	— X — — —
8	Colorado	Piedmont-Wet Mountains	IV, X	— X — — —
9	New Mexico	Petaca-Harding	III, VII	— X — — —
10	South Dakota and Wyoming	Black Hills	III	— X — — —
11	Arkansas	Magpet Cove district	I, II, V	— X — — —
12	Texas	Llano	III	— X — — —
13	Do	Devils Mountain	I	— X — — —
14	Nevada	Elk Creek	IV	— X — — —
15	Idaho	Wasau	I, III, IV	— X — — —
16	Illinois	Hicks Dome	IV	— X — — —
17	Nevada and New Hampshire	Conway granite	II, III	— X — — —
18	Connecticut	Widestown	III	— X — — —
19	Rhode Island	Woonsocket	III	— X — — —
20	Virginia	Amelia and Pinckney	III	— X — — —
21	North Carolina	Spruce Pine	III	— X — — —

**INDEX TO GEOLOGIC TYPES OF DEPOSITS AND OCCURRENCES**  
Formed at depths in Earth's crust, associated with igneous rocks as:  
I. Trace elements in acidic rocks  
II. Trace elements in granitic rocks  
III. Local concentrations in pegmatite  
IV. Local concentrations in acidic rocks or carbonatite  
Formed at surface, concentrated by weathering and erosion as:  
V. Residual deposits in bauxite or saprolite  
VI. Ocean beach and alluvial placers  
VII. Others  
<sup>1</sup>Resource estimates are qualitative judgments based on production history.

Preliminary map of columbium (niobium) and tantalum provinces in the conterminous United States

By  
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