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Text to accompany maps. MR-27.

TO ACCOMPANY MAP MR-27

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MAGNESITE AND BRUCITE IN THE UNITED STATES

(Exclusive of Alaska and Hawaii)

By Benjamin Gildersleeve

Introduction

The important deposits of magnesite (MgCO_3) and brucite ($\text{MgO} \cdot \text{H}_2\text{O}$) in the United States (exclusive of Alaska and Hawaii) are shown on the accompanying map. Single deposits and groups of deposits are shown by geometric symbols according to four size categories based on estimated production plus reserves. These categories are: less than 10,000 tons, 10,000 to 100,000 tons, 100,000 to 1,000,000 tons, and more than 1,000,000 tons. Occurrences of mineralogic interest only are not shown. All map locations are numbered consecutively in each State and keyed to the locality index. The geographical coordinates in the locality index represent the centers of the geometric symbols. Thus, the same coordinates are assigned to all deposits covered by a group symbol.

The map was compiled from published reports and data in the files of the United States Geological Survey. The names, geographic coordinates, and geologic types of deposits are given in the locality index. The principal published reports used in compiling the map are listed in the selected references.

The main types of commercial deposits of magnesite in the United States are: (1) replacement bodies in limestone and dolomite; (2) replacements and veins in serpentine; and (3) sedimentary beds. Other magnesite deposits of varied origin and less common occurrence include beds associated with talc, chlorite, and mica schists; and veins and lenses in altered tuffs.

Brucite is a relatively rare mineral of secondary origin which usually accompanies other magnesian minerals, particularly magnesite and hydromagnesite, and is associated with carbonate rocks and serpentine.

Magnesite was first mined in California in 1886, and the State was the only domestic producer until the development of the Washington deposits began in 1916. In recent years, the main production of magnesite has been from Stevens County, Washington, and Nye County, Nevada. Production in California has been intermittent since 1945. Magnesite deposits in Texas were mined during and immediately after World War II. At present (1961) the only brucite deposits being worked are those at Gabbs, Nye County, Nevada. They have been mined almost continuously since 1935.

Locality Index

Locality	Lat. N.	Long. W.
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ARIZONA

- | | | |
|---|--------|---------|
| 1. Oatman district. Thin- to thick-brucite. | 35°04' | 114°26' |
|---|--------|---------|

Locality Index (cont'd.)

CALIFORNIA

- | | | |
|---|--------|---------|
| 1. Southard Ranch. Magnesite veins in serpentine. Bradley, 1925. | 39°24' | 123°21' |
| 2. Hixon Ranch. Magnesite in serpentine. Bradley, 1925; Hess, 1908; Ver Planck, 1957. | 38°59' | 123°03' |
| 3. Albertez Ranch, Battenburg, Burgans Ranch, Melville Ranch, Geo. Hall Ranch, and Pat Cummings claim. Magnesite veins and lenses in serpentine. Bradley, 1925; Hess, 1908. | 38°49' | 123°01' |
| 4. Sonoma (Red Slide). Magnesite veins in serpentine. Bradley, 1925; Hess, 1908. | 38°40' | 123°06' |
| 5. Madeira, Meeker, and Snyder Ranches, and Gilliam Creek. Magnesite veins in serpentine. Bradley, 1925; Hess, 1908. | 38°35' | 123°02' |
| 6. White Rock. Magnesite veins in serpentinized lherzolite. Bradley, 1925; Hess, 1908; Ver Planck, 1957. | 38°39' | 122°23' |
| 7. Blanco and Snowflake mines, Priest mine, Russell, and Elder or Detert mine. Magnesite veins and masses in serpentine. Bradley, 1925; Hess, 1908; Ver Planck, 1957. | 38°31' | 122°16' |
| 8. Nevada City. Magnesite veins in serpentine. Bradley, 1925. | 39°15' | 121°03' |
| 9. Little Bear mine. Placer County properties, Sullivan, and Towle. Magnesite veins in serpentine. Bradley, 1925. | 39°12' | 120°47' |
| 10. Gray Eagle mine, Monarch mine, Peter Maki claims, and White Rock mine. Magnesite veins and lenses in serpentine. Bradley, 1925. | 37°51' | 120°28' |
| 11. Cedar Mountain mine, Hayes Ranch, and Winship properties. Magnesite lenses in serpentine. Bradley, 1925. | 37°34' | 121°37' |
| 12. King claim and Banta's Camp. Magnesite veins in serpentine. Hess, 1908. | 37°31' | 121°32' |

Locality Index (cont'd.)

CALIFORNIA (cont'd.)

13. G. L. Fenster, and Red Mountain mine. Magnesite veins and replacements of serpentine. Bodenlos, 1950; Bradley, 1925; Ver Planck, 1957. 37°25' 121°25'
14. Western mine, Security, Fidelity, Standard Magnesite Co., and Winship properties. Magnesite veins in serpentine and dunite; magnesite replacements of serpentine. Bodenlos, 1950; Bradley, 1925; Gale, 1914; Hess, 1908; Ver Planck, 1957. 37°24' 121°29'
15. Bradford and Burnet Ranches. Magnesite veins in serpentine. Bradley, 1925. 37°13' 121°49'
16. Cochrane and O'Connell Bros. Ranches. Magnesite boulders in serpentine. Bradley, 1925; Hess, 1908. 37°09' 121°37'
17. Bald Eagle mine and Howard Cattle Co. Magnesite replacements and segregations in serpentine. Bradley, 1925; Ver Planck, 1957. 37°11' 121°14'
18. Sampson mine (Maltby No. 3) and Standard group. Massive crags of magnesite and outcrops of magnesite and hydromagnesite. Bradley, 1925; Gale, 1914. 36°24' 120°44'
19. Bonanza quicksilver mine. Magnesite reported. Bradley, 1925. 36°19' 120°41'
20. Snow Cap and Governor claims, Piedra Magnesite Co. mine, Piedra mine, and Sample mine. Bradley, 1925; Hess, 1908. 36°48' 119°22'
21. Kaiser place. Magnesite veins in serpentine. Bradley, 1925. 35°40' 121°08'
22. Bedell, and Kings Magnesite Co. Magnesite veins in serpentine. Bradley, 1925. 35°53' 120°20'
23. Kings Magnesite Co. Magnesite boulders in serpentine. Bradley, 1925. 35°55' 120°15'
24. Hamilton Ranch. Magnesite veins in peridotite and serpentine. Bradley, 1925. 36°20' 119°02'
25. Cross Ranch, Merryman mine, Wood mine, Dumont, and Mitchell. Magnesite veins in serpentine. Bradley, 1925. 36°18' 119°04'
26. Adeline mine, Blue Crystal, Fairview mines, and Headburg. Magnesite veins in serpentine. Bradley, 1925. 36°12' 119°01'
27. De Moulin mine, Gill Ranch, 36°11' 118°58'

CALIFORNIA (cont'd.)

- Oakland Magnesite Co., and Har-ker mine. Magnesite veins in serpentine and serpentinized peridotite. Bradley, 1925.
28. Duncan mine, Hawley Pulp and Paper Co., Lindsay mine, McKiernan mine, Rex Plaster mine, and Tulare Mining Co. mine. Magnesite veins in serpentine and peridotite. Bradley, 1925. 36°04' 118°54'
 29. Deer Creek mine, Mentz mine, Oakland Magnesite Co. mine, Simmons Ranch, and Tulare Mining Co. mine. Magnesite veins in serpentine and serpentinized peridotite. Bradley, 1925. 35°59' 118°56'
 30. Chamberlain Ranch. Magnesite veins in serpentine. Bradley, 1925. 35°55' 118°56'
 31. Happy Canyon claims. Magnesite veins and nodules in serpentine. Bradley, 1925. 34°51' 119°57'
 32. Bissel mine. Sedimentary magnesite. Bradley, 1925; Gale, 1914; Rubey and Callaghan, 1936. 34°58' 118°02'
 33. Kramer (Ball Kramer). Sedimentary magnesite. Bowen, 1954. 34°54' 117°30'
 34. Afton. Low-grade sedimentary magnesite. Bradley, 1925; Rubey and Callaghan, 1936. 35°01' 116°23'
 35. Cima. Magnesite associated with dolomite. Rubey and Callaghan, 1936. 35°22' 115°28'
 36. Ball (Red Seal). Magnesite associated with dolomite. Bowen, 1954. 34°39' 117°04'
 37. North Lucerne Valley. Dolomite with veins of magnesite. Davis, 1957. 34°38' 116°58'
 38. Needles. Sedimentary magnesite. Vitaliano, 1950. 34°47' 114°46'
 39. Hemet mine. Magnesite veins in serpentine. Bradley, 1925. 33°42' 117°02'

IDAHO

1. Soda Springs. Surface deposits of hydromagnesite. Hodge, 1938; Yale and Stone, 1921. 42°41' 111°39'

NEVADA

1. Gabbs. Magnesite and brucite replacements in dolomite. Callaghan, 1933; Vitaliano and Callaghan, 1956. 38°50' 117°58'
2. White Knolls, Snowball, and Rex-Pine. Magnesite-bearing tuff and 38°56' 115°19'

Locality Index (cont'd.)

NEVADA (cont'd.)

magnesite lenses in altered tuff.
Vitaliano, 1951.

3. Windous, Chester area, and Ribsby. Magnesite veins and lenses in altered tuff. Vitaliano, 1951. 38°56' 115°09'
4. Ala-Mar. Magnesite lenses, veins, and nodules in altered tuff. Vitaliano, 1951. 38°50' 115°20'
5. Payne. Magnesite. Davis, 1957. 36°50' 115°57'
6. Overton district. Impure sedimentary magnesite interbedded with dolomite. Rubey and Callaghan, 1936. 36°27' 114°30'
7. Bauer. Sedimentary magnesite. Rubey and Callaghan, 1936. 36°15' 114°16'

NEW MEXICO

1. Ricolite Canyon. Magnesite and brucite replacements of limestone. Davis, 1957; Talmadge and Wooten, 1937; Yale and Stone, 1921. 32°41' 108°39'
2. San Andres Mountains. Magnesite associated with dolomite. Davis, 1957; Taft, 1936; Talmadge and Wooten, 1937. 32°30' 106°37'
3. Organ Mountains (South and Target Range Canyons). Magnesite replacements of dolomite. Talmadge and Wooten, 1937. 32°15' 106°33'

OREGON

1. Lower Illinois River. Magnesite, probably in serpentine. Hodge, 1938. 42°30' 124°03'
2. Near Holland. Magnesite. Probably in serpentine. Hodge, 1938. 42°08' 123°32'

PENNSYLVANIA

1. Wood chromite mine. Brucite gangue. Palache and others, 1944; Schrader and others, 1917; Stone, 1922. 39°45' 76°15'
2. Goat Hill area. Magnesite and brucite in serpentine. Stone, 1922. 39°45' 76°07'

TEXAS

1. North of Van Horn (Sierra Diablo region). Brucite in limestone. 31°25' 104°53'
2. Mason. Magnesite lens in chlorite schist. McCammon, 1941. 30°46' 99°17'
3. Gray Fowler and Stribling Ranch. Magnesite lenses in dolomite marble. Chelf, 1941. 30°43' 98°38'

UTAH

1. Fish Spring. Magnesite veins and lenses replacing altered dolomite. Crawford, 1941. 39°51' 113°26'

WASHINGTON

1. Danville. Hydromagnesite veins in serpentine. Valentine, 1949. 48°58' 118°28'
2. Wagonroad Coulee. Magnesite veins in serpentine. Valentine, 1949. 48°33' 119°33'
3. Swinomish Bay. Magnesite in serpentine. Valentine, 1949. 48°25' 122°31'
4. Mount Vernon. Magnesite in serpentine. Valentine, 1949. 48°20' 122°16'
5. Granite Falls. Magnesite in serpentine. Valentine, 1949. 48°02' 121°55'
6. Finch and Woodbury quarries and Moss-Allen group. Magnesite replacement bodies in dolomite. Bennett, 1941; Campbell and Loofbourow, 1957; Valentine, 1949. 48°13' 117°50'
7. Mountain View, Nogues, Phoenix, Midnight and Davis, and Keystone, Double Eagle and Crosby quarries. Magnesite replacement bodies in dolomite. Bennett, 1941; Campbell and Loofbourow, 1957; Valentine, 1949. 48°11' 117°55'
8. Red Marble and U.S. Magnesite quarries. Magnesite replacement bodies in dolomite. Bennett, 1941; Campbell and Loofbourow, 1957; Valentine, 1949. 48°09' 118°00'
9. Turk quarry. Magnesite replacement bodies in dolomite. Bennett, 1941, 1943; Campbell and Loofbourow, 1957; Valentine, 1949. 48°03' 118°04'
10. Boulder Creek. Magnesite in serpentine. Valentine, 1949. 47°25' 121°02'
11. Blewett and Ingalls Creek. Magnesite in serpentine. Valentine, 1949. 47°27' 120°39'

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