DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH
THE COMMONWEALTH OF PUERTO RICO
DEPARTMENT OF PUBLIC WORKS — AREA OF NATURAL RESOURCES
ECONOMIC DEVELOPMENT ADMINISTRATION — INDUSTRIAL RESEARCH DEPARTMENT

MISCELLANEOUS GEOLOGIC INVESTIGATIONS
MAP I–721

Base from U.S. Geological Survey, 1952
16,000-meter grid based on Puerto Rico coordinate system

SCALE 1:240 000

CONTOUR INTERVAL 100 METERS
DATUM IS MEAN SEA LEVEL
1973 MAGNETIC DECLINATION VARIES FROM 7°30' WESTERLY FOR THE SOUTHWEST CORNER TO 10°00' WESTERLY FOR THE NORTHEAST CORNER

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D.C.—1973—G71275

Compiled in 1970

EXPLANATION

MINERAL DEPOSIT SYMBOLS AND CODE

Modified from the system proposed by the North American Metallogenic Map Committee, 1966

Symbol color		a= (circle)	b= (square)	c= (diamond)	d= (small diamond)	e= (flat diamond)
2	Red	Fe		Fe,Ti	Fe,Cu	P
3	Orange	Cu	Mo	Cu,Mo	Cu,Zn	Cu,Ag
4	Yellow	Au	Au,Cu	Au,Ag		
5	Green		Ni,Co			
6	Blue green	Ca (gypsum)			Mg (dolomite)	
7	Blue	Pb	Zn	Pb,Zn	Pb,Zn,Ag	
8	Purple				Ba	
10	Dark brown	Mn			Pyrophyllite kaolinite	

Differentiate mine from mineral occurrence (box or ring)

a Mines, active or abandoned
b Chiefly mineral occurrences and prospects but includes some unmined deposits with proven reserves

Plutonic rock enclosing or associated with deposit; hydrothermal alteration (tick on colored symbol)

1 Quartz monzonite or granodiorite
2 Quartz diorite
3 Diorite or gabbro
4 Peridotite (serpentinite)
5 Porphyritic texture
6 Argillic or prophylitic alteration
7 Quartz-sericite alteration
8 Quartz-K-feldspar alteration

Type and age of enclosing rock (tick on colored ring or box)

1 Lava and lava breccia
2 Very thick bedded tuff, tuff breccia and conglomerate
3 Thin to thick bedded tuff, tuffaceous sandstone and mudstone
4 Carbonate rocks
5 Chert
6 Lower Cretaceous
7 Upper Cretaceous
8 Paleocene-Eocene
- Post Eocene or age unknown

35-1-6
Area of closely spaced localities
Character of most typical deposits in area shown by symbol

Size (diameter of colored symbol)

Large=A=4 mm   Medium=B=3 mm   Small=C=2 mm

Size categories, in metric tons, established by the North American Metallogenic Map Committee

	Large	Medium	Small
Copper (metal)	>1,000,000	50,000-1,000,000	<50,000
Iron (ore)	>100,000,000	5,000,000-100,000,000	<5,000,000
Manganese (ore, 40% Mn)	>10,000,000	100,000-10,000,000	<100,000
Nickel (metal)	>200,000	10,000-200,000	<10,000

Note—Other metals in Puerto Rico are found in quantities well below the maximum for small deposits as set by the committee, or their size is unknown as in the case of the dolomite deposits

EXAMPLE
Keystone Iron Mine

Characteristics	Code	Symbol
Magnetite with copper minerals	2d	
Related to granodiorite and diorite intrusive rocks	2d13	
Small size category	2d13C	
Skarn deposit	2d13C3	
Mine	2d13C3a	
Country rock is limestone of Early Cretaceous age	2d13C3a46	

Geologic class (colored box or ring)

2 Red — More or less strata bound deposits of sedimentary and organic origin
3 Orange — Skarn deposits
4 Yellow — Placer deposits
5 Green — Porphyry copper deposits and deposits of irregular form
7 Blue — Veins and shear zones
8 Purple — More or less concordant deposits in igneous rocks
9 Light brown — Laterites
10 Dark brown — More or less strata bound mainly disseminated deposits (not placers)

Note—Ring is absent at localities where nature of deposit is not known

Mineralogy of the deposits is indicated by the following abbreviations
Minerals formed during weathering are omitted for most localities

al, *alunite*	gyp, *gypsum*
Au, *native gold*	hm, *hematite*
bar, *barite*	ilm, *ilmenite*
bn, *bornite*	ka, *kaolin*
cal, *calcite*	mag, *magnetite*
cc, *chalcocite*	mb, *molybdenite*
cp, *chalcopyrite*	q, *quartz*
Cu, *native copper*	py, *pyrite*
cup, *cuprite*	po, *pyrrhotite*
cv, *covellite*	pp, *pyrophyllite*
dg, *digenite*	rd, *rhodonite*
dp, *diopside*	sl, *sphalerite*
dol, *dolomite*	tt, *tetrahedrite*
ep, *epidote group minerals*	wo, *wollastonite*
gal, *galena*	zl, *zeolite*
gr, *garnet*	

GEOLOGIC SYMBOLS

TERTIARY QUATERNARY — *Oligocene to Holocene*

Surficial deposits
Alluvial, terrace, beach, swamp, lagoonal, and dune deposits; blanket deposits not closely associated with limestone outcrops; coastal eolianites. Locally more than 100 m thick, but commonly less than 20 m thick

Limestone, chalk, marl, dolomite, and calcareous sandstone, conglomerate, and claystone
Maximum known thickness is about 1,700 m in an oil and gas test well drilled in the northern limestone province 8 km east of Arecibo (Briggs, 1961); thinner in the southern limestone province. Includes blanket deposits closely associated with limestone outcrops

CRETACEOUS AND TERTIARY — *Lower Cretaceous to Eocene*

Hydrothermally altered rocks
Chiefly quartz, sericite, and pyrite. Local zones of argillic alteration may be derived in part from weathering of sericitized rocks. Local concentrations of alunite, pyrophyllite, kaolinite, halloysite and other hydrothermal minerals (Hildebrand, 1960, 1961). Altered rocks in the zone between San Juan and Caguas are chiefly propyllitic in western and central parts, and sericitic and argillic in eastern part and locally in central part

Plutonic rocks
Chiefly granodiorite in batholiths and stocks; quartz diorite, quartz diorite porphyry, diorite and gabbro in smaller plutons

Undivided rocks of the northeastern volcanic-plutonic subprovince
Largely tuff, volcanic breccia, and tuffaceous sandstone and siltstone, chiefly marine. Lava probably constitutes more than 15 percent of the overall section and is chiefly concentrated in the lower and locally in the middle parts. Limestone occurs sporadically in the upper part of the section. Thickness of the section probably totals more than 10,000 m, and the base is not exposed. Includes some hypabyssal intrusive rocks

Undivided rocks of the central volcanic-plutonic subprovince
Largely volcanic breccia, tuffaceous sandstone and siltstone, tuff, and lava, chiefly marine. Lava probably constitutes more than 20 percent of the overall section, and chief concentrations are in the middle and lower parts. Limestone occurs sporadically in the middle and upper parts of the section. Conglomerate is found in the upper part. Thickness of the section probably totals more than 17,000 m, and the base is not exposed. Includes some hypabyssal intrusive rocks

Undivided rocks of the southwestern volcanic-plutonic subprovince
Largely volcanic breccia, tuff, mudstone, impure limestone, and lava, chiefly marine. Lava probably constitutes more than 25 percent of the overall section and is distributed sporadically throughout the section. Limestone is well distributed within the section. Total thickness probably exceeds 5,000 m. Includes some hypabyssal intrusive rocks

CRETACEOUS — *Lower(?) Cretaceous*

Bermeja Complex of Mattson (1960) in the southwestern volcanic-plutonic subprovince
In northern and central outcrop areas chiefly composed of serpentinite, but chert, gneissic amphibolite, and metavolcanic rocks comprise most of the southern outcrop area. No thickness estimate available

Contact

U/D Fault
Dotted where concealed; queried where doubtful. U, *upthrown side;* D, *downthrown side; arrows show direction of apparent strike-slip movement; sawteeth on upper plate of thrust fault. Sense of movement shown on major faults only*

Anticline, showing crestline

Normal — Overturned
Syncline, showing troughline

LOCALITY NUMBER	QUADRANGLE NAME	LATITUDE	LONGITUDE	NAME	COMMODITY	CODE	REFERENCES
4-1	Quebradillas	18°29'05"	66°57'30"		Dolomite	6dC2b4	Monroe (1967).
4-2	do.	18°28'56"	66°53'53"		Dolomite	6dC2b4	Do.
5-1	Camuy	18°29'22"	66°50'20"	Hatillo	Fe	2aC4b	Guillou and Glass (1957, p. 301).
6-1	Arecibo	18°28'29"	66°42'38"	La Marina	Fe	2aC4b	Guillou and Glass (1957, p. 302).
7-1	Barceloneta	18°29'09"	66°32'36"	La Boca	Fe	2aC4b	Do.
8-1	Manatí	18°28'54"	66°26'11"		Dolomite	6dC2b4	
10-1	Bayamón	18°28'10"	66°13'41"	Río Cocal	Fe	2aC4b	Do.
12-1	Carolina	18°25'40"	65°52'56"		Dolomite	6dC2b4	
14-1	Rincón	18°21'45"	67°10'20"	Aguada	Mn	10aC7a18	Puerto Rico Bur. Mines (1941, p. 23–25); Mitchell (1954, p. 107).
14-2	do.	18°21'20"	67°10'35"		Cu	3aC7a18	Hubbard (1923, p. 105–108); Mitchell (1954, p. 108); Puerto Rico Bur. Mines (1941, p. 34–35); Low, (1929, p. 5).
15-1	Central la Plata	18°17'05"	67°04'20"		Au	4aC7b128	
17-1	Bayaney	18°17'20"	66°50'20"	Laundry Creek	Cu	3a257C5b1367	
17-2	do.	18°16'15"	66°49'15"	Copper Creek	Cu	3a257C5b1367	
17-3	do.	18°15'30"	66°47'25"	Tanamá	Cu	3a257B5b1367	Nelson and Tobisch (1968); Pease (1966, p. 109–110); Trop (San Juan Star, Sept. 11, 1968).
17-4	do.	18°15'45"	66°52'05"		Cu	3a7C5b1367	Nelson and Tobisch (1968).
18-1	Utuado	18°15'08"	66°44'11"		Cu, Zn	3d1C7b	Nelson (1967b); Mattson, (1968a).
19-1	Florida	18°18'35"	66°31'22"		Barite	8dC7b17	Meyerhoff and Frazier (1945, p. 7–8); Nelson and Monroe (1966, p. C21).
19-2	do.	18°18'20"	66°30'28"		Barite	8dC7b17	Do.
19-3	do.	18°18'06"	66°31'30"		Barite	8dC7b17	Do.
20-1	Ciales	18°20'18"	66°28'31"		Cu	3a1C	Berryhill (1965, p. 105).
20-2	do.	18°19'40"	66°25'15"		Cu	3a1C	Do.
20-3	do.	18°18'57"	66°29'40"		Pb, Zn, Ag, barite	7dC7b17	Berryhill (1965, p. 106–107); Mitchell (1954, p. 109); Puerto Rico Bur. Mines (1941, p. 40–41).
20-4	do.	18°18'34"	66°29'35"		Cu, Ag	3eC7b27	Berryhill (1965, p. 105–106); Puerto Rico Bur. Mines (1941, p. 36–38).
20-5	do.	18°17'50"	66°28'38"		Cu, Ag	3eC7b27	Berryhill (1965, p. 105); Puerto Rico Bur. Mines (1941, p. 38).
20-6	do.	18°17'22"	66°28'19"		Cu	3aC10b17	Berryhill (1965, p. 105–106).
20-7	do.	18°16'48"	66°28'27"		Cu	3aC7b27	Berryhill (1965, p. 105).
20-8	do.	18°18'36"	66°27'12"		Cu	3a1C	Do.
20-9	do.	18°18'00"	66°26'15"		Cu	3a1C	Do.
20-10	do.	18°17'20"	66°26'03"	Barrio Pasto	Cu, Ag	3eC7b17	Berryhill (1965, p. 105–106); Colony and Meyerhoff (1928); Hamilton (1909); Low (1929, p. 5); Mitchell (1954, p. 107–109); Meyerhoff (1933a, p. 130–131); Puerto Rico Bur. Mines (1941, p. 33–34); Semmes (1919, p. 104–105).
20-11	do.	18°17'42"	66°24'03"		Cu	3a1C	Berryhill (1965, p. 105).
20-12	do.	18°16'21"	66°23'54"		Cu	3aC7b17	Do.
20-13	do.	18°15'45"	66°24'00"		Cu	3a37C7b137	Do.
21-1	Corozal	18°20'08"	66°19'41"		Mn	10aC7b38	Nelson (1967a).
21-2	do.	18°20'07"	66°19'46"	Constancia mine	Cu	3aC7a38	Domenech (1899, p. 531); Mitchell (1954, p. 108); Nitze (1899, p. 785); Nelson (1967a); Puerto Rico Bur. Mines (1941, p. 35–36).
21-3	do.	18°19'14"	66°18'15"		Mn	10aC7a38	Meyerhoff (1933b, p. 490); Mitchell (1954, p. 106); Nelson (1967a); Wright (1934, p. 742–743).
21-4	do.	18°17'45"	66°19'35"		Au	4aC7b27	Nelson (1967a).
21-5	do.	18°17'38"	66°20'20"	Coll Cuchi, Sayre	Au	4aC7b17	Low (1929, p. 6–7); Meyerhoff (1933a, p. 129, 133); Neslon (1967a); Puerto Rico Bur. Mines (1941, p. 11–13); Ray (1941); Semmes (1919, p. 103–104).
21-6	do.	18°17'16"	66°17'25"	Palos Blancos	Au	4aC4a	Jackson (1934, p. 661); Nelson (1967a).
21-7	do.	18°16'56"	66°18'05"		Au	4aC7b17	Nelson (1967a).
22-1	Naranjito	18°17'14"	66°11'53"		Barite	8d6C7b137	Pease (1968b).
22-2	do.	18°17'18"	66°08'29"		Cu, barite	3a7C7b17	Pease (1960, p. B362; 1968b).
23-1	Aguas Buenas	18°20'34"	66°03'30"		Cu	3a3C	Pease (1968a).
23-2	do.	18°20'18"	66°06'51"	La Muda	Cu, Mo	3c258C5b	Bergey (1966, p. 114–115); Pease (1966, p. 109–110; 1968a).
23-3	do.	18°19'55"	66°05'58"	do.	Cu, Mo	3c258C5b	Bergey (1966, p. 114–115); Pease (1968a).
23-4	do.	18°19'28"	66°05'10"	do.	Cu, Mo	3c258C5b	Do.
23-5	do.	18°19'40"	66°04'35"	do.	Cu, Mo	3c25C	Do.
23-6	do.	18°18'30"	66°02'45"		Cu	3a2C	Pease (1968a).
23-7	do.	18°15'57"	66°05'30"		Cu	3a6C7b27	Do.
25-1	El Yunque	18°18'25"	65°46'22"		Au	4a2C7a36	Domenech (1899, p. 530); Jackson (1934, p. 662); Puerto Rico Bur. Mines (1941, p. 15–16).
25-2	do.	18°15'40"	65°48'36"	La Mina, Río Blanco	Cu	3a1C3b46	Domenech (1899, p. 531;) Low (1929, p. 5); Meyerhoff (1931, p. 316); Mitchell (1954, p. 108); Nitze (1899, p. 784–785); Pease (1966, p. 110); Puerto Rico Bur. Mines (1941, p. 33); Seiders (1971a).
28-1	Mayagüez	18°09'50"	67°10'37"	Punta Guanajibo	Ni, Fe, Co	5b4B9b	Heidenreich and Reynolds (1959, p. 6–16, 31).
28-2	do.	18°08'02"	67°09'43"	Guanajibo	Ni, Fe, Co	5b4A9b	Do.
29-1	Rosario	18°11'10"	67°06'15"	Las Mesas	Ni, Fe, Co	5b4A9b	Dutton (1955, p. 205–206); Fettke and Hubbard (1920); Heidenreich and Reynolds (1959, p. 16–24, 31); Low (1929, p. 6); Meyerhoff (1933a, p. 135–136); Puerto Rico Bur. Mines (1941, p. 27–28).
29-2	do.	18°09'45"	67°01'45"	Rosario north	Ni, Fe, Co	5b4B9b	Heidenreich and Reynolds (1959, p. 25, 31).
29-3	do.	18°08'55"	67°01'08"	Rosario south	Ni, Fe, Co	5b4C9b	Do.
30-1	Maricao	18°12'30"	66°55'00"		Mn	10aC7b	Puerto Rico Bur. Mines (1941, p. 21–22).
30-2	do.	18°08'50"	66°58'50"	Maricao west and Las Tetas de Cerro Gordo west.	Ni, Fe, Co	5b4B9b	Heidenreich and Reynolds (1959, p. 25–27, 31).
30-3	do.	18°08'15"	66°57'56"	Maricao east and Las Tetas de Cerro Gordo east.	Ni, Fe, Co	5b4B9b	Heidenreich and Reynolds (1959, p. 28, 31).
31-1	Monte Guilarte	18°14'38"	66°48'00"	Helecho	Cu	3a257C5b1367	
31-2	do.	18°13'22"	66°51'20"		Mn	10aC7b17	Puerto Rico Bur. Mines (1941, p. 22–23).
31-3	do.	18°12'40"	66°51'00"		Mn	10aC7a	Do.
31-4	do.	18°10'47"	66°50'32"		Mn	10aC7b	Do.
31-5	do.	18°10'10"	66°46'20"	Monte Guilarte	Mn	10aC7b17	Do.
32-1	Adjuntas	18°14'45"	66°44'50"		Au, Cu	4bC7b1367	Mattson (1968a).
32-2	do.	18°14'20"	66°43'25"		Au	4a1C7b	Mattson (1968a); Puerto Rico Bur. Mines (1941, p. 16).
32-3	do.	18°13'55"	66°43'00"		Cu	3a2C7b	Mattson (1968a).
32-4	do.	18°13'40"	66°43'25"		Cu	3a2C7b	Do.
32-5	do.	18°12'10"	66°41'15"		Cu	3a2C	Do.
32-6	do.	18°11'55"	66°42'30"		Cu	3aC7b28	Do.
32-7	do.	18°11'52"	66°41'50"	Pellejas	Cu	3aC7b367	Do.
32-8	do.	18°11'50"	66°41'12"	Piedra Hueca	Cu	3a258B5b1367	Ackerman (1970, p. 15–16).
32-9	do.	18°11'50"	66°40'45"	Sapo Alegre	Cu, Mo	3c258C5b	
32-10	do.	18°11'20"	66°40'50"	Cala Abajo	Cu	3a256B5b1367	Do.
32-11	do.	18°11'45"	66°44'25"		Zn	7bC7b28	Mattson (1968a).
32-12	do.	18°11'20"	66°44'55"		Zn	7bC7b28	Do.
32-13	do.	18°11'10"	66°40'05"		Cu	3a2C7b	Do.
32-14	do.	18°11'28"	66°38'07"		Zn	7b2C7b	Do.
32-15	do.	18°11'05"	66°37'35"		Cu	3a2C7b	Do.
32-16	do.	18°11'02"	66°38'19"		Cu	3a2C7b	Do.
32-17	do.	18°10'43"	66°38'53"		Cu	3aC7b1367	Do.
32-18	do.	18°10'10"	66°37'38"		Cu	3a2C7b48	Do.
32-19	do.	18°08'21"	66°41'14"		Cu	3a3C7b367	Do.
32-20	do.	18°07'58"	66°40'21"		Cu	3aC7b37	Do.
32-21	do.	18°08'03"	66°43'45"		Cu	3aC7b17	Do.
32-22	do.	18°07'49"	66°44'04"	Gatti prospect	Mn	10aC7a137	Jackson (1934, p. 659–660); Mattson (1968a); Mitchell (1954, p. 106); Meyerhoff (1933a, p. 134); Puerto Rico Bur. Mines (1941, p. 20–21).
33-1	Jayuya	18°14'00"	66°35'47"		Cu	3a1C7b26	Mattson (1968b).
33-2	do.	18°12'15"	66°33'28"		Cu	3a1C7b26	Do.
33-3	do.	18°12'03"	66°34'40"		Cu	3a1C7b	Do.
33-4	do.	18°11'59"	66°33'30"		Cu	3a1C	Do.
33-5	do.	18°12'01"	66°33'09"		Cu	3a1C	Do.
33-6	do.	18°11'39"	66°31'45"		Cu, Mo	3c1C	Do.
33-7	do.	18°11'09"	66°36'43"		Cu	3a1C7b	Do.
33-8	do.	18°11'04"	66°36'02"		Cu	3a1C7b367	Do.
33-9	do.	18°10'46"	66°30'54"		Zn	7bC7b27	Do.
33-10	do.	18°10'17"	66°34'56"		Cu, Zn	3dC7b367	Do.
33-11	do.	18°09'53"	66°36'30"		Cu	3a1C	Do.
33-12	do.	18°08'57"	66°34'37"		Cu, Zn, Au	3d1C7b27	Do.
33-13	do.	18°09'00"	66°33'33"		Cu	3aC7b27	Do.
33-14	do.	18°07'46"	66°32'35"		Cu	3aC7b37	Do.
34-1	Orocovis	18°10'13"	66°27'56"		Cu	3aC7b267	Briggs (1971).
35-1	Barranquitas	18°13'14"	66°16'25"	Río Hondo	Cu	3aC7b167	Briggs and Gelabert (1962); Puerto Rico Bur. Mines (1941, p. 36).
35-2	do.	18°13'23"	66°16'12"	do.	Cu	3aC7b46	Do.
35-3	do.	18°13'11"	66°15'55"	do.	Cu	3aC7b46	Do.
35-4	do.	18°13'10"	66°15'34"	do.	Cu	3aC7b16	Do.
35-5	do.	18°13'23"	66°15'06"	do.	Cu	3aC7b46	Do.
35-6	do.	18°13'03"	66°15'05"	do.	Cu	3aC7b16	Do.
35-7	do.	18°12'46"	66°20'22"		Cu	3aC7b16	Do.
35-8	do.	18°12'45"	66°17'55"	Río Caliente	Au	4aC4b	Briggs and Gelabert (1962).
35-9	do.	18°12'05"	66°18'34"	Barranquitas	Au, Cu	4b267C7b	Briggs and Gelabert (1962); Puerto Rico Bur. Mines (1941, p. 15); Ray (1941, p. 404).
35-10	do.	18°10'27"	66°17'22"		Cu	3aC7b367	Briggs and Gelabert (1962).
36-1	Comerio	18°14'35"	66°11'00"	Cerro La Tiza	Kaolin, pyrophyllite	10d6C7a26	Puerto Rico Bur. Mines (1941, p. 46); Hildebrand (1960, p. 132, 133; 1961, p. B221).
36-2	do.	18°13'15"	66°14'45"	Río Hondo	Cu	3aC7b46	Pease and Briggs (1960).
36-3	do.	18°11'40"	66°10'16"		Cu	3a35C7b46	Pease (1966, p. 110).
37-1	Caguas	18°10'46"	66°04'25"		Zn	7b6C7b16	
38-1	Juncos	18°14'28"	65°57'55"	Escuela	Fe	2a13C3b46	Broedel (1961).
38-2	do.	18°14'25"	65°57'40"	Aguayo	Fe, Cu	2d13C3b46	Do.
38-3	do.	18°14'15"	65°57'50"	Cane Field, Pastor	Fe	2a13C3b46	Do.
38-4	do.	18°14'00"	65°57'38"	Santiago, Pastor	Fe, Cu	2d13C3b46	Do.
38-5	do.	18°14'18"	65°57'24"	Suiza	Fe, Cu	2d13C3b46	Do.
38-6	do.	18°14'36"	65°57'14"		Fe, Cu	2d13C3b46	Do.
38-7	do.	18°14'14"	65°56'59"	Buen Suceso	Fe, Cu	2d13C3b46	Do.
38-8	do.	18°14'16"	65°56'40"	La Caridad	Fe, Cu	2d13C3b46	Do.
38-9	do.	18°14'00"	65°53'54"	Keystone	Fe, Cu	2d13C3a46	Broedel (1961); Colony and Meyerhoff (1935, p. 247–272); Fettke (1924a, p. 186–189; 1924b, p. 1029–1033); Hamilton (1909, p. 518); Jackson (1934, p. 656–658); Knoerr (1952); Low (1929, p. 6); Mitchell (1954, p. 101–103); Pease (1966, p. 110); Puerto Rico Bur. Mines (1941, p. 30–31); Vázquez (1960).
39-1	Humacao	18°13'59"	65°51'34"		Barite	8d7C7b	Hildebrand (1960, p. 134; 1961, p. B221).
39-2	do.	18°12'17"	65°49'45"	Deposit No. 5	Fe	2a1C3b46	Berkey (1915, p. 55); Fettke (1924a, p. 191–193); Jackson (1934, p. 658).
39-3	do.	18°11'57"	65°50'54"	Deposit No. 2	Fe	2a1C3b46	Fettke (1924a, p. 189–190; 1924b, p. 1034); Jackson (1934, p. 658); Puerto Rico Bur. Mines (1941, p. 31).
39-4	do.	18°11'42"	65°50'32"	Deposit No. 3	Fe	2a1C3b46	Fettke (1924a, p. 190–191; 1924b, p. 1027); Puerto Rico Bur. Mines (1941, p. 31).
39-5	do.	18°11'23"	65°50'02"	Island Queen	Fe	2a1C3a46	Knoerr (1952, p. 79).
39-6	do.	18°11'17"	65°49'28"	Deposit No. 4	Fe	2a1C3b46	Fettke (1924a, p. 191; 1924b, p. 1028); Puerto Rico Bur. Mines (1941, p. 31).
39-7	do.	18°07'43"	65°50'00"		Fe, Ti	2c13C8b	Cadilla (1963); Colony and Meyerhoff (1935); Mitchell (1954, p. 103–104).
43-1	San Germán	18°04'30"	67°05'00"		Barite	8dC7b17	Mattson (1960, p. 360).
43-2	do.	18°02'50"	67°06'25"		Barite	8dC7b17	Mitchell (1954, p. 110); Puerto Rico Bur. Mines (1941, p. 41–42).
43-3	do.	18°02'53"	67°04'56"		Gypsum	6aC7b7	
43-4	do.	18°00'16"	67°05'30"		Au, Ag	4e3C7b56	
44-1	Sabana Grande	18°03'35"	66°59'50"	Minillas, San Germán	Au, Cu, Ag	4b4C7a147	Puerto Rico Bur. Mines (1941, p. 9–11, 34); Jackson (1934, p. 661); Low (1929, p. 5); Mitchell (1954, p. 108); Mattson (1960, p. 360).
44-2	do.	18°04'05"	66°57'20"		Pb	7aC7b17	
44-3	do.	18°03'10"	66°57'10"		Mo	3b7C7b17	
46-1	Peñuelas	18°05'00"	66°38'00"	Barrio Tibes, Río Portugués.	Fe, Cu	2d2C3a	Mitchell (1922, p. 292); Meyerhoff (1933a, p. 132); Mitchell (1954, p. 105); Jackson (1934, p. 659); Low (1929, p. 6); Puerto Rico Bur. Mines (1941, p. 28–30).
46-2	do.	18°02'58"	66°39'50"		Cu	3aC7b127	
47-1	Ponce	18°04'30"	66°37'15"		Fe	2a2C3b	Puerto Rico Bur. Mines (1941, p. 28–30).
47-2	do.	18°02'41"	66°31'19"		Gypsum	6aC7b4	
47-3	do.	18°01'58"	66°36'54"		Gypsum	6aC7b4	
48-1	Río Descalabrado	18°04'27"	66°29'49"		Cu	3aC7b37	
48-2	do.	18°04'50"	66°27'40"		Mn, Cu	10aC7a48	
48-3	do.	18°04'15"	66°27'55"	Juana Díaz mine	Mn	10aB7a48	Jackson (1934, p. 659); Low (1929, p. 5); Mitchell (1922, p. 290–292); Mitchell (1954, p. 106); Meyerhoff (1933a, p. 133–134); Puerto Rico Bur. Mines (1941, p. 18–20).
48-4	do.	18°03'09"	66°27'44"		Cu	3aC7b48	
48-5	do.	18°03'15"	66°27'10"		Mn, Cu	10aC7b37	
48-6	do.	18°03'23"	66°26'45"		Cu	3aC7b37	
48-7	do.	18°03'40"	66°26'03"		Mn	10aC7b48	
48-8	do.	18°03'11"	66°26'31"		Cu	3aC7b27	
48-9	do.	18°03'14"	66°25'26"		Barite	8dC7b48	
48-10	do.	18°02'56"	66°24'15"		Cu	3aC7b27	
48-11	do.	18°02'50"	66°27'14"		Cu	3aC7b28	
48-12	do.	18°02'28"	66°27'30"		Cu	3aC7b38	
48-13	do.	18°02'25"	66°25'37"		Cu	3aC7b27	
48-14	do.	18°02'13"	66°25'05"	Santiago	Mn	10aC7b38	
48-15	do.	18°01'53"	66°27'11"		Cu	3aC7b27	
49-1	Coamo	18°04'45"	66°22'24"		Barite	8dC7b27	Glover (1961).
50-1	Cayey	18°06'40"	66°14'45"	Río Cuyón	Cu	3a27C5b367	Bergey (1966, p. 114).
50-2	do.	18°04'35"	66°11'50"	Cerro Avispa	Au, Cu	4bC7b16	Pease (1966, p. 110).
50-3	do.	18°02'14"	66°09'45"	Carmen	Pb	7aC7b16	Puerto Rico Bur. Mines (1941, p. 39).
50-4	do.	18°02'07"	66°10'22"	do.	Pb	7aC7b16	Puerto Rico Bur. Mines (1941, p. 38–39).
50-5	do.	18°01'40"	66°10'15"	do.	Au, Ag, Pb, Cu	4cC7a16	Berryhill and Glover (1960); Hodge (1920, p. 220–222); Jackson (1934, p. 662); Low (1929, p. 7) Meyerhoff (1933a, p. 131); Puerto Rico Bur. Mines (1941, p. 13–14, 39–40); Mitchell (1954, p. 108–109); Ray (1941, p. 405).
51-1	Patillas	18°01'59"	66°03'17"	Yaurel	Fe	2a1C3b26	Dutton (1955, p. 205); Jackson (1934, p. 658); Low (1929, p. 6); Mitchell (1954, p. 105); Meyerhoff (1933a, p. 132); Puerto Rico Bur. Mines (1941, p. 32).
51-2	do.	18°01'34"	66°02'57"	Emajagua	Fe	2a1C3b26	Jackson (1934, p. 658–659); Puerto Rico Bur. Mines (1941, p. 32).
51-3	do.	18°00'47"	66°02'20"		Cu	3a13C5b	
54-1	Cabo Rojo	17°59'33"	67°09'45"		Dolomite	6dC2b47	
55-1	Parguera	17°59'57"	67°06'24"		Barite	8dC7b56	Puerto Rico Bur. Mines (1941, p. 42–43).
55-2	do.	17°59'35"	67°06'54"	Negroni property	Barite	8dC7b56	Do.
56-1	Guánica	17°59'43"	66°55'22"		Gypsum	6aC2b	
56-2	do.	17°58'43"	66°56'12"		Barite	8dC7b17	
65-1	Island of Vieques	18°07'08"	65°28'26"		Cu	3a1C	
67-1	Isla Mona	18°07'00"	67°54'02"		Dolomite	6dC2b4	
67-2	do.	18°06'36"	67°56'05"		Phosphorite	2eC2a4	Domenech (1899, p. 531–532); Kaye (1959b); Wadsworth (1954, p. 47–50).
67-3	do.	18°06'10"	67°56'08"		Dolomite	6dC2b4	
67-4	do.	18°05'41"	67°56'13"		Phosphorite	2eC2a4	Do.
67-5	do.	18°06'39"	67°51'00"		Dolomite	6dC2b4	
67-6	do.	18°05'22"	67°54'00"		Dolomite	6dC2b4	
67-7	do.	18°05'23"	67°50'47"		Phosphorite	2eC2a4	Do.
67-8	do.	18°05'05"	67°50'58"		Dolomite	6dC2b4	
67-9	do.	18°04'10"	67°51'56"	Cueva de Pájaros	Phosphorite	2eC2a4	Do.
67-10	do.	18°03'32"	67°52'42"		Phosphorite	2eC2a4	Do.
67-11	do.	18°03'21"	67°53'55"		Dolomite	6dC2b4	
68-1	Isla Desecheo	18°23'14"	67°29'11"		Phosphorite	2eC2b4	Hubbard (1923, p. 111); Mitchell (1954, p. 112).

METALLOGENIC MAP OF PUERTO RICO

By
Dennis P. Cox and Reginald P. Briggs
1973

For sale by the U.S. Geological Survey, price $1.00
Explanatory pamphlet accompanies map