

Geological Survey
UNITED STATES, DEPARTMENT OF THE INTERIOR
J. A. KRUG, Secretary
GEOLOGICAL SURVEY
W. E. Wrather, Director

Bulletin 954

GEOLOGIC INVESTIGATIONS IN
AMERICAN REPUBLICS
1946



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1948

QE 15

B9

no. 954

Copy 2

CONTENTS

[The letters in parentheses preceding the titles are those used to designate the papers for separate publication]

	Page
(A) Tungsten investigations in the Republic of Argentina, 1942-43, by Ward C. Smith and E. M. Gonzalez.....	1
(B) Geology and chromite deposits of the Camagüey district, Camagüey Province, Cuba, by Delos E. Flint, Jesus Francisco de Albear, and Philip W. Guild.....	39
(C) Aluminous lateritic soil of the Republic of Haiti, by Samuel S. Goldich and Harlan R. Bergquist.....	63
(D) Optical calcite deposits of the Republic of Mexico, by Carl Fries, Jr..	113
(E) Manganese deposits of the Talamantes district near Parral, Chihuahua, Mexico, by I. F. Wilson and V. S. Rocha.....	181
(F) Manganese deposits of Mexico, by Parker D. Trask and José Rodríguez Cabo, Jr.....	209

ILLUSTRATIONS

	Page
PLATE 1. Index map showing location of the tungsten deposits of the Argentine Republic.....	In pocket
2. Map showing claims on the Cerro Morro tungsten property..	In pocket
3. Geologic and topographic map of a part of the Cerro Morro tungsten property.....	In pocket
4. Geologic structure sections, Cerro Morro tungsten property..	In pocket
5. Geologic and topographic map of the Josefina tungsten mine..	In pocket
6. Plan and projection of main adits and partly completed main tunnel, Josefina mine.....	In pocket
7. Josefina vein, Josefina mine, plan and projections of No. 1 adit and lower drift.....	In pocket
8. Josefina vein, Josefina mine, plan and projections of adits 2, 3, 4, and 5.....	In pocket
9. Primera vein, Josefina mine, plan and projections.....	In pocket
10. Rica vein, Josefina mine, plan and projections of workings..	In pocket
11. Blanca vein, Josefina mine, plan and projections of workings..	In pocket
12. Sur vein main adits, Josefina mine, plan and projections....	In pocket
13. Sur vein upper workings, Josefina mine, plan and projections..	In pocket
14. Marchant vein, Josefina mine, plan and projection.....	In pocket
15. Sketch map of San Antonio tungsten mine.....	In pocket
16. Plan and sections of part of the Toro workings, San Antonio tungsten mine.....	In pocket
17. Sketch map, Santo Domingo mine.....	In pocket
18. Geologic map of the Camagüey chromite district, Camagüey Province, Cuba.....	In pocket

	Page
PLATE 19. Geologic map and sections of the Victoria mine, Camagüey district, Cuba.....	In pocket
20. Rochelois Plateau.....	72
21. Index map of the Republic of Haiti.....	In pocket
22. Isopach map of aluminous lateritic soil deposits.....	In pocket
23. Index map of Mexico showing location of optical calcite districts examined and relative importance of productive districts..	In pocket
24. Various vein structures in which commercial calcite occurs..	In pocket
25. Map and sections of the El Porvenir and El Caimán calcite deposits.....	In pocket
26. Map and sections of the La Aurora calcite deposit.....	In pocket
27. Sketch showing location of calcite veins mined near Areponápuchic, Chihuahua.....	In pocket
28. Sketch map and section of the El Murciélago calcite district, southeast of Manuel Benavides, Chihuahua.....	In pocket
29. Map and section of the La Esmeralda calcite deposit, near Guagüeybo, Chihuahua.....	In pocket
30. Geologic map and section of the La Fe calcite deposit, near Rodeo, Durango.....	In pocket
31. Map and sections of the La Flor de Esperanza calcite deposit..	In pocket
32. Map and section of the La Perla calcite deposit.....	In pocket
33. Cliffs of rhyolite.....	184
34. Geologic map and structure section of the Talamantes manganese district, State of Chihuahua, Mexico.....	In pocket
35. A, Hill east of the Mesa de Talamantes; B, East side of the Mesa de Talamantes, showing fault-line scarp formed by La Concepción fault.....	192
36. A, Specimen of typical ore from San Antonio mine; B, Specimen of ore from San Antonio mine.....	200
37. A, Specimen of psilomelane from San Antonio mine; B, Hand jigs used to concentrate manganese ore at the San Antonio mine.....	201
38. Map and longitudinal sections of the San Antonio manganese mine.....	In pocket
39. Index map of Mexico, showing distribution of manganese deposits.....	214
FIGURE 1. Index map of Cuba showing location of the Camagüey chromite district.....	40
2. Sketch of face at Lolita mine, Camagüey Province.....	54
3. Schematic section showing inferred origin of the Camagüey ultramafic complex.....	59
4. Variations of the principal chemical constituents, Ste.-Croix deposit.....	80
5. Sketch map of trenches, Lachicotte Valley, Beaumont, Haiti.....	88
6. Belt of low-silica aluminous lateritic soil deposits in the West Indies.....	103
7. Proportions of $Al_2O_3:Fe_2O_3:TiO_2$ in lateritic soils and in igneous rock families.....	105
8. Drawings of calcite crystal forms: rhombohedrons.....	121
9. Drawings of calcite crystal forms: scalenohedrons and base...	122

	Page
FIGURE 10. Drawings of calcite crystal forms: first- and second-order prisms and second-order pyramid.....	124
11. Drawings of the four types of calcite twin crystals.....	125
12. Drawings of a twin crystal typical of those found near Areponá- puchic, Chihuahua.....	126
13. Drawings of cleavage rhombohedrons showing positions of twinning planes and some defects in optical calcite.....	127
14. Drawings of cuts made from smallest cleavage rhombohedron accepted for suboptical use, and of a common crystal habit in southwestern Chihuahua.....	133
15. Drawings of a plate of calcite typical of those in the La Fe deposit near Rodeo, Durango.....	134
16. Index map of Mexico showing location of the Talamantes manganese district.....	182