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110°45'
33°30'

APACHE

Pinal TRAIL

Creek

Miami Wash

Pinal Creek

Td

qm

md

Tailings Pond

Tailings Pond

Tailings Pond

Bloody Tanks Wash

FAULT

U.S. 60-70

OLD DOMINION A SHAFT

MIAMI

GLOBE

U.S. 60

U.S. 70

Russell Gulch

110°52'30"

33°22'30"

GLOBE QUADRANGLE

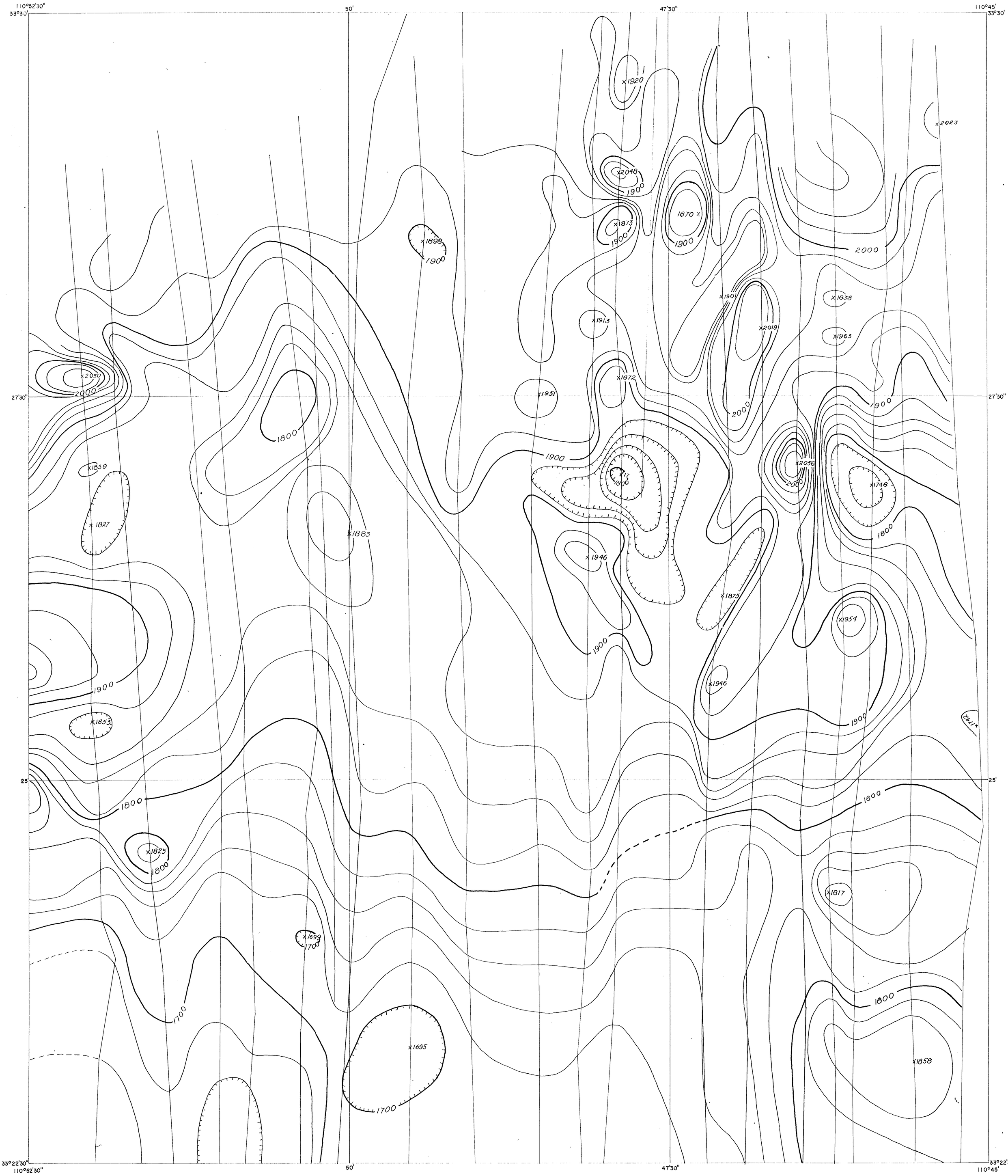
REFER TO INSPIRATION QUADRANGLE FOR GEOLOGIC SYMBOLS

GEOPHYSICS DIVISION

BEAR CREEK MINING COMPANY

ARIZONA

GLOBE QUADRANGLE



SCALE 1 24000

MAGNETIC TOTAL INTENSITY CONTOUR INTERVAL 20 GAMMAS

FLOWN APPROXIMATELY 500 FEET ABOVE THE SURFACE

FLIGHT LINES SHOWN ————————

MAGNETIC CONTOURS TAKEN FROM U.S.G.S. OPEN FILE MAP

GEOPHYSICS DIVISION
BEAR CREEK MINING COMPANY

TRACED BY J.J. KELLEY JANUARY 1953

GLOBE QUADRANGLE, ARIZONA

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ARIZONA
(GILA COUNTY)
GLOBE QUADRANGLE
7½-MINUTE SERIES

(Globe) 1:62500

Mapped by the Geological Survey
1945

Gray tint indicates area in which only landmark buildings are shown

ROAD CLASSIFICATION
1947

Dependable hard-surface heavy-duty road
Secondary hard-surface all weather road
Dry weather roads
Loose-surface graded
Unsurfaced, graded
Dirt road
U. S. Route 15
State Route 26
More than two lanes indicated along road with tick at point of change 3 LANE | 4 LANE

14°
TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 1945

Scale 1:24000
1 0 1 Mile
500 0 500 1000 1500 2000 2500 Yards
1000 0 1000 2000 3000 4000 5000 6000 7000 Feet
1 5 0 1 Kilometer

Contour interval 25 feet
Datum is mean sea level

Polyconic projection. 1927 North American datum
10000 foot grid based on Arizona (East) rectangular coordinate system

GLOBE, ARIZ.
Edition of 1947

N3322.5—W11045/7.5

THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a series of standard topographic maps to cover the United States. This work has been in progress since 1882, and the published maps cover more than 47 percent of the country, exclusive of outlying possessions.

The maps are published on sheets that measure about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, the areas that they represent are of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, miles, and kilometers. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 of the same units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys and the resulting maps have for many years been of three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamation of swamp areas—are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{31,680}$ (1 inch = one-half mile) or $\frac{1}{24,000}$ (1 inch = 2,000 feet), with a contour interval of 1 to 100 feet, according to the relief of the particular area mapped.

2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 100 feet.

3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, and the high mountain area of the northwest, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 2 miles) or $\frac{1}{250,000}$ (1 inch = nearly 4 miles), with a contour interval of 20 to 250 feet.

The aerial camera is now being used in mapping. From the information recorded on the photographs, planimetric maps, which show only drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photographs are utilized also in the making of the regular topographic maps, which show relief as well as drainage and culture.

A topographic survey of Alaska has been in progress since 1898, and nearly 44 percent of its area has now been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{500,000}$ (1 inch = nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{250,000}$ (1 inch = nearly 4 miles). For some areas of particular economic importance, covering about 4,300 square miles, the maps published are on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile) or larger. In addition to the area covered by topographic maps, about 11,300 square miles of southeastern Alaska has been covered by planimetric maps on scales of $\frac{1}{125,000}$ and $\frac{1}{250,000}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

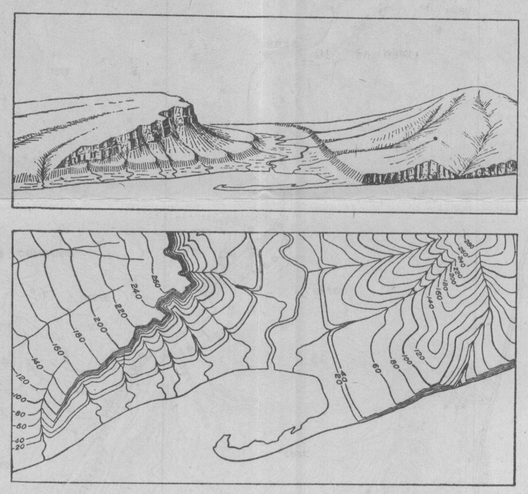
A survey of Puerto Rico is now in progress. The scale of the published maps is $\frac{1}{80,000}$.

The features shown on topographic maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams by double lines. The larger streams, lakes, and the sea are accentuated by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on a few maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The datum or zero of altitude of the Geological Survey maps is mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet above mean sea level. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope, lines that are close together indicate a steep slope, and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly enclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined tableland that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. In order that the contours may be read more easily certain contour lines, every fourth or fifth, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road intersections, summits, surfaces of lakes, and benchmarks—are also given on the map in figures, which show altitudes to the nearest foot only. More precise figures for the altitudes of benchmarks are given in the Geological Survey's bulletins on spirit leveling. The geodetic coordinates of triangulation and transit-traverse stations are also published in bulletins.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Public roads suitable for motor travel the greater part of the year are shown by solid double lines; poor public roads and private roads by dashed double lines; trails by dashed single lines. Additional public road classification if available is shown by red overprint.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. More than 4,100 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

Geologic maps of some of the areas shown on the topographic maps have been published in the form of folios. Each folio includes maps showing the topography, geology, underground structure, and mineral deposits of the area mapped, and several pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published.

Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 percent is allowed on an order amounting to $5 or more at the retail price. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

November 1937.

NOTE:—Effective on and after October 1, 1946, the price of standard topographic quadrangle maps will be 20 cents each, with a discount of 20 percent on orders amounting to $10 or more at the retail rate.

STANDARD SYMBOLS

CULTURE
(printed in black)

City or village
Roads and buildings
Ruins
Cliff dwelling
Good Public road
Poor Public or private road
Trail
Railroads
Electric railroad
Tunnel
Power-transmission line
Wharves
Breakwater and jetties
Bridge
Drawbridges
Ferry *(point upstream)*
Ford
Dam
Dam with lock
Canal lock *(point upstream)*
U.S. township and section lines and recovered corners
State line
County line
Civil Township or district line
Reservation line
Land grant line
City, village, or borough line
Small park or cemetery line
Triangulation point or transit traverse station
U.S. mineral monument
Boundary monument
Bench mark *(supplementary bench mark shown by cross and black figures without lettering)*
Cemeteries
Church, School *(distinguished on recent maps)*
Coke ovens
Tanks and oil reservoirs
Oil and gas wells
Mine or quarry
Prospect
Shaft
Mine tunnel
Mine tunnel *(showing direction)*
Lighthouse or beacon
Coast Guard station

RELIEF
(printed in brown)

Elevation above mean sea level *(in black on recent maps)*
Contours *(Contours showing depth of water printed in blue)*
Depression contours
Levee
Wash
Cliffs *(or shown by contours)*
Mine dumps
Tailings or mining debris
Sand and sand dunes

WATER
(printed in blue)

Streams
Falls and rapids
Intermittent streams and ditches
Canals or ditches
Aqueducts or waterpipes
Aqueduct tunnels
Lake or pond
Unsurveyed stream and abandoned canal
Intermittent lake
Glacier *(Or shown by contours printed in blue)*
Spring
Well
Marsh
Submerged marsh

WOODS
(when shown, printed in green)

FORM 0-107 REV. 4-56
PRINTED IN U.S.A.

ROUTING SLIP

TO JBT AT Penn

DATE 8/10/70

MESSAGE

This is a referral we had firm look at but we turned it down. The area is interesting & we might revive it at some time

√ PLEASE—

	APPROVE
	COMMENT
	DISCUSS
✓	FILE
	FOLLOW-UP
	HANDLE
✓	NOTE
	SIGN

RETURN TO

FILE

FROM D Freeman AT

March 25, 1971

Dr. M. L. Jensen
Mead LeRoy Jensen
2327 Berkeley Street
Salt Lake City, Utah 84109

Dear Roy:

Thanks for your note of March 12, and the congratulations.

Your mention of the Coates property at Globe, Arizona has jogged my memory and we will review your report. Bruce Imswiler has been given responsibility for exploration in Arizona, and I have asked him to review our files. He might call you for further information. You did not mention Mark Systems, Inc. Are they still involved in Arizona?

We will let you know what our interest is in the very near future. Best regards.

Sincerely yours,

Donald H. Freas
Manager of Exploration - U.S.

DHF:skb

cc: Mr. J. B. Imswiler

INTER-OFFICE CORRESPONDENCE

COPIES TO:

TO J. B. Imswiler

FROM D. H. Freas

DATE March 25, 1971

SUBJECT COATES PROPERTY, GLOBE - MIAMI DISTRICT, ARIZONA

This property was referred to us last year by a contact of S. A. White. Roy Jensen made an examination of the prospect and recommended that we do some work; however Coates, the owner, wanted very stiff terms and we turned it down.

The promoter instincts of Jensen are rising again. Please look this over and see if we should do something. (Note: the maps are in the Reno office).

D. H. Freas

DHF:skb
Enc.

Copy to JBJ

MEAD LEROY JENSEN

CONSULTING GEOLOGIST AND GEOPHYSICIST

2327 BERKELEY STREET
SALT LAKE CITY, UTAH 84109
(801) 466-4384

March 12, 1971

MINING & EXPLORATION
Referred ____ Answered ____
RECEIVED MAR 15 1971
File - Adm. - Com. - Loc. - Opt. - Eqp. - Proc.
Subject ____

Dr. Donald H. Freas
MANAGER OF EXPLORATION, U.S.A.
International Minerals Corporation
Administration Building
Skokie, Illinois 60076

Dear Don,

I caught the notice of your new title in the last issue of the Mining Congress Journal. Congratulations! It pleases me to see that intelligence and hard work do have their rewards. IMC made a wise decision.

Remember the Globe property that I examined for you? I've been in contact with the owner and he's become much more reasonable. Harold Jones has examined the property and he likes it. And Harold is a real pessimist. Is it possible that IMC might be interested in the property plus adjacent available ground if Harold and I, at our own expense, could provide a reasonable package of a deal and sufficient geological-geophysical results to provide enticing targets?

Congratulations again and best regards.

Sincerely yours,

Mead LeRoy Jensen
Consulting Geologist

MLJ/rb

cc: H. Jones

MEAD LEROY JENSEN
CONSULTING GEOLOGIST AND GEOPHYSICIST
2327 BERKELEY STREET
SALT LAKE CITY, UTAH 84109
(801) 466-4384

maps sent to Penn

June 22, 1970

Dr. Donald Freas
International Minerals and Chemical Corp.
Skokie, Illinois 60076

Subject: F. Coates prospect, Globe - Miami district, Arizona

Dear Don,

In confirmation of our 'phone conversation, the following letter report is submitted.

Mr. Coates is about 60 years of age, worked as a mucker and in the mill for both Miami Copper Corp. and Inspiration Mining Co. He is a part time prospector but not a good one. He lives in Globe with his wife. Phone number is (602)-425-6408. He requests he be called, not written as he says "he cannot read!"

Mr. Coates has located 37 contiguous lode claims in a block that measures slightly less than 4500 x 7200 feet. As he located the claims with brunton and tape, he measured less than 600 and 1500 feet for each claim so that there should be no fractions within the block.

The property is located about 3 miles north-northeast from the junction of U.S. 60 & 77 with Arizona 88 highways. It is located predominately in Sec 2 and 3, T 1 N, R 15 E, and partly in Sec 34 and 35, T 2 N, R 15 E. Mr. Coates could not tell me in what sections the property is located but I have determined this from the enclosed Globe Topographic sheet. Based upon his "hand waves" and topographic features, the approximate area is indicated on the topographic sheet.

Sketch of District Geology

Although there are brief sketches of the Miami-Globe-Ray area in standard texts, USGS Prof. Paper 115, "The Copper Deposits of Ray and Miami, Arizona" by F. L. Ransome is the tome on the area, albiet written 51 years ago. Based on a brief perusal, I cannot find any published work done since then.

Ransome identifies the diabase as intrusive sills and irregular bodies with which I concur as it is too coarse grained to be extrusive as believed by Mr. Coates. Numerous series of intrusives formed in the Miami district during Tertiary time with one of the masses covering several miles in diameter. It was these intrusions that gave rise to the hypogene mineralization. The large ore deposits of Ray and Miami, however, are the result of supergene enrichment with the ore localized primarily in the Precambrian host rocks cut by the intrusions. By far the greater proportion of the ore is in the Pinal Schist.

Geology of Claimed Area

Apparently only two or three rock units exist within the claimed area as is shown by the enclosed geological map. These are a group of formations presumed to be Cambrian in age but possibly also Ordovician and Silurian. They are from youngest to oldest:

Troy quartzite
Mescal limestone
Dripping Spring quartzite
Barnes conglomerate
Pioneer shale
Scanlan conglomerate

In the area of the claims, quartzite and shale appear to be most common.

Most of the area consists of diabase which Ransome mapped as "Mesozoic (?)". Mr. John T. Eastlick, Chief. Geologist, Inspiration Mining Co., refers to the Diabase as Precambrian which is difficult to believe based on the irregular contacts of lower Paleozoic rocks that are surrounded by the diabase. The diabase appears to cut the lower Paleozoic formations, and is itself cut by some small dikes of lighter color and altered which prevents determining their composition. Mineralization appears to be associated with the dikes, exists as veins, but does exhibit low grade pervasive mineralization between the veins.

No sulfide minerals were found on the surface nor on the dumps but secondary copper minerals are evident. A spectroscopic assay of drill cuttings by Robert E. Craig (?) and provided by Mr. Coates contained the following:

Cu	=	0.06%
Ni	=	0.19%
Ag	=	detected
Rare Earth	=	trace

A summary of 10 assay sheets of 500 ton car load shipments during 1940-'41-'42 from the Apache mine (possibly labeled Vanadium mine on the Topographic sheet) is as follows:

Au = 0.165 to 0.39 oz/T (Most assayed ~0.3 oz/T)
Ag = 3.4 to 11.9 oz/T
Pb = 26 to 32%
Cu = 0.56 to 1.14% (Most assayed ~0.5%)

All of this ore was mined from the Apache mine between 50 to 100 feet below the surface. A vertical shaft in the mine extends to a depth of about 150 feet and is supposedly the deepest penetration in the area according to Mr. Coates. Sulfides supposedly exist at that depth and water exists within this shaft.

Only two air track holes were drilled in the area for Mr. Coates to a depth of about 100 feet when water was encountered and prevented further drilling by air track. One hole was assayed which averaged about 0.3% copper throughout 100 feet according to Mr. Coates.

Aeromagnetic Map

I have a copy of Bear Creek Mining Company's aeromagnetic coverage of this area including the adjacent 3 - 7 1/2 degree quadrangles. I enclose a copy of one of these quadrangles (Globe) that includes the area staked by Mr. Coates.

The largest magnetic anomalies exist in the northeast portion of the quadrangle and when compared to the geologic map of the quadrangle, are obviously due to variations in the magnetic properties of the diabase. This is not at all surprising because of the ferromagnesium mineral and magnetite content of the diabase.

The aeromagnetic map appears to be of little value or aid in interpreting Mr. Coates' area but offers some interesting anomalies southeast of his area in similar lithology. Be this as it may, note that the Old Dominion mine exhibits no magnetic properties that are any different from the magnetic properties of Mr. Coates' area. Numerous prospects cover the area from the Old Dominion mine to Coates' property. Bear Creek Mining Company, even though they would have checked this area, would not be interested in small leaching properties when they acquired the aeromagnetic data, which was more than 17 years ago. The area may be worth some geological and geochemical study in collaboration with the aeromagnetic information. As an example, the Blue Bird mine, south of Inspiration is a large copper leaching operation that has recently been developed and in an area previously ignored by most major copper companies. Mr. Eastlick, however, tells me that he recommended the property to Inspiration but they rejected his recommendation.

Acquisition of Property

Mr. Coates originally held sole ownership of the property. He recently optioned 50% interest of 15 claims to a Mr. R. E. Rucker who does buldozer work. He was on the property with a TD 25 bulldozer during my visit. Mr. Coates expressed some concern as to whether he could deal on these 15 claims but when I indicated the whole block must be included, he said that Mr. Rucker would agree to anything he (Mr. Coates) agreed to.

Mr. Coates will allow a free 6 month examination at which time, if the optionee wants the property, he'll sell all for $250,000, payable at $125,000 initially and $125,000 12 months later! I told him this was impossible and he agreed to "reasonable negotiations." I laid some "groundwork" by telling him that the initial payment at the end of the free 6 month investigation must be low or he may prevent further valuable exploration of the property.

Enclosed in the Recommendations is a suggested agreement that you might consider and modify if you are interested in the property.

Recommendations

Based upon the cursory field examination, Mr. Coates does appear to hold claims to an area, in which low grade secondary copper mineralization is evident at the surface in a district of widespread mineralization where supergene enrichment was a dominant process; therefore, I recommend the following:

1. Approach Mr. Coates about a more reasonable agreement. I suggest an agreement based on the following terms.

	Payments
0	None
6 months (exercise option)	$10,000
9 months	15,000
12 months	25,000
15 months	25,000
18 months	25,000
21 months	25,000
24 months	25,000
30 months	50,000
36 months	50,000
3 years	$250,000

2. If Mr. Coates agrees to the above schedule for all 37 claims, and as a six month free period will be allowed, used this time expeditiously as follows:

a. Rapid geological mapping of Mr. Coates' area and surrounding region.

b. Collect surface samples for Cu assay.

c. Obtain one or two rapid IP lines to determine the possibility of a supergene chalcocite "blanket".

d. Drill at least one exploration hole to a depth of about 500 feet.

3. Finally, make a decision, based on the above information, as to the economic potential of not only Mr. Coates area but the nearby environs.

As I now understand that IMC is so heavily involved in properties in their prime areas of Nevada, they would be reluctant to enter a time consuming program in the Coates' area. It may be worthwhile, therefore, that I examine the area around Mr. Coates property on my own time, and if it appears worthy of further study according to the above recommendations, a joint venture, with Mark Systems, Inc. might be suggested for consideration by International Minerals and Chemical Corp., whereby Mark Systems exploration staff would act as the "Operators" of the Joint Venture.

Respectfully submitted,

Mead LeRoy Jensen
Consulting Geologist

MLJ/rb
Encl.

GEOVENTURES, INCORPORATED

OFFICE OF THE PRESIDENT

2327 BERKELEY STREET
SALT LAKE CITY, UTAH 84109

Dr. Mead LeRoy Jensen, President
Geoventures, Incorporated
2327 Berkeley Street
Salt Lake City, Utah 84109

Dr. M. L. Jensen:

This is to confirm the conversations which I have had with you regarding the _____ mining claims covering approximately 740 _____ acres, located in the _____ mining district, _____ County, State of Arizona which mining claims are described in Exhibit "A" attached hereto and are hereinafter referred to as the _____ "Mining Claims".

1. I represent to Geoventures that:

(a) I and associates are the owners of the Mining Claims, which are free and clear of any and all liens and encumbrances, and are in good standing.

(b) I am desirous of having a preliminary examination of the Mining Claims made by Geoventures, providing Geoventures will do so at its own expense, and, if after the examination Geoventures should desire to make a more-detailed examination and to explore the claims, I will enter into an option agreement with Geoventures wherein Geoventures would have the right to buy the Mining Claims.

2. If Geoventures is willing to make a preliminary examination of the Mining Claims, it shall do so in accordance with and subject to the following undertakings, terms and conditions:

(a) In consideration of the payment to me of the sum of ten dollars ($10) and other good and valuable considerations, I grant to Geoventures the exclusive right, effective on the date of Geoventure's acceptance of the offer herein set forth and for a period of 6 months from the date thereof, to make a preliminary examination of the Mining Claims to be to the extent that Geoventures, in its unfettered discretion, deems appropriate and advisable.

(b) If, after such examination, Geoventures decides that the Mining Claims are of no interest to it, it will so notify me in writing.

(c) If, however, Geoventures should be interested in further examination and an opportunity to map and further explore the claims, Geoventures will so notify me, and I agree thereupon to enter into a full formal agreement with Geoventures, the basic provisions of which shall contain in substance the following terms and conditions:

I. Geoventures shall have the option, exercisable at any time within thirty (30) days from the date of the expiration of the preliminary examination period of 6 months to purchase the Mining Claims for the total sum of 250,000.00, payable, in the event the option is exercised, in the amount of See enclosed schedule ~~each month~~ or in the amount of two and one-half percent net smelter return, whichever is larger, for ore produced. All payments apply against the total purchase price. In addition, all state fees and lease payments will be made.

II. Geoventures will agree that, during the period the option agreement is in force, Geoventures will do nothing that will create a lien or encumbrance on the Mining Claims, and, in the event that Geoventures inadvertently does so, Geoventures will immediately, on notice from me,

endeavor to secure release of all such liens and encumbrances.

III. I shall grant an exclusive option to Geoventures, and Geoventures will agree to investigate, map and explore the Mining Claims to the extent that Geoventures, in its unfettered discretion, deems appropriate and advisable, provided that Geoventures pay all state fees and/or will do the assessment work required to keep the claims in good standing during each assessment year or portion of an assessment year that the agreement is in force.

IV. If Geoventures elects to exercise the option to purchase or lease the Mining Claims, Geoventures shall notify me in writing by registered mail letter, addressed to me at _____.

V. Geoventures shall have the right, anything herein to the contrary notwithstanding, to terminate the option to explore described in paragraph (III) above at any time notifying me in writing by registered mail letter, addressed to me at the aforementioned address, and, in that event, or in the event Geoventures fails to exercise the option to lease within the _____ month period thereof, Geoventures shall have no further obligation to me.

VI. Geoventures agrees in the performance of this work, to comply with all of the laws of the United States and the State of _____ pertaining to working conditions and the Workmen's Compensation Act.

VII. Geoventures agrees to furnish me with true and correct copies of all maps, reports and any other information pertinent to the Mining Claims, and, I shall have the right to inspect the Mining Claims at any time.

VIII. Geoventures agrees that any additional claims located by myself or Geoventures within one mile of the Mining Claims will fall under the terms of this agreement.

3. Whenever performance under this letter agreement or the formal agreement referred to above shall be prevented by force majeure, notice of such interference shall be given to the other party, and any time limitation specified shall be extended by a time equal to the period of interference.

If the above is acceptable to Geoventures, kindly denote such acceptance on the enclosed duplicate hereof and return it to me. When the signed copy is received by me, this letter will constitute the agreement between us.

Very truly yours,

_____

_____

Enclosure:

Accepted: _____, 1970

GEOVENTURES, INC.

By: _____

_____
Witness

_____
Witness

Ray Jensen - 6/17/70

Fred Coates - prospector

interesting
old mine on property - 200' deep.
~~Apache group~~
~~Bellian Series~~
~~No evidence of intrusive~~
Air track 0.3% Cu - oxide

IP ~~[illegible]~~ no evidence of sulfides, but maybe one IP line.
Miami property 2½ mi due W.
Old Dominion prop. 2-3 SE

Should follow up.

37 claims 15 + 22
50% signed over to guy w/ bulldozer.
$125,000 6 mo $125000 6 mos.
$250,000 ⟹ over 4 years. Wants $25-50,000 in 6 mos.
8½ % NSR.

drill to 1000' or less for supergene zone

MEAD LEROY JENSEN
CONSULTING GEOLOGIST AND GEOPHYSICIST
2327 BERKELEY STREET
SALT LAKE CITY, UTAH 84109
(801) 466-4384

June 22, 1970

Dr. Donald Freas
International Minerals and Chemical Corp.
Skokie, Illinois 60076

Subject: F. Coates prospect, Globe - Miami district, Arizona

Dear Don,

In confirmation of our 'phone conversation, the following letter report is submitted.

Mr. Coates is about 60 years of age, worked as a mucker and in the mill for both Miami Copper Corp. and Inspiration Mining Co. He is a part time prospector but not a good one. He lives in Globe with his wife. Phone number is (602)-425-6408. He requests he be called, not written as he says "he cannot read!"

Mr. Coates has located 37 contiguous lode claims in a block that measures slightly less than 4500 x 7200 feet. As he located the claims with brunton and tape, he measured less than 600 and 1500 feet for each claim so that there should be no fractions within the block.

The property is located about 3 miles north-northeast from the junction of U.S. 60 & 77 with Arizona 88 highways. It is located predominately in Sec 2 and 3, T 1 N, R 15 E, and partly in Sec 34 and 35, T 2 N, R 15 E. Mr. Coates could not tell me in what sections the property is located but I have determined this from the enclosed Globe Topographic sheet. Based upon his "hand waves" and topographic features, the approximate area is indicated on the topographic sheet.

Sketch of District Geology

Although there are brief sketches of the Miami-Globe-Ray area in standard texts, USGS Prof. Paper 115, "The Copper Deposits of Ray and Miami, Arizona" by F. L. Ransome is the tome on the area, albiet written 51 years ago. Based on a brief perusal, I cannot find any published work done since then.

Ransome identifies the diabase as intrusive sills and irregular bodies with which I concur as it is too coarse grained to be extrusive as believed by Mr. Coates. Numerous series of intrusives formed in the Miami district during Tertiary time with one of the masses covering several miles in diameter. It was these intrusions that gave rise to the hypogene mineralization. The large ore deposits of Ray and Miami, however, are the result of supergene enrichment with the ore localized primarily in the Precambrian host rocks cut by the intrusions. By far the greater proportion of the ore is in the Pinal Schist.

Geology of Claimed Area

Apparently only two or three rock units exist within ghe claimed area as is shown by the enclosed geological map. These are a group of formations presumed to be Cambrian in age but possibly also Ordovician and Silurian. They are from youngest to oldest:

Troy quartzite
Mescal limestone
Dripping Spring quartzite
Barnes conglomerate
Pioneer shale
Scanlan conglomerate

In the area of the claims, quartzite and shale appear to be most common.

Most of the area consists of diabase which Ransome mapped as "Mesozoic (?)". Mr. John T. Eastlick, Chief. Geologist, Inspiration Mining Co., refers to the Diabase as Precambrian which is difficult to believe based on the irregular contacts of lower Paleozoic rocks that are surrounded by the diabase. The diabase appears to cut the lower Paleozoic formations, and is itself cut by some small dikes of lighter color and altered which prevents determining their composition. Mineralization appears to be associated with the dikes, exists as veins, but does exhibit low grade pervasive mineralization between the veins.

No sulfide minerals were found on the surface nor on the dumps but secondary copper minerals are evident. A spectroscopic assay of drill cuttings by Robert E. Craig (?) and provided by Mr. Coates contained the following:

Cu	=	0.06%
Ni	=	0.19%
Ag	=	detected
Rare Earth	=	trace

A summary of 10 assay sheets of 500 ton car load shipments during 1940-'41-'42 from the Apache mine (possibly labeled Vanadium mine on the Topographic sheet) is as follows:

Au = 0.165 to 0.39 oz/T (Most assayed ~0.3 oz/T)
Ag = 3.4 to 11.9 oz/T
Pb = 26 to 32%
Cu = 0.56 to 1.14% (Most assayed ~0.5%)

All of this ore was mined from the Apache mine between 50 to 100 feet below the surface. A vertical shaft in the mine extends to a depth of about 150 feet and is supposedly the deepest penetration in the area according to Mr. Coates. Sulfides supposedly exist at that depth and water exists within this shaft.

Only two air track holes were drilled in the area for Mr. Coates to a depth of about 100 feet when water was encountered and prevented further drilling by air track. One hole was assayed which averaged about 0.3% copper throughout 100 feet according to Mr. Coates.

Aeromagnetic Map

I have a copy of Bear Creek Mining Company's aeromagnetic coverage of this area including the adjacent 3 - 7 1/2 degree quadrangles. I enclose a copy of one of these quadrangles (Globe) that includes the area staked by Mr. Coates.

The largest magnetic anomalies exist in the northeast portion of the quadrangle and when compared to the geologic map of the quadrangle, are obviously due to variations in the magnetic properties of the diabase. This is not at all surprising because of the ferromagnesium mineral and magnetite content of the diabase.

The aeromagnetic map appears to be of little value or aid in interpreting Mr. Coates' area but offers some interesting anomalies southeast of his area in similar lithology. Be this as it may, note that the Old Dominion mine exhibits no magnetic properties that are any different from the magnetic properties of Mr. Coates' area. Numerous prospects cover the area from the Old Dominion mine to Coates' property. Bear Creek Mining Company, even though they would have checked this area, would not be interested in small leaching properties when they acquired the aeromagnetic data, which was more than 17 years ago. The area may be worth some geological and geochemical study in collaboration with the aeromagnetic information. As an example, the Blue Bird mine, south of Inspiration is a large copper leaching operation that has recently been developed and in an area previously ignored by most major copper companies. Mr. Eastlick, however, tells me that he recommended the property to Inspiration but they rejected his recommendation.

Acquisition of Property

Mr. Coates originally held sole ownership of the property. He recently optioned 50% interest of 15 claims to a Mr. R. E. Rucker who does buldozer work. He was on the property with a TD 25 bulldozer during my visit. Mr. Coates expressed some concern as to whether he could deal on these 15 claims but when I indicated the whole block must be included, he said that Mr. Rucker would agree to anything he (Mr. Coates) agreed to.

Mr. Coates will allow a free 6 month examination at which time, if the optionee wants the property, he'll sell all for $250,000, payable at $125,000 initially and $125,000 12 months later! I told him this was impossible and he agreed to "reasonable negotiations." I laid some "groundwork" by telling him that the initial payment at the end of the free 6 month investigation must be low or he may prevent further valuable exploration of the property.

Enclosed in the Recommendations is a suggested agreement that you might consider and modify if you are interested in the property.

Recommendations

Based upon the cursory field examination, Mr. Coates does appear to hold claims to an area, in which low grade secondary copper mineralization is evident at the surface in a district of widespread mineralization where supergene enrichment was a dominant process; therefore, I recommend the following:

1. Approach Mr. Coates about a more reasonable agreement. I suggest an agreement based on the following terms.

	Payments
0	None
6 months (exercise option)	$10,000
9 months	15,000
12 months	25,000
15 months	25,000
18 months	25,000
21 months	25,000
24 months	25,000
30 months	50,000
36 months	50,000
3 years	$250,000

2. If Mr. Coates agrees to the above schedule for all 37 claims, and as a six month free period will be allowed, used this time expeditiously as follows:

a. Rapid geological mapping of Mr. Coates' area and surrounding region.

b. Collect surface samples for Cu assay.

c. Obtain one or two rapid IP lines to determine the possibility of a supergene chalcocite "blanket".

d. Drill at least one exploration hole to a depth of about 500 feet.

3. Finally, make a decision, based on the above information, as to the economic potential of not only Mr. Coates area but the nearby environs.

As I now understand that IMC is so heavily involved in properties in their prime areas of Nevada, they would be reluctant to enter a time consuming program in the Coates' area. It may be worthwhile, therefore, that I examine the area around Mr. Coates property on my own time, and if it appears worthy of further study according to the above recommendations, a joint venture, with Mark Systems, Inc. might be suggested for consideration by International Minerals and Chemical Corp., whereby Mark Systems exploration staff would act as the "Operators" of the Joint Venture.

Respectfully submitted,

Mead LeRoy Jensen
Consulting Geologist

MLJ/rb
Encl.