



CONTACT INFORMATION
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Arizona Geological Survey
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The following file is part of the Walter E. Heinrichs, Jr. Mining Collection

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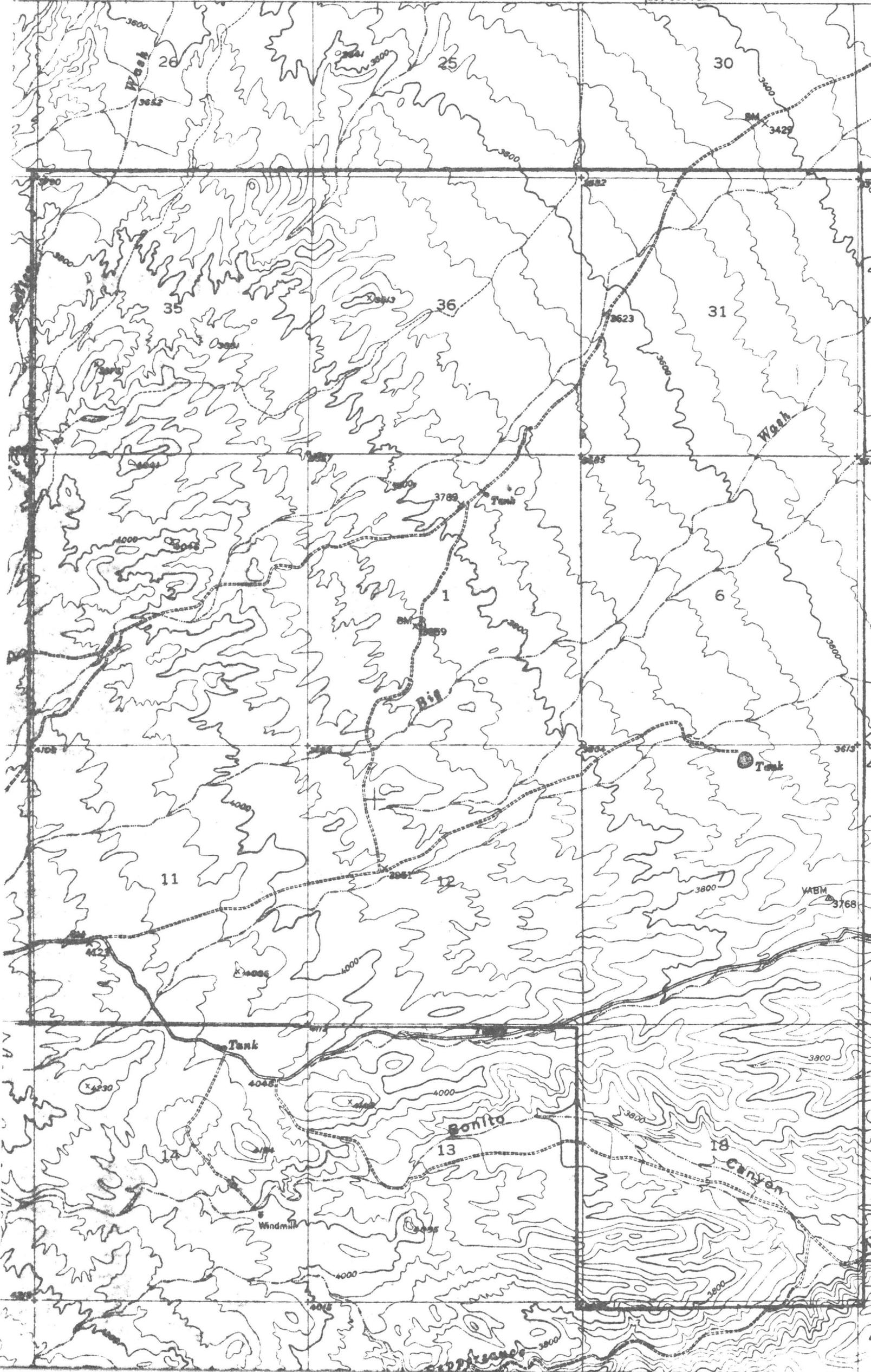
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(MAMMOTH) 40' R. 16 E. R. 17 E. 890 000 FEET SAN PEDRO RIVER



Completed

Sec 35, 1, 7, 13, 18, 6, 36, 12, 11, 2

300 220
 900 820
 1500 1420
 2100 2020
 2700 2620
 3300 3220
 3900 3820
 4500 4420
 5100 5020

not completed

~~Sec 35 (24)~~

~~31 (16)~~

~~Sec 2 (3)~~

56

~~Sec 11 (1)~~

~~Sec 12 (10)~~

56

5280
 2640

 7920

1320
 6

 7920

6980
 7580
 8180
 8780
 9380
 9980

17
 600

 10200
 220

 9980

Sec 51 36

S 2 17

F 6 13

S 7 18

S 11 1

S 12 28

F = 19

~~S 17 6~~

S = 148

F 18 6

147

S 35 29

S 36 18

167

40

127

S 12 1-18

16

6

40

State
Sec 13
Ridge S13-1 ✓
S13-2 ✓
S13-3 ✓
S13-4 ✓
S13-5 ✓
S13-6 ✓

3
5260
10560

Fed Sec 6
Ridge F6-1 ✓
F6-2 ✓
F6-3 ✓
F6-4 ✓
F6-5 ✓
F6-6 ✓
F6-7 ✓
F6-8 ✓
F6-9 ✓
F6-10 ✓
F6-11 ✓
F6-12 ✓
F6-13 ✓
F6-15 ✓
F6-17 ✓

Fed
Sec 18
Ridge F18-1 ✓
F18-2 ✓
F18-3 ✓
F18-4 ✓
F18-5 ✓
F18-6 ✓

State Sec 2
Ridge S2-1 ✓
S2-2 ✓
S2-3 ✓
S2-4 ✓
S2-5 ✓
S2-6 ✓
S2-7 ✓
S2-8 ✓
S2-9 ✓
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S2-100 ✓

State Sec 1

Ridge S1-1 ✓
S1-2 ✓
S1-3 ✓
S1-4 ✓
S1-5 ✓
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S1-9 ✓
S1-10 ✓
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S1-36 ✓

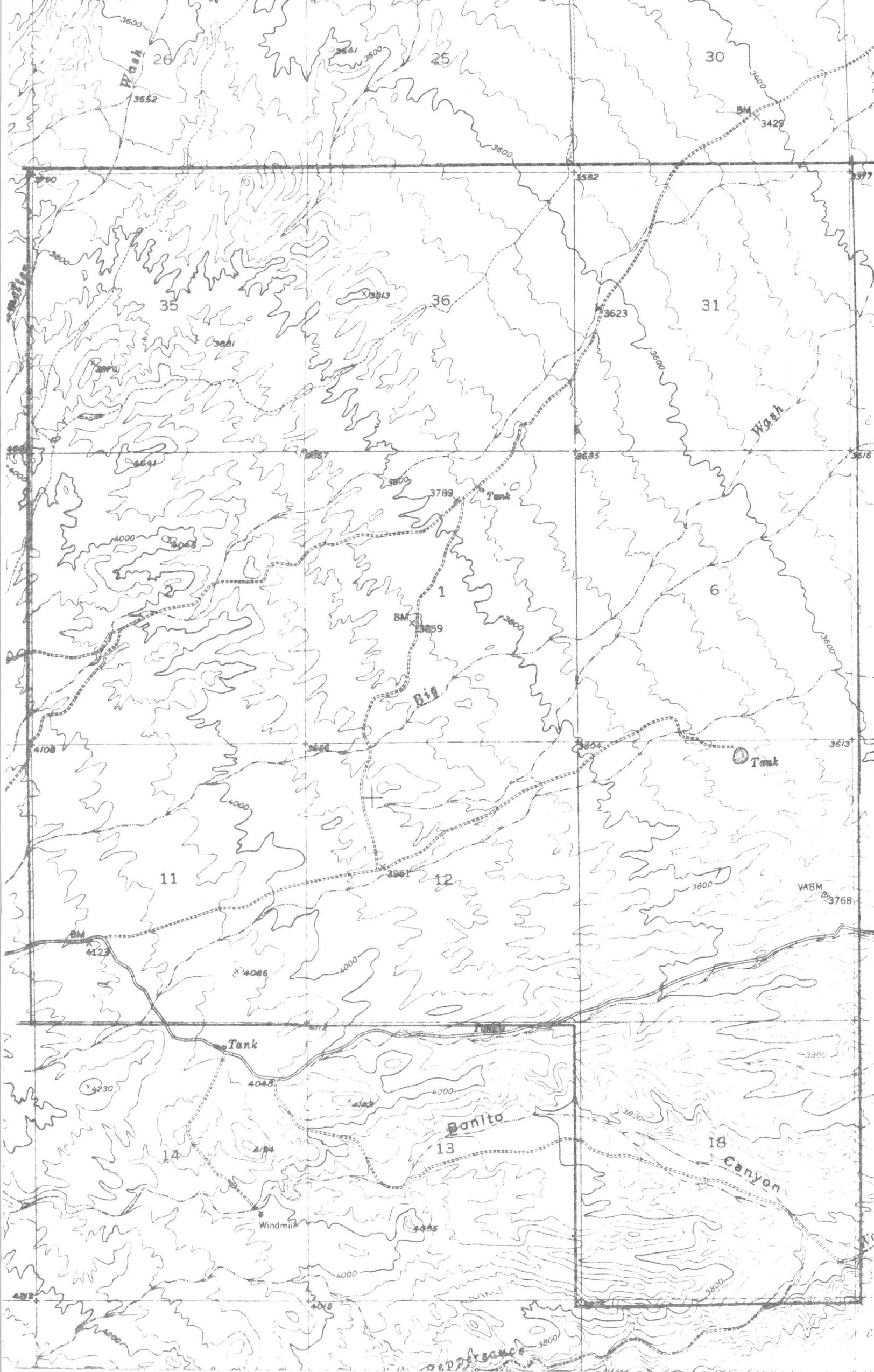
State Sec 35
S35-1 ✓
S35-2 ✓
S35-3 ✓
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S35-9 ✓
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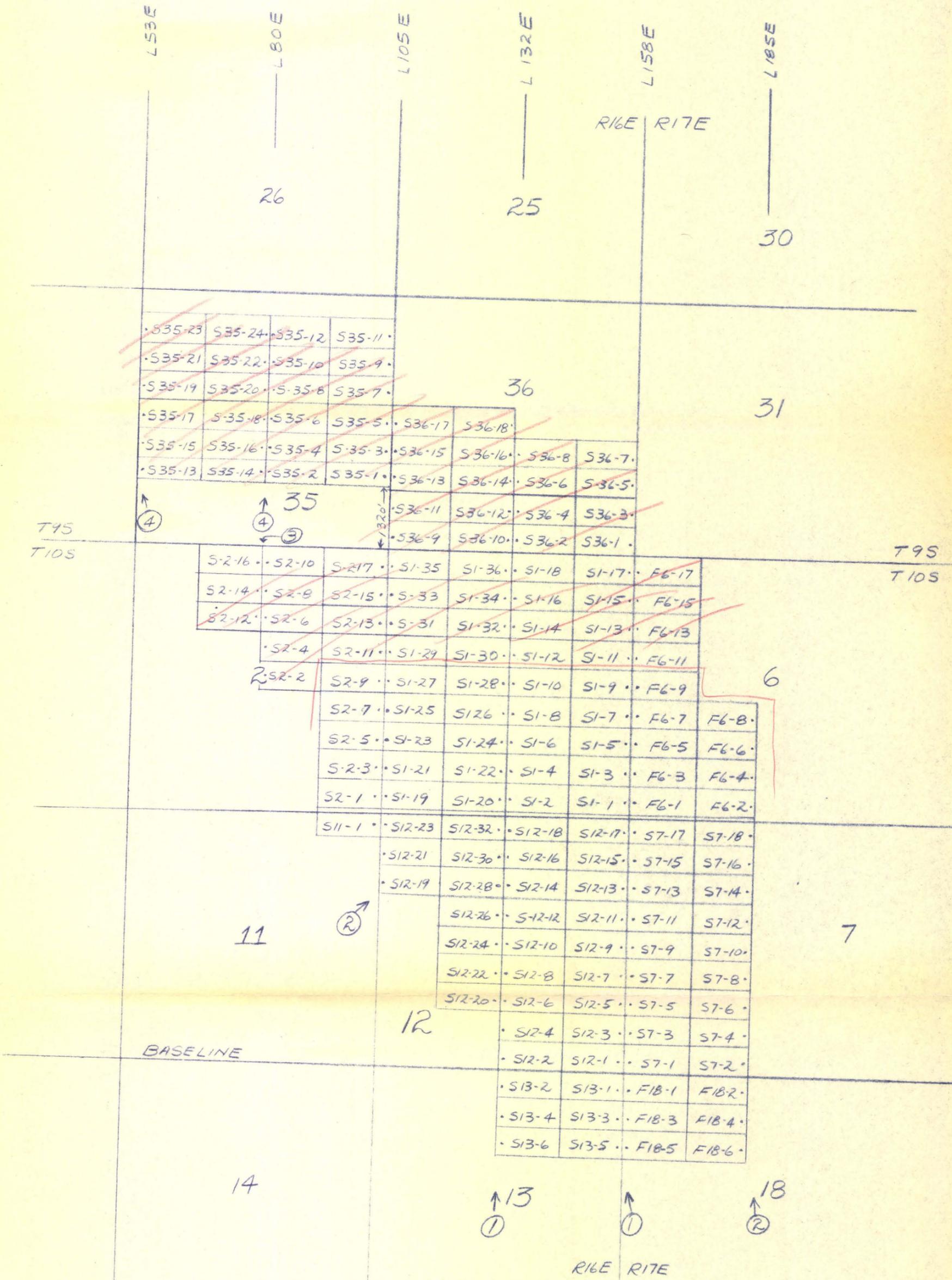
State Sec 7
Ridge S7-1 ✓
S7-2 ✓
S7-3 ✓
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S-28
S-18
S-36
S-6
S-9+8=17
S-1
S 98+8=106
S
F-6
F-13
F-19

(MAMMOTH) 40' R. 16 E. R. 17 E. 890 000 FEET SAN PEDRO RIVER





- Private
- State
- Federal

Scale 1" = 2000'

③ priority No.

All claims measure 600' x 1320'
 Except S-35-13, S35-14, S35-2, S35-1
 480' x 1320'

Ridge Project
 Ridge Mining Co.
 Sketch Map
 Pinal County, Ariz.
 by
 Heinrichs Geoexploration Co.
 10/16/59

TEXAS GULF SULPHUR COMPANY
(INCORPORATED)

75 EAST FORTY FIFTH STREET

NEW YORK 17

February 10, 1960

Mr. Walter E. Heinrichs, Jr.
P. O. Box 5671
Tucson, Arizona

✓ RECEIVED FEB 12 1960

Dear Walt:

The gravity report on our Area 6 arrived in good time. This appears to be a very nice piece of work and I want to congratulate your Mr. Seward on giving us some worthwhile interpretations. Your bill has been delayed in my office for a few days but has been passed for payment today.

I saw Dave Mayer at the CSM meeting the other day. We both expressed the desire that you and Jean would make it to the AIME meeting.

Very best wishes to you all.

Sincerely,

Vau

H. V. W. Donohoo

(ru mh)

HVWD/mh

RIDGE MINING COMPANY

230 Park Avenue
New York 17, N. Y.

RECEIVED JAN 29 1960

January 26, 1960

Arizona State Land Department
Leasing Division
422 Arizona State Office Bldg.
Phoenix, Arizona

Att: Mr. Lewis C. Duncan, Manager

Gentlemen:

This refers to the letter of your Department dated January 20, 1960, referring to our mining locations on State lands in and near T10S, R17E near Oracle. I also take note of the letter to you from Walter E. Heinrichs, Jr. in our behalf dated January 22, 1960.

Our exploration on the above claims has been continuous and intensive, including geologic, induced polarization, seismic and gravity surveys, and a deep diamond drill test. We have just completed the drill test and require additional time to assess all our data to determine whether an additional test in an attempt to prove discovery of valuable mineral is justified. We would therefore request that you retain on file the papers pertaining to these claims for an additional 90 days. We will notify you promptly when we are prepared to petition for a lease or when we have abandoned interest in the area.

Thank you for your very courteous attention to this matter.

Yours very truly,

H. V. W. Donohoo

HVWD/mh

bcc: Walter E. Heinrichs, Jr.



OFFICE OF
State Land Department
STATE OF ARIZONA
Phoenix, Arizona

OBED M. LASSEN
STATE LAND COMMISSIONER

January 26, 1960.

RECEIVED JAN 27 1960

Mr. Walter E. Heinrichs, Jr.
Heinrichs Geoexploration Co.
P. O. Box 5671
Tucson, Arizona

Re: Mineral Lease No. 1063

Dear Mr. Heinrichs:

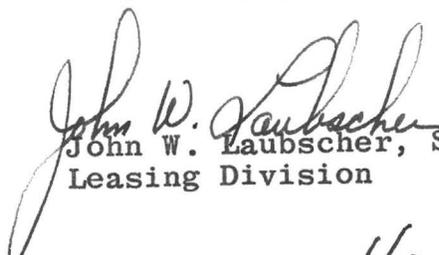
Your letter of January 22nd, 1960, addressed to Mr. Lewis C. Duncan has been directed to this department for attention.

Please be advised that inasmuch as the ninety days has expired on the location notices, you no longer have a preferential right to lease. Under these circumstances any third party may come in upon the land and locate and gain a ninety day preferential right to lease.

If this individual furnishes proof of valuable mineral discovery during the ninety day period, this office has no alternative but to issue them a Mineral lease.

If we can be of any further assistance please feel free to get in touch with us.

Very truly yours,


John W. Kaubscher, Supervisor
Leasing Division

JWL:sw

Van: ^{1/27/60} This is probably the correct position they must take, at least in writing. However it is somewhat at variance with verbal statements received in Phoenix. Most of them (but not all) would probably like to do what is right and practical, but they are tied to the confusion and ambiguity in the present statutes and the resulting administrative problems. *MBA*

cc: Bob Bell



OFFICE OF
 State Land Department
 STATE OF ARIZONA
 Phoenix, Arizona

ORRIN M. LARSEN
 STATE LAND COMMISSIONER

January 26, 1960.

RECEIVED JAN 27 1960

Mr. Walter E. Heinrichs, Jr.
 Heinrichs Geosexploration Co.
 P. O. Box 5671
 Tucson, Arizona

Re: Mineral Lease No. 1063

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If we can be of any further assistance please feel free to get in touch with us.

Very truly yours,

John W. Laubscher
 John W. Laubscher, Supervisor
 Leasing Division

JWL:sw

Van: 1/27/60

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cc: Bob Bell



OFFICE OF
 State Land Department
 STATE OF ARIZONA
 Phoenix, Arizona

ORED M. LARSEN
 STATE LAND COMMISSIONER

January 26, 1960.

RECEIVED JAN 27 1960

Mr. Walter E. Heinrichs, Jr.
 Heinrichs Geoexploration Co.
 P. O. Box 5671
 Tucson, Arizona

Re: Mineral Lease No. 1063

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If this individual furnishes proof of valuable mineral discovery during the ninety day period, this office has no alternative but to issue them a Mineral lease.

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John W. Laubscher
 John W. Laubscher, Supervisor
 Leasing Division

JWL:sw

Var: This is probably the correct 1/27/60

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cc: Bob Bell

STATE LAND DEPARTMENT
422 Arizona State Office Bldg.
Phoenix, Arizona

January 20, 1960

RECEIVED JAN 21 1960

Ridge Mining Co.
P.O.Box 5671
Tucson, Arizona

M-1063

Your Mining location notices ~~(was)~~ (were)
presented to the State Land Department on November 18, 1959.

As near as we are able to determine you started action on claims
located in Sections 1,2,12,13 of Twp. 10-S, 16-E & Section 7 of as follows:
Township 10-S, Range 17-E.

Ridge S 13-1 through S13-6 inclusive - #S12-1 through S 12-24 inclusive -
S 12-26, S12-28, S12-30, S12-32 - Ridge S 11-1, Ridge S 7-1 through S 7-18
inclusive - Ridge S 2-1, S 2-3, S 2-5, S 2-7, S 2-9, Ridge S 1-1 through S1-10
inclusive - Ridge S 1-19 through S 1-28 inclusive.

The above instruments have been held by this Department for ninety days from the date of the original location in order to allow the required time for you to establish your preferential right to lease the land.

All instruments presented to this office are being withdrawn from our pending file. It is felt that you should be notified that the period granted in which you might obtain a preferential right to lease the land has expired. This office has no facilities for storing anything but necessary papers.

If you are still desirous of filing for a mineral lease in this area, please feel free to contact this office again at your convenience.

Very truly yours,

STATE LAND DEPARTMENT

Leasing Division

CC: Theodore J. Vaitses etux

3-54
11/25/58

STATE LAND DEPARTMENT
422 Arizona State Office Bldg.
Phoenix Arizona

January 20, 1960

RECEIVED JAN 21 1960

Ridge Mining Co.
P.O. Box 5671
Tucson, Arizona

M-1063

Your Mining location notices ~~(were)~~ (were) presented to the State Land Department on November 13, 1959.

As near as we are able to determine you started action on claims located in Sections 1, 2, 12, 13 of Twp. 10-S, 16-E & Section 7 of as follows:
Township 10-S, Range 17-S.

Ridge S 13-1 through S13-6 inclusive - #S12-1 through S 12-24 inclusive -
S 12-26, S12-28, S12-30, S12-32 - Ridge S 11-1, Ridge S 7-1 through S 7-18
inclusive - Ridge S 2-1, S 2-3, S 2-5, S 2-7, S 2-9, Ridge S 1-1 through S1-10
inclusive - Ridge S 1-19 through S 1-24 inclusive.

The above instruments have been held by this Department for ninety days from the date of the original location in order to allow the required time for you to establish your preferential right to lease the land.

All instruments presented to this office are being withdrawn from our pending file. It is felt that you should be notified that the period granted in which you might obtain a preferential right to lease the land has expired. This office has no facilities for storing anything but necessary papers.

If you are still desirous of filing for a mineral lease in this area, please feel free to contact this office again at your convenience.

Very truly yours,

STATE LAND DEPARTMENT

Leasing Division

CC: Theodore J. Waites etux

3-54
11/25/58

STATE LAND DEPARTMENT
422 Arizona State Office Bldg
Phoenix, Arizona

January 10, 1950

Ridge Mining Co.
P.O. Box 9611
Tucson, Arizona

M-1063

RECEIVED

Your Mining location notices ~~(were)~~ (were)
presented to the State Land Department on November 18, 1949

As near as we are able to determine you started action on claims
located in Sections 1, 2, 11, 13 of Twp. 10-S, 16-E & Section 7 of as follows:
Township 10-S, Range 16-E.

Ridge S 13-1 through 313-6 inclusive - Ridge S 12-1 through S 12-24 inclusive -
S 17-26, S 12-28, 317-30, 312-32 - Ridge S 11-1, Ridge S 7-1 through S 7-18
inclusive - Ridge S 2-1, S 2-3, S 2-4, S 2-7, S 2-9, Ridge S 1-1 through 31-10
inclusive - Ridge S 1-19 through S 1-25 inclusive.

The above instruments have been held by this Department for ninety
days from the date of the original location in order to allow the
required time for you to establish your preferential right to lease
the land.

All instruments presented to this office are being withdrawn from
our pending file. It is felt that you should be notified that the
period granted in which you might obtain a preferential right to
lease the land has expired. This office has no facilities for
storing anything but necessary papers.

If you are still desirous of filing for a mineral lease in this
area, please feel free to contact this office again at your con-
venience.

Very truly yours

STATE LAND DEPARTMENT

Leasable Minerals

C: Theodore J. Laitsee

1-54

11/25/58

ROBERTSON, HULL, CHILDERS AND DRACHMAN
ATTORNEYS AT LAW

LAWRENCE V. ROBERTSON
NORMAN S. HULL
THOMAS H. CHILDERS
FRANK E. DRACHMAN, JR.

82 SOUTH STONE AVENUE
P. O. BOX 2471
TUCSON, ARIZONA
MAIN 2-3535

December 3, 1959

RECEIVED DEC 4 1959

Mr. E. Grover Heinrichs
Heinrichs Geoexploration Company
P. O. Box 5671
Tucson, Arizona

Dear Mr. Heinrichs:

Thank you for writing me under date of December 2nd to the effect that Dr. R. A. Bell will represent your interest and the interest of the Ridge Mining Company in connection with mining claims on land leased for grasing purposes by Mr. and Mrs. Vaitses.

Dr. Bell has already called me on this matter and we have arranged to meet in this office tomorrow morning.

Sincerely,



Norman S. Hull

NSH:lr

ROBERTSON, HULL, CHILDERS AND DRACHMAN
ATTORNEYS AT LAW

LAWRENCE V. ROBERTSON
NORMAN S. HULL
THOMAS H. CHILDERS
FRANK E. DRACHMAN, JR.

November 24, 1959

82 SOUTH STONE AVENUE
P. O. BOX 2471
TUCSON, ARIZONA
MAIN 2-3535

RECEIVED NOV 25 1959

Ridge Mining Co.
Postoffice Box 5671
Tucson, Arizona

Gentlemen:

The Arizona State Land Department has notified Mr. and Mrs. Vaitses of your application for a mineral lease on Sections 1, 12 and 13, Township 10 South, Range 16 East; and Section 7, Township 10 South, Range 17 East.

Mr. and Mrs. Vaitses are occupying this land under State Grazing Lease No. G-200, and are clients of this office.

It will be appreciated if you can arrange to meet with me and with Mr. Mercer, ranch manager, at an early date to discuss this situation.

Yours very truly



Norman S. Hull

lr

RIDGE MINING COMPANY

Your Statement

dated December 3, 1959

\$1,794.71

RECEIVED DEC 10 1959

November 24, 1959

Mr. H. V. W. Donohoo
Texas Gulf Sulphur Company
75 East 45th Street
New York 17, New York

Re: Ridge Mining Co. Area #6
State Claims
Ariz. State Land Dept.

Dear Van:

Attached is a machine copy of a letter received as a result of filing the recorded state claim notices at the State Land Department last week and a carbon copy of our reply.

We will continue to keep you and Bob immediately advised of any further related communications, and assume either or both of you will let us know when and if any specific action is desired on our part. I know Bob is cognizant of the discovery requirement and that you are both keeping it appropriately in mind.

Meanwhile, we will be happy to assist further in any way we can.

Faithfully,

Walter E. Heinrichs, Jr.

WEH:jh

Encl: 4

cc: R. A. Bell

1/2 2 claim maps (revised up to date)
1 map *cc*

STATE LAND DEPARTMENT
State of Arizona
Phoenix, Arizona

RECEIVED NOV 20 1959

November 19, 1959

Ridge Mining Co.
P.O. Box 5671
Tucson, Arizona

RE: M-1063

Dear Applicant:

It will be necessary for you to furnish this Department proof that you have made a valuable mineral discovery, prior to the issuance of a mineral lease, on the following claims:

Ridge S 13-1 through 6, Ridge S 12-1 through 24, 26, 28, 30, 32
Ridge S 11-1, Ridge S 7-1 through 18, Ridge S 2-1, 3, 5, 7, 9,
Ridge S 1-1 through 10, 19 through 23

Proof may be in the form of an assayer's report or core drilling. This requirement is covered by Section 27-231, Arizona Revised Statutes.

If these claims are located under Section 27-232-A, A.R.S., the State Land Department requires a survey map showing degrees and distances from section corners and the direction of the end lines. It is preferable that a registered surveyor prepare a map that will establish a basis for accurately locating these claims.

Your cooperation in complying with the requirements of the law, and the Rules and Regulations of this Department, will facilitate processing Applications for Mineral Lease on State lands.

Very truly yours,

Obed M. Lassen

Obed M. Lassen
State Land Commissioner

P.S. We have enclosed an application for mineral lease on your claims.

OML/pm
1/58
3-61

STATE LAND DEPARTMENT
State of Arizona
Phoenix, Arizona

RECEIVED NOV 20 1959

November 19, 1959

Ridge Mining Co.
P.O. Box 1711
Tucson, Arizona

RE: 3-1-59

Dear Applicant:

It will be necessary for you to furnish this Department proof that you have made a valuable mineral discovery, prior to the issuance of a mineral lease, on the following claims:

Ridge S 10-1 through 6, Ridge S 11-1 through 24, 26, 27, 28, 29
Ridge S 11-1, Ridge S 12-1 through 18, Ridge S 12-1, 2, 3, 4, 5,
Ridge S 1-1 through 10, 12 through 28

Proof may be in the form of an assayer's report or core drilling. This requirement is covered by Section 27-231, Arizona Revised Statutes.

If these claims are located under Section 27-232-A, A.R.S., the State Land Department requires a survey map showing degrees and distances from section corners and the direction of the end lines. It is preferable that a registered surveyor prepare a map that will establish a basis for accurately locating these claims.

Your cooperation in complying with the requirements of the law, and the Rules and Regulations of this Department, will facilitate processing Applications for Mineral Lease on State lands.

Very truly yours,

Obed M. Lassen

Obed M. Lassen
State Land Commissioner

P.S. This is enclosed in an envelope for the purpose of being opened in private.

OML/pm
1/58
3-61

STATE LAND DEPARTMENT
State of Arizona

APPLICATION FOR MINERAL LEASE ON STATE LANDS

The STATE LAND COMMISSIONER, Phoenix, Arizona:

I, _____,

of State of _____, not being in arrears or default for rentals or fees upon leases for state lands, do hereby make application to lease, under the laws of the State of Arizona, the state lands hereinafter described for a mineral lease for a term of twenty years for which I agree to pay rental and fees in accordance with rules and regulations of the State Land Department.

Name & Number of Claim	Subdivision	Sec.	Twp.	Rge.	Acres	Grant

(If more space is needed, continue on reverse side)

1. Under what type location is application made? Lode Type B?
2. Are there any prospectors or prior valid mining locations on the land?
3. Are there any abandoned workings upon the land?
4. Has the land been located in full compliance with the mining laws?
5. Are there any improvements upon the land?
Owner:
6. Are you a citizen of the United States? Age of Applicant:
7. In what county are these claims located?
8. Will it be necessary to cross other state lands to reach these claims?
9. Is land leased for any purpose?
If so, what type lease?

CERTIFICATION:

(I or We) hereby certify under penalty of perjury, that the information contained and statements herein made are to the best of (my or our) knowledge and belief true, correct and complete.

(Sign here) _____

(Address) _____

(PLEASE READ REVERSE BEFORE COMPLETING)

The following is not to be filled in by Applicant

Fee Received _____ Amount _____ Receipt No. _____
 Begins _____ Expires _____ Rental _____
 Recorded by _____
 Approved or Denied by _____ Date _____

STATE LAND DEPARTMENT
State of Arizona

APPLICATION FOR MINERAL LEASE ON STATE LANDS

The STATE LAND COMMISSIONER, Phoenix, Arizona:

I, _____,

of State of _____, not being in arrears or default for rentals or fees upon leases for state lands, do hereby make application to lease, under the laws of the State of Arizona, the state lands hereinafter described for a mineral lease for a term of twenty years for which I agree to pay rental and fees in accordance with rules and regulations of the State Land Department.

Name & Number of Claim	Subdivision	Sec.	Twp.	Rge.	Acres	Grant

(If more space is needed, continue on reverse side)

1. Under what type location is application made? Lode Type B?
 2. Are there any prospectors or prior valid mining locations on the land?
 3. Are there any abandoned workings upon the land?
 4. Has the land been located in full compliance with the mining laws?
 5. Are there any improvements upon the land?
- Owner:
6. Are you a citizen of the United States? Age of Applicant:
 7. In what county are these claims located?
 8. Will it be necessary to cross other state lands to reach these claims?
 9. Is land leased for any purpose?
If so, what type lease?

CERTIFICATION:

(I or We) hereby certify under penalty of perjury, that the information contained and statements herein made are to the best of (my or our) knowledge and belief true, correct and complete.

(Sign here) _____

(Address) _____

(PLEASE READ REVERSE BEFORE COMPLETING)

The following is not to be filled in by Applicant

Fee Received _____ Amount _____ Receipt No. _____
 Begins _____ Expires _____ Rental _____
 Recorded by _____
 Approved or Denied by _____ Date _____

November 24, 1959

State Land Department
State of Arizona
Phoenix, Arizona

Re: M-1063

Gentlemen:

As authorized agent on behalf of Ridge Mining Co., I acknowledge receipt of your communication of 19 November and the attached mineral lease application forms regarding the above reference and the personal submittal of the certified recorded claim notices by our Mr. E. Grover Heinrichs at your office on 18 November 1959.

We note the requirement relative to furnishing proof of discovery prior to lease issuance and accordingly, will advise you appropriately.

As to the required survey map showing location of the claims involved, this is attached herewith. Your acknowledgement of the receipt of this map and if it serves your required purpose, will be appreciated.

Very truly yours,

RIDGE MINING COMPANY

by: _____

Walter E. Heinrichs, Jr.
Agent & Attorney in fact.

Encl: 1

cc: H. W. V. Donohoo
R. A. Bell

November 19, 1959

Mr. H. V. W. Donohoo
Texas Gulf Sulphur Company
75 East 45th Street
New York 17, New York

Re: Ridge Mining Co.
Project, Area #6
Pinal County, Arizona

Dear Van:

Enclosed you will find 78 verifax copies of the original recorded state claim notices and 15 original claim notices on the federal claim group.

All claims were recorded Nov. 12, 1959 at 4:00 p.m. in the Pinal County Court House at Florence, Arizona. Docket 246, pages 172 through 264. The State Claim group was then filed in the office of the Arizona State Land Department in Phoenix, Arizona on 18 November 1959 at 3:53 p.m.

A completed map will be forwarded on to you the first of next week.

Yours truly,

HEINRICHS GEOEXPLORATION CO.

E. Grover Heinrichs

EGH:jh

cc: R. A. Bell (letter only)

November 11, 1959

Dr. Robert A. Bell
McPhar Geophysics, Ltd.
1919 East 3rd Street
Tucson, Arizona

Re: Ridge Mining Company Project
Area #6, Pinal County, Ariz.

Dear Bob:

This is to inform you of a phone call to the Arizona State Land Department in Phoenix on 9 November 1959 in regard to mineral rights in Section 6, T10S, R17E.

The Arizona State Land Department records show no state holdings in that Section which indicates that the mineral rights are under public domain laws and this concurs with the status as you figured it originally.

We plan to have a survey crew in the area tomorrow, 12 November, with Mr. Frank A. Seward, party chief, in charge.

Sincerely,

E. Grover Heinrichs

EGH:jh

November 9, 1959

Mr. H. V. W. Donohoo
Texas Gulf Sulphur Company
75 East 45th Street
New York 17, New York

Dear Van:

Thanks for your letter of 29 October and attached power of attorney.

Actually all of the claims were signed by E. Grover Heinrichs as agent for Ridge, which brought the power of attorney and the corporate relationship of Grover and me should be O. K.

I presume you or Bob Bell will let us know the disposition you wish on the notices right away. Notices on State Land must be recorded within 30 days of location which means by 18 November.

Our billing was sent on 3 November 1959, as requested.

All best regards,

Faithfully,

Walter E. Heinrichs, Jr.

WEH:jh

cc: Bob Bell (R.A.)
1919 E 3rd St.
Tucson

October 27, 1959

Dr. R. A. Bell
McPhar Geophysics Ltd.
1919 E. 3rd Street
Tucson, Arizona

Re: Ridge Mining Company Project
Area #6, Pinal County, Arizona

Dear Bob:

Enclosed are two blue line copies of the Claim Index Map of Area #6, Ridge Mining Company Claim Group, Pinal County, Arizona as requested.

Survey plats of the Township involved have been ordered in case they may be needed at a later date. In the meantime all horizontal control was determined from the U.S.G.S. Campo Bonito Quadrangle Map and previously established picket lines.

An undetermined small gap does exist in the present claim group and is located along the west half of the South line of Section 6 where Federal and State lands join. If the fence line is the common line of Section 6 & 7 then this gap amounts to 40 feet on the ground.

We will keep the original and one copy of the claim notices in our file until we receive further word. Arizona regulations require that State claims be recorded in the county court house and on file in the office of the State Land Commission, and posting commenced within 30 days of location.

A sepia and two blue line copies of the enclosed map have been forwarded on to Mr. Donohoo. The original map will be kept in our file until completion of the project and then forwarded on to New York.

Sincerely,

HEINRICHS GEOEXPLORATION COMPANY

E. Grover Heinrichs

EGH:jh
cc: H. V. W. Donohoo
Enclosures

HEINRICHS GEOEXPLORATION COMPANY
MINERAL ENGINEERING CONSULTANTS AND CONTRACTORS
GEOPHYSICAL, GEOLOGICAL AND ECONOMIC APPRAISALS
TUCSON, ARIZONA

WALTER E. HEINRICHS, JR.
E. GROVER HEINRICHS

PHONE: MAIN 2-4202
806-808 WEST GRANT ROAD
MAIL: P. O. BOX 5671

February 19, 1960

Mr. H. V. W. Donohoo
Texas Gulf Sulphur Co.
75 East 45th Street
New York 17, New York

Dear Van:

Thanks for check received and your kind remarks about gravity investigation.

We are investigating the possibility of being in Alaska this summer for a major client and have run across some references to past work done by Texas Gulf around 1954. Would you people care to release to us any statement about work at Horseshoe Bay or elsewhere in the state? Are you holding options or anything or was the whole thing dropped because of change in sulfur economics?

If we should be in Alaska this summer could we be of any use to you? Naturally we are interested in learning and will be investigating all the various problems and possibilities we can. Circumstances and conditions apparently being what they are, some sort of collaboration or even joint venture is not entirely out of the question and conceivably could be of mutual benefit.

Any comments that can be provided will be most appreciated.

Sorry we missed going to A.I.M.E and seeing you all, including Chuck and Dick, but best wishes and regards anyway.

Sincerely,

Walter E. Heinrichs, Jr.

WEH:jh

1/27/60

Ridge \checkmark M-1063

R.C. Townsend - Geologist for
State Land Dept, in town

will call again re: short conference
on situation.

I said I would be in most of the
time today & tomorrow.

JW.

~~SECRET~~

GOLD FIBRE

REPORT ON A GRAVITY METER SURVEY

AREA SIX CLAIM GROUP

PINAL COUNTY, ARIZONA

for

RIDGE MINING COMPANY

January 1960

by

**HEINRICHS GEOEXPLORATION COMPANY
P. O. BOX 5671 TUCSON, ARIZONA**

INTRODUCTION

During the month of January 1960, several gravity profile surveys were made in the Area Six claim group. The purpose of the survey was to attempt to determine the general configuration of and depth to bedrock.

Gravity measurements were made with World-Wide Gravity Meter #35 having a dial constant of .11577 milligals per scale division to an expected accuracy of better than + or - 0.05 milligals.

Elevations were determined by levels on the detail portions of the profiles to an accuracy of + or - 0.10 feet, by transit stadia survey on reconnaissance portions of the profiles to an expected accuracy of + or - 0.50 ft. and by inspection of the topographic map at regional stations to the north and east to an expected accuracy of + or - 5 ft.

All level, stadia and gravity base station surveys were tied in closed loops and adjusted.

A short, north-south density profile was run across a gully near the 158 east line at about the 80 north line and the surface density determined to be approximately 1.8 gms/cm³ equivalent to an elevation correction factor of 0.07109 milligals/ft.

The first profile surveyed was along the road from C-20 to G-29 with 100 ft. detail stations between C-20 and G-20. This profile was later expanded to C-70 on the west and G-100 on the east. Regional stations on half mile intervals were added to this profile along the section line for some 5 3/4 miles east st. G-100 which is located at the NW cor. Sec. 8 T10S, R17E.

The second profile was along the 50 North line from B-70 on the west to B-0 on the east and then tied to the G-line at G-59 through D-2, D-1

and D-0. D-0 is located at the NW cor. Sec. 7 T10S, R17E. Stations between B-0 and B-50 are on 200 ft. centers and from B-50 to B-70 on 500 ft centers.

The third profile was made with stations on 500 ft. centers along the 25 North line from 105 East to 158 East and connected on the west end to station C-20.

The fourth profile was made with stations on 500 ft. centers in a north direction along the 158 East line from 25 North on the South to 80 North with additional stations located at Section and quarter corners north to the NW cor. Sec. 30 T9S, R17E for regional study.

Included with this report are:

1. Tabulation of data.
2. Map #1. Gravity profiles and interpretation along the G-C lines.
3. Map #2. Gravity profiles and interpretation along the B (50 North), D-G lines.
4. Map #3. Gravity profiles and interpretation along the 25 North line.
5. Map #4. Gravity profile along the 158 East line.
6. Map #5. Plan Gravity contour map.
7. Map #6. Regional gravity profile extending Map #2 to the east.
8. Map #7. Theoretical curves over an inclined slope.
9. Map #8. Theoretical curves over a normal fault.

CALCULATIONS

A station gravity value of 50.00 milligals was arbitrarily assigned to station C-20 and all station gravity values were adjusted relative to this station. All meter readings were adjusted for instrumental drift by tying to base stations at half hour intervals.

Elevation corrections were made from an arbitrarily assigned elevation

datum of 3500 ft. at a rate of 0.07109 milligals/ft. equivalent to a surface density of 1.8 gm/cm^3 . Elevations of stations located over granite outcrop were corrected at the proper density of 2.6 gm/cm^3 for examination of this portion of the curve and found only to smooth the curves and showing no anomalism. These elevations were then recorrected at the alluvium density of 1.8 gm/cm^3 for purposes of plotting and relative examination of the data in plan and profile as it is not possible to map continuously across a density (lithologic) contact that has an elevation which varies from the datum.

Latitude corrections were made from the T9S - T10S Line at a rate (determined from equation) of 1.19 milligals per mile.

Residual curves were obtained by adding to the total gravity curves at an arbitrary rate of 1.0 milligals/1000 ft. to the east. A minor relative error is introduced here along the C-G lines between G-70 and G-59 due to the fact that this line tends N 65° E between these points. This error tends to flatten the C-G residual curve to a very minor extent relative to the 25 North and B (50 North) lines.

Theoretical curves were calculated from the standard equations for the gravity attraction of an inclined slope and for a normal fault.

INTERPRETATION

The initial interpretation submitted in a preliminary report was based primarily on simple examination of the total and residual gravity curves. The density of the pre-Cambrian granite is expected to be around 2.6 gm/cm^3 . The surface density as determined by gravity profile was found to be 1.8 gm/cm^3 . Using this density contrast of 0.8 gm/cm^3 a depth of 2850 feet to bedrock at G-100 was calculated from the total gravity curve. Information compiled from various sources indicated that the density of the Gila conglomerate at any moderate depth would more nearly approximately 2.3 to 2.4 gm/cm^3 and that in all probability the granite density at depth would approach

2.7 gm/cm³ . This would give a density contrast of some 0.9 gm/cm³. Using this contrast and the total difference in gravity between G-70 and G-100 an unreasonable depth in excess of 11,000 feet is calculated at G-100 and it was found necessary to go to a regional curve.

Trial regional gradients were removed and mapped at rates of 2.0, 1.5 and 1.0 milligals per 1000 ft and the gradient of 1.0 selected as most nearly approximate^{ing} the actual conditions existing. The primary purpose for removing a regional gradient was in order to examine in detail that portion of the curve of most significant interest. A second reason was to determine the approximate depth to bedrock at station G-100 at the expected density contrast of 0.3 gm/cm³. It must be remembered that the actual regional gradient and therefore the actual depth to bedrock cannot be finally determined without absolute knowledge of a depth of at least one point on the curve in addition to the surface outcrop and preferably several. It is felt however, that the regional gradient removed and the depth of 2630 ft calculated from the residual difference in gravity between G-70 and G-100 very closely approximates the actual depth.

Theoretical curves were calculated for the case of a simple normal fault located in the vicinity of G-15 and for an inclined slope extending from the point of outcrop at about G-20 to a depth of 2630 ft. at G-100. It was necessary for calculation purposes to assume that this slope leveled off to the east at G-100. This assumption, which is probably incorrect, produces the minor effect of levelling the gravity curve as it approaches G-100.

Comparison of the theoretical curves with the actual gravity profiles indicates that the inclined slope curve very nearly approximates each of the actual east-west gravity curves. Deviations of the actual gravity curves

from the theoretical are tentatively interpreted as faults. A rather tedious development of theoretical curves over a number of more or less minor normal faults stepped to the east would possibly produce a curve which would fit the actual gravity curve even more closely than the inclined slope. This development was not undertaken because of the lack of definite density and depth information. The interpretation of each curve was made independently of any other data and then adjusted to fit the drill hole conditions known to exist.

The profile interpretations are supported to a large extent by mapping the gravity contours in plan. There is a definite steepening of the gradient in the region interpreted as having a fault of more or less major displacement. Of possible interest is the suggestion of a steep positive southwesterly gradient beginning to appear at the west end of the 25 North line observable only in plan. This might be suggestive of a fault trending slightly south (S30°E?) of east with the upthrown block to the south.

Regional profiles were continued for several miles to the north and to the east and it is obvious that the major component of bedrock slope is in an approximate N60°E direction. The north curve indicates a flattening of the bedrock to the north. The east curve indicates a major upthrown fault block in the east half section 10, section 11 and the west half of section 12, T10S, R17E.

These gravity interpretations were made independently of any other data that may exist and are therefore subject to modification on this basis.

Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY



Franklin A. Seward, Jr., Geophysical Engineer

25 January 1960
P. O. Box 5671
Tucson, Arizona

RIDGE MINING COMPANY AREA # 6

GRAVITY PROFILE SURVEY AND COVER REPORT FOR MAPS # 1 & # 2.

The attached map #1 is a preliminary sketch of gravity data obtained along profiles as indicated on the key on map #2. Elevations from C-20 to G-29 and from B-0 to B-30 were obtained by closed level traverse to an accuracy of 0.1 feet. Elevations at stations G-39 to G-89 and from C-30 to C-50 and C-70 were estimated to the nearest 5 feet from U.S.G.S. 7½ minute Campo Bonito Quadrangle topographic map. Stations C-60 and G-100 were located at U.S.G.S. BM 4123 and NW Cor. Sec. 8, elev. 3613 respectively.

Gravity data was obtained from a base traverse closed to 0.00mg on 1000 foot base stations from C-20 to G-29 to B-0 to B-30 to C-20. Accuracy of all gravity field data is expected to be in the order of ± 0.02 mg.

Map #2 is a sketch of the same profiles with an arbitrarily applied residual correction of + 1.0 mg/1000 feet to the east. This residual correction was used in order that the vertical gravity scale could be exaggerated to better show breaks in the curve.

A short density profile was run by standard techniques and the surface density determined to be approximately 1.8 gms/cm^3 equivalent to an elevation correction factor of 0.07109 mg/ft.

No terrain or latitude corrections were applied to the data.

The geologic bedrock and structural interpretation is somewhat empirical and hypothetical, because detailed mathematical-theoretical treatment for further corroborative information did not seem warranted at this time. A slight variation of -0.2 in density contrast could make as much as 900 feet difference in the estimated depth to bedrock at station G-89. The seismic depth projected south must be considered quite speculative as must the drill

hole depth projection, however to a lesser degree.

In addition to the two maps we are also attaching three (3) pages of tabulated observations and computations.

HEINRICHS GEOEXPLORATION COMPANY

Franklin A Seward, Jr.
Franklin A Seward, Jr.

Encl: 5

12 January 1960
P O Box 5671
Tucson, Arizona

January 23, 1960

✓ F
Mr. H. V. W. Donohoo
Texas Gulf Sulphur Company
75 East 45th Street
New York 17, New York

Dear Van:

✓ F
The State Land Department has been taking the position, without regard to statute as a foundation, that persons on the ground, seeking mineral, have a prior right over others who have not made a valid discovery. This point of view, as you know, follows the Federal law on the subject.

Under these circumstances, a lawyer would say you have no legal rights in this land, but that such rights as you do have, are superior to the rights of any others, unless they have made a valid discovery of valuable mineral. Such a development is rather remote under present conditions.

I just thought it might be well to try and get their word in writing on the subject.

All best regards,

Sincerely,

HEINRICHS GEOEXPLORATION CO.

Walter E. Heinrichs, Jr.

WEH: jh

cc: R. A. Bell ✓ F

January 22, 1960

Arizona State Land Department
422 Arizona State Office Building
Phoenix, Arizona

Attn: Mr. Lewis C. Duncan, Manager

Re: Ridge Mining Company
M-1063

Gentlemen:

This is in reference to the above, your unsigned form letter from the leasing division dated 20 January 1960, and phone conversations to Mr. Duncan from Mr. Donohoo of Ridge Mining Company earlier this week and today from Mr. Walter Heinrichs, local agent on behalf of Ridge Mining Company.

As pointed out in your letter, it is understood that the 90 day period for establishing a preferential right to lease the claims involved has expired, and that according to statute and/or your administrative rules, and extension of the period cannot be granted. On the other hand, it is also understood that your practice is not to issue any lease without proof of satisfactory mineral discovery verified on the ground by your inspectors. Under these conditions, it is therefore interpreted, that in the case of 3rd party interests, and in lieu of new locations, that you would honor the lease application which was accompanied by the earliest proof of satisfactory discovery. However, there is an important technical question regarding your required course of action should a 3rd party now locate the ground. Under these conditions, wouldn't you be obliged to grant said 3rd party a 90 day preferential right or can you require 1st proof of discovery to apply? Although this eventuality might be unlikely, if it is at all possible, then Ridge Mining Company might wish to consider the advisability of re-locating the claims. Your comment on this is earnestly solicited and would be most appreciated.

We are grateful for your offer to hold the notices on file until 1 March 1960, pending proposed state legislative action which, if passed, could affect the situation. Meanwhile, as mentioned by Mr. Donohoo, his company will be continuing their geology, geophysics and drilling work in an effort to make a satisfactory discovery.

It was a pleasure to renew acquaintance with you again, even if only over the phone. I will look forward to your reply to this letter.

Sincerely,
HEINRICHS GEOEXPLORATION COMPANY

Walter E. Heinrichs, Jr., President

WEN: jh

cc: Mr. H.V.W. Donohoo ✓
Dr. Robert Bell

STATE LAND DEPARTMENT
422 Arizona State Office Bldg.
Phoenix, Arizona

January 20, 1960

RECEIVED JAN 21 1960

Ridge Mining Co.,
P.O. Box 5671
Tucson, Arizona

M-1063

Your Mining location notices ~~(was)~~ (were) presented to the State Land Department on November 18, 1959.

As near as we are able to determine you started action on claims located in Sections 1, 2, 12, 13 of Twp. 10-S, 16-E & Section 7 of ~~the~~ follows:
Township 10-S, Range 17-E.

Ridge S 13-1 through S13-6 inclusive - #S12-1 through S 12-24 inclusive -
S 12-26, S12-28, S12-30, S12-32 - Ridge S 11-1, Ridge S 7-1 through S 7-18
inclusive - Ridge S 2-1, S 2-3, S 2-5, S 2-7, S 2-9, Ridge S 1-1 through S1-10
inclusive - Ridge S 1-19 through S 1-28 inclusive.

The above instruments have been held by this Department for ninety days from the date of the original location in order to allow the required time for you to establish your preferential right to lease the land.

All instruments presented to this office are being withdrawn from our pending file. It is felt that you should be notified that the period granted in which you might obtain a preferential right to lease the land has expired. This office has no facilities for storing anything but necessary papers.

If you are still desirous of filing for a mineral lease in this area, please feel free to contact this office again at your convenience.

Very truly yours,

STATE LAND DEPARTMENT

Leasing Division

CC: Theodore J. Vaiteca etux

3-84
11/25/58

I called Hull RE Ridge
He would like to discuss
this matter next week
Thurs. or Fri. with his client
present.

Shall we inform Bell & Van
12/25/59 @ 3⁰⁰ P.M. E.G.H

December 2, 1959

Robertson, Hull, Childress & Drachman
Attorneys at Law
P. O. Box 2471
Tucson, Arizona

Attn: Mr. Norman S. Hull

Dear Mr. Hull:

In regard to your letter of November 24, 1959,
we are turning the matter over to Dr. R. A. Bell whose
address is 1919 East 3rd Street, Tucson, Arizona.

Dr. Bell will handle this matter and I am sure will
be in contact with you in the near future.

Very truly yours,

HEINRICHS GEOEXPLORATION CO.

E. Grover Heinrichs

ECH:jh

bcc: R. A. Bell
H. W. V. Donohoo

Enclosures

LOCATER

Ridge Mini Company

THIS CORNER IS THE _____ CORNER OF CLAIM _____

OR

THE COMMON CORNER AS FOLLOWS

_____ CORNER OF CLAIM _____

*Sample paper
on State Claim Corner*

notes - Area # 6

Roads

Good gravel road approx. along base-line.

Excellent gravel road (to San Manuel) along north side of sections #1 and #2 between T9S-T10S.

Several "jeep" roads criss-cross the area, as indicated on Campo Benito Quad.

Fences

- 1) ^(locked) Locked fence along north side of #1, #2, #3, continues down east side #1 and north side of #7.
- 2) Fence between #7 & #12 with open gate at about 50+00 N. (on jeep road)
- 3) ^(locked) Locked fence along south side of #35 & #36 (T9S) and east side of #36. Locked gate at about 150+00 N at power line but can get through by taking gate off hinges.
- 4) Locked enclosure around the N $\frac{1}{2}$ of the NE $\frac{1}{4}$ of Sec. #1, T10S, R16E.

Have soon to record the date & by whom?

R. A. Bell
MA 37096
Tucson

MAMMOTH

40'

17.5 490,000 FEET

1857

180E

1105E

1132E

1159E

Wash
3652

POWER LINE (APPROX)
WITH FAIR ROAD

BM 3429

S35-28	S35-29	S35-12	S35-11				
S35-24	S35-25	S35-10	S35-9				
S35-19	S35-18	S35-8	S35-7				
S35-17	S35-16	S35-5	S35-4	S36-17	S36-16		
S35-15	S35-14	S35-3	S35-2	S36-15	S36-14	S36-9	S36-7
S35-12	S35-11	S35-1	S35-0	S36-12	S36-11	S36-6	S36-5
				S36-11	S36-10	S36-4	S36-3
				S36-7	S36-6	S36-2	S36-1

S2-10	S1-27	S1-26	S1-25	S1-17	FG-17
S2-11	S1-28	S1-27	S1-26	S1-15	FG-18
S2-12	S1-28	S1-27	S1-26	S1-13	FG-13
S2-13	S1-28	S1-27	S1-26	S1-12	FG-12
S2-14	S1-27	S1-26	S1-25	S1-9	FG-9
S2-15	S1-25	S1-24	S1-23	S1-7	FG-7
S2-16	S1-23	S1-22	S1-21	S1-5	FG-5
S2-17	S1-21	S1-20	S1-19	S1-3	FG-3
S2-18	S1-19	S1-18	S1-17	S1-1	FG-1

S12-21	S12-20	S12-19	S12-18	S12-17	S12-16	S12-15	S12-14
S12-20	S12-19	S12-18	S12-17	S12-16	S12-15	S12-14	S12-13
S12-19	S12-18	S12-17	S12-16	S12-15	S12-14	S12-13	S12-12
S12-18	S12-17	S12-16	S12-15	S12-14	S12-13	S12-12	S12-11
S12-17	S12-16	S12-15	S12-14	S12-13	S12-12	S12-11	S12-10
S12-16	S12-15	S12-14	S12-13	S12-12	S12-11	S12-10	S12-9
S12-15	S12-14	S12-13	S12-12	S12-11	S12-10	S12-9	S12-8
S12-14	S12-13	S12-12	S12-11	S12-10	S12-9	S12-8	S12-7
S12-13	S12-12	S12-11	S12-10	S12-9	S12-8	S12-7	S12-6
S12-12	S12-11	S12-10	S12-9	S12-8	S12-7	S12-6	S12-5
S12-11	S12-10	S12-9	S12-8	S12-7	S12-6	S12-5	S12-4
S12-10	S12-9	S12-8	S12-7	S12-6	S12-5	S12-4	S12-3
S12-9	S12-8	S12-7	S12-6	S12-5	S12-4	S12-3	S12-2
S12-8	S12-7	S12-6	S12-5	S12-4	S12-3	S12-2	S12-1
S12-7	S12-6	S12-5	S12-4	S12-3	S12-2	S12-1	
S12-6	S12-5	S12-4	S12-3	S12-2	S12-1		
S12-5	S12-4	S12-3	S12-2	S12-1			
S12-4	S12-3	S12-2	S12-1				
S12-3	S12-2	S12-1					
S12-2	S12-1						
S12-1							

S18-1	S18-2	S18-3	S18-4
S18-5	S18-6	S18-7	S18-8



RISE RIZE

LOCATER Ridge Mining Company

THIS CORNER IS THE _____ CORNER OF CLAIM _____

OR

THE COMMON CORNER AS FOLLOWS

_____ CORNER OF CLAIM _____

LOCATER Ridge Mining Company

THIS CORNER IS THE _____ CORNER OF CLAIM _____

OR

THE COMMON CORNER AS FOLLOWS

_____ CORNER OF CLAIM _____

_____ CORNER OF CLAIM _____

~~CORNER~~ _____ CORNER OF CLAIM _____

_____ CORNER OF CLAIM _____

LOCATER Ridge Mining Company

THIS CORNER IS THE _____ CORNER OF CLAIM _____

OR

THE COMMON CORNER AS FOLLOWS

_____ CORNER OF CLAIM _____

LOCATER Ridge Mining Company

THIS CORNER IS ~~THE~~ CORNER CORNER OF CLAIM _____

OF

THE COMMON CORNER AS FOLLOWS

_____ CORNER OF CLAIM _____

11/24/59

On 11/18/59 I left a sketch map in your office to facilitate locating the Ridge Mng. Co. claim group, on your maps & etc.

I would appreciate it if you would return that map. I am replacing the sketch map with the map enclosed. I trust this will serve your purpose.

E. G. Overhorns

Field Progress Report --- November 16, 1959 through November 20, 1959

November 16, 1959

Started from NW Cor F 18-2 (etc), chained due east 1300 feet to General Land Office survey hub on pipe marking 1/4 corner of Sec 7, Sec 18, and set post for NE Cor F 18-2 etc. From this point chained due north establishing corners and end centers every 300 feet. At 5300 feet arrived at Gen Land Office hub marking 1/4 Cor Sec 6, Sec 7, and set SE Cor Claim F6-2 at this point. Continued on 100 feet to set NE Cor S7-18. Armstrong started from west end center of S13-2 setting posts every 300 feet north to the NW Cor S1-10.

November 17, 1959

Dropped Armstrong at NW S1-9, continued on to NE S1-9 then south leaving posts at every 300 ft location to SE S7-1. Started from NW S7-17. Located rock mound approx 20 ft west of fence corner tentatively identified as NW Cor Sec 7 etc. ~~XXXXXXXX~~ Established SW F6-1 about 2 feet west of N-S fence in line with claim posts set for east side of claims in Sec 1. Chained due east 1320 feet to establish SW F6-2. Chained additional 1320 feet east to Gen Land Office survey hub 1/4 Sec 6, 1/4 Sec 7 previously located as SE F6-2. Chained north locating corners and end centers every 300 ft to NE F6-8. From this point chained west 1320 ft to establish NW F6-8. Chained west additional 1320 ft to fence line to ~~ix~~ locate NW F6-7. Chained south locating corners and end centers every 300 ft to previously established SW F6-1. Armstrongs crew set posts from NW S1-9 to NW S13-1 and from SW S7-1 to NE S1-9.

November 18, 1959

Started from SW S7-2, chained north establishing corners and end centers every 300 ft to NW S7-18. intersected SE F6-1 at fence 80 ft south of location for NW S7-18. Tied Ridge stake marked L(?)50N - 185 E to NE Cor S7-16, This stake is located 270 ft N 33 W of NE S7-16. Picked up discovery posts along east boundary of Sec 7 claims, relocated and corrected location notices. Armstrong set corners, end centers and discovery posts north from S7-2 to NE F6-8. Surveyed north from SW F6-2 to NE F6-9 establishing corners and end centers every 300 ft.

November 19, 1959

Picked up old posts (18) in dry wash on San Manuel road. Started from NW F6-7 chained due north to NW F6-9 locating corners and end centers every 300 ft, setting posts and re-locating discovery posts. Started south from NW F6-7 to SW F6-1 setting posts and relocating discovery posts. Started from SW S12-19 dropped posts at locations north to NW S1-27. Chained west from this point 1320 ft to establish

Field Progress Report 16/Nov - 20/Nov (Cont.)

NW S2-9 then south establishing corners and end centers every 300 ft to SW S11-1. Armstrong set posts from NE F6-9 to SW S7-2 and from SW S12-20 north to NW S1-28.

November 20, 1959

From NW F18-2 surveyed south establishing corners and end centers and set posts to SW F18-6. From NE F18-2 located at Gen Land Off survey hub marking 1/4 Sec 7, 1/4 Sec 18, chained south to SE F18-6 establishing corners and end centers every 300 ft, setting posts and relocating discovery posts. Set posts from NW F18-1 to SW F18-5, from NW S13-1 to SW S13-5, and from NW S13-2 to SW S13-6. Found error in location of discovery of S13-6 which was set at the proper location for NW S13-6. Located properly and surveyed additional 300 ft to south to establish SW S13-6. Armstrong set posts from NW S1-27 to SW S12-19 and from NW S2-9 to SW S11-1

F. A. Seward, Jr.

To: Heinrichs Geoexploration Co.

From: F. A. Seward, Jr.

Subject: Daily Progress Report --- Ridge Mining Co. Project

November 12, 1959

Drove from Tucson to Oracle arriving in field approximately 1:00 P.M. Started survey from SE Cor Sec. 12 (NW Sec 18, NE Sec 13, SW Sec 7) T 10 S, R 16 E, located on a fence line, established as claim corner SE cor S 12 - 1 etc. Chained due east from fence line, at 600 feet arrived at Ridge stake marked 165 E, then on to 1320 feet and established NW Cor claim F 18-2 etc.; then chained on to stake marked 180E a total distance of approx. 2100 ft (2085). This point had been established as the SE Cor claim S 7-2 etc actually 555 feet short (west) of proper location. Returned to point of beginning (SE Cor Sec. 12 etc.) and chained west ~~100~~ 100 ft to stake marked 158 E; then west to td 1320 ft and established claim corner NW S 13-1 etc., then west 1320 ft to hub previously located as NW S 13-2 at Ridge stake # 132. Tied within 15 feet. Drove north along claim line from NW S 13-2 dropping posts at each end center and corner location to north boundary at NW Cor S 1 - 10

November 13, 1959

Started from NW Cor S1-10; chained east 1320 ft to establish NW Cor S 1-9; continued on 1320 ft to tie to NE Cor S 1-9. missed tie approx 30 ft south and 20 ft west. Started from NW Cor S1-9 , chained south establishing corners and endcenter locations every 300 ft. Tied to NW Cor S13-1 set 12/Nov. missed tie by 20 ft in azimuth (20 ft west of Cor) and 50 ft in distance (50 ft south of corner). From Nw Cor s13-1 chained south establishing corners and end centers every 300 ft to SW Cor S13-5. Started from NW Cor ~~S12-4~~ S12-4, chaine d west to establish SW Cor S12-20

November 14, 1959

Started from NW Cor S1-10; chained west 1320 ft to establish NW Cor s1-28; continued west ~~1320~~ 1320 ft to a point 120 ft west of stake set for NW Cor S1-27. no north - south error but corner is apparently 120 ft short of proper location. Started from NW Cor S1-28 chained south setting corners and end centers every 300 ft to SW Cor S12-20 set 13/Nov. tied within 6 ft (arrived at point six ft south of corner, on azimuth.

STATE LAND DEPARTMENT
State of Arizona

APPLICATION FOR MINERAL LEASE ON STATE LANDS

The STATE LAND COMMISSIONER, Phoenix, Arizona:

I, _____,

of State of _____, not being in arrears or default for rentals or fees upon leases for state lands, do hereby make application to lease, under the laws of the State of Arizona, the state lands hereinafter described for a mineral lease for a term of twenty years for which I agree to pay rental and fees in accordance with rules and regulations of the State Land Department.

Name & Number of Claim	Subdivision	Sec.	Twp.	Rge.	Acres	Grant

(If more space is needed, continue on reverse side)

1. Under what type location is application made? Lode Type B?
 2. Are there any prospectors or prior valid mining locations on the land?
 3. Are there any abandoned workings upon the land?
 4. Has the land been located in full compliance with the mining laws?
 5. Are there any improvements upon the land?
- Owner: _____
6. Are you a citizen of the United States? Age of Applicant:
 7. In what county are these claims located?
 8. Will it be necessary to cross other state lands to reach these claims?
 9. Is land leased for any purpose?
If so, what type lease?

CERTIFICATION:

(I or We) hereby certify under penalty of perjury, that the information contained and statements herein made are to the best of (my or our) knowledge and belief true, correct and complete.

(Sign here) _____

(Address) _____

(PLEASE READ REVERSE BEFORE COMPLETING)

The following is not to be filled in by Applicant

Fee Received _____ Amount _____ Receipt No. _____
 Begins _____ Expires _____ Rental _____
 Recorded by _____
 Approved or Denied by _____ Date _____

STATE LAND DEPARTMENT
State of Arizona
Phoenix, Arizona

RECEIVED NOV 20 1959

November 19, 1959

Ridge Mining Co.
P.O.Box 5671
Tucson, Arizona

RE: M-1063

Dear Applicant:

It will be necessary for you to furnish this Department proof that you have made a valuable mineral discovery, prior to the issuance of a mineral lease, on the following claims:

Ridge S 13-1 through 6, Ridge S 12-1 through 24, 26, 28, 30, 32
Ridge S 11-1, Ridge S 7-1 through 18, Ridge S 2-1, 3, 5, 7, 9,
Ridge S 1-1 through 10, 19 through 28

Proof may be in the form of an assayer's report or core drilling. This requirement is covered by Section 27-231, Arizona Revised Statutes.

If these claims are located under Section 27-232-A, A.R.S., the State Land Department requires a survey map showing degrees and distances from section corners and the direction of the end lines. It is preferable that a registered surveyor prepare a map that will establish a basis for accurately locating these claims.

Your cooperation in complying with the requirements of the law, and the Rules and Regulations of this Department, will facilitate processing Applications for Mineral Lease on State lands.

Very truly yours,

Obed M. Lassen

Obed M. Lassen
State Land Commissioner

P.S. We have enclosed an application for mineral lease for your convenience.

OML/pm
1/58
3-61

STATE LAND DEPARTMENT
State of Arizona

APPLICATION FOR MINERAL LEASE ON STATE LANDS

The STATE LAND COMMISSIONER, Phoenix, Arizona:

I, _____,

of State of _____, not being in arrears or default for rentals or fees upon leases for state lands, do hereby make application to lease, under the laws of the State of Arizona, the state lands hereinafter described for a mineral lease for a term of twenty years for which I agree to pay rental and fees in accordance with rules and regulations of the State Land Department.

Name & Number of Claim	Subdivision	Sec.	Twp.	Rge.	Acres	Grant

(If more space is needed, continue on reverse side)

1. Under what type location is application made? Lode Type B?
 2. Are there any prospectors or prior valid mining locations on the land?
 3. Are there any abandoned workings upon the land?
 4. Has the land been located in full compliance with the mining laws?
 5. Are there any improvements upon the land?
- Owner: _____
6. Are you a citizen of the United States? Age of Applicant:
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If so, what type lease?

CERTIFICATION:

(I or We) hereby certify under penalty of perjury, that the information contained and statements herein made are to the best of (my or our) knowledge and belief true, correct and complete.

(Sign here) _____

(Address) _____

(PLEASE READ REVERSE BEFORE COMPLETING)

The following is not to be filled in by Applicant

Fee Received _____ Amount _____ Receipt No. _____
 Begins _____ Expires _____ Rental _____
 Recorded by _____
 Approved or Denied by _____ Date _____

TEXAS GULF SULPHUR COMPANY

(INCORPORATED)

75 EAST FORTY FIFTH STREET

NEW YORK 17

RECEIVED NOV 2 1959

October 29, 1959

Mr. Walter E. Heinrichs, Jr.
P. O. Box 5671
Tucson, Arizona

Dear Walt:

Enclosed are three copies of Power of Attorney relating to staking of claims for Ridge Mining Company in the State of Arizona. We understand that you will need this in connection with recording and other dealings with the State in our behalf.

Bob Bell reports that the staking went very well. We will look forward to copies of your map and your bill. It is best to bill now and any future work can be billed as you do the work, or as convenient.

Very best wishes to all,



H. V. W. Donohoo

HVWD/mh
Enc.

*P.S. Received claim maps from Graves
this morning - Thanks
m*

POWER OF ATTORNEY

Know all men by these presents that Ridge Mining Company, a corporation organized and existing under the laws of Delaware, does hereby grant to:

Walter E. Heinrichs, Jr.

for and in its stead, to stake mining claims and receive leases on said lands in the State of Arizona, and generally to do and perform all things necessary or convenient to the end that Ridge Mining Company obtain valid mining claims or leases either on State or Federal lands in the State of Arizona as a result of its discoveries.

RIDGE MINING COMPANY

R. J. Morrison
President

B. G. Bedichuk
Secretary

Dated
October 19, 1959

RECEIVED NOV 2 1959

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R. D. Morrison
President

B. G. Dodichet
Secretary

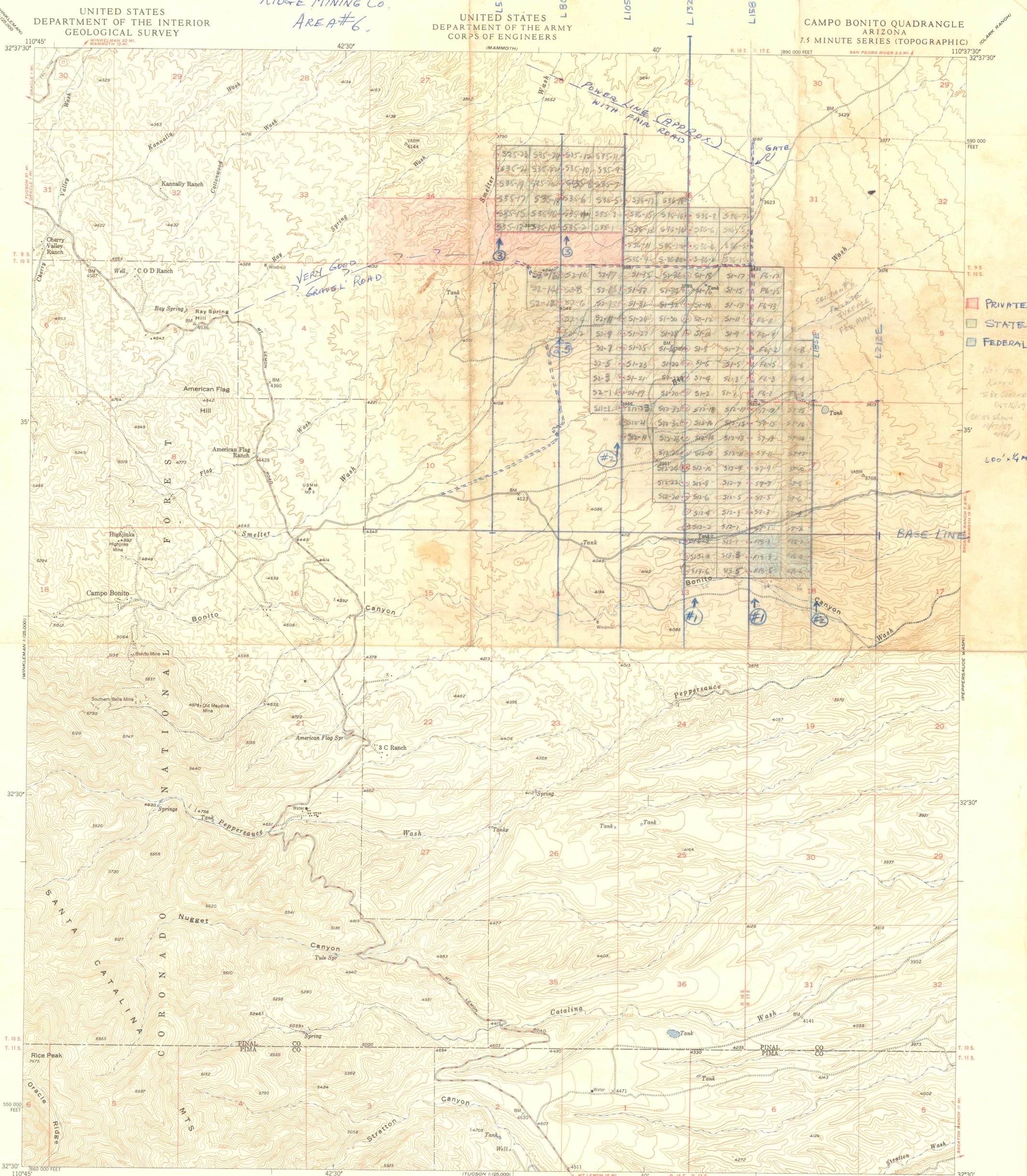
Dated
October 19, 1959

RECEIVED NOV 2 1959

RIDGE MINING CO.
AREA #6

UNITED STATES
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

CAMPO BONITO QUADRANGLE
ARIZONA
7.5 MINUTE SERIES (TOPOGRAPHIC)

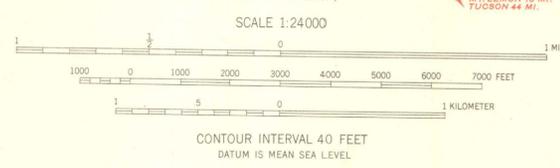


PRIVATE
STATE
FEDERAL

Not yet known to be checked Oct 12/10/19 (as shown 1/4/19 and)

600' x 4 MI

Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography from aerial photographs by multiplex methods
Aerial photographs taken 1945. Field check 1948
Polyconic projection: 1927 North American datum
10,000-foot grid based on Arizona coordinate system,
central zone
Dashed land lines indicate approximate location
Unchecked elevations are shown in brown



ROAD CLASSIFICATION

HARD-SURFACE ALL WEATHER ROADS DRY WEATHER ROADS
Heavy-duty **4 LANE 18 LANE** Improved dirt
Medium-duty **4 LANE 18 LANE** Unimproved dirt
Loose-surface, graded, or narrow hard-surface
U. S. Route State Route

CAMPO BONITO, ARIZ.
N3230-W11037.5/7.5
EDITION OF 1949

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON 25, D. C.

165C

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 16 1/2 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 1/25,000 means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 25,000 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 1/25,000 (1 inch=one-half mile) or 1/50,000 (1 inch=one mile), 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 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 1/125,000 (1 inch=nearly 2 miles) or 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 1/250,000 (1 inch=nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of 1/500,000 (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 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 1/25,000 and 1/50,000.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of 1/25,000.

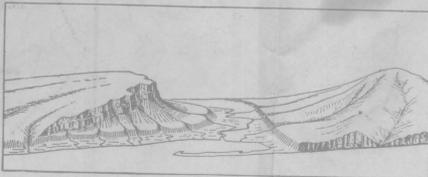
A survey of Puerto Rico is now in progress. The scale of the published maps is 1/25,000.

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

ing 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,

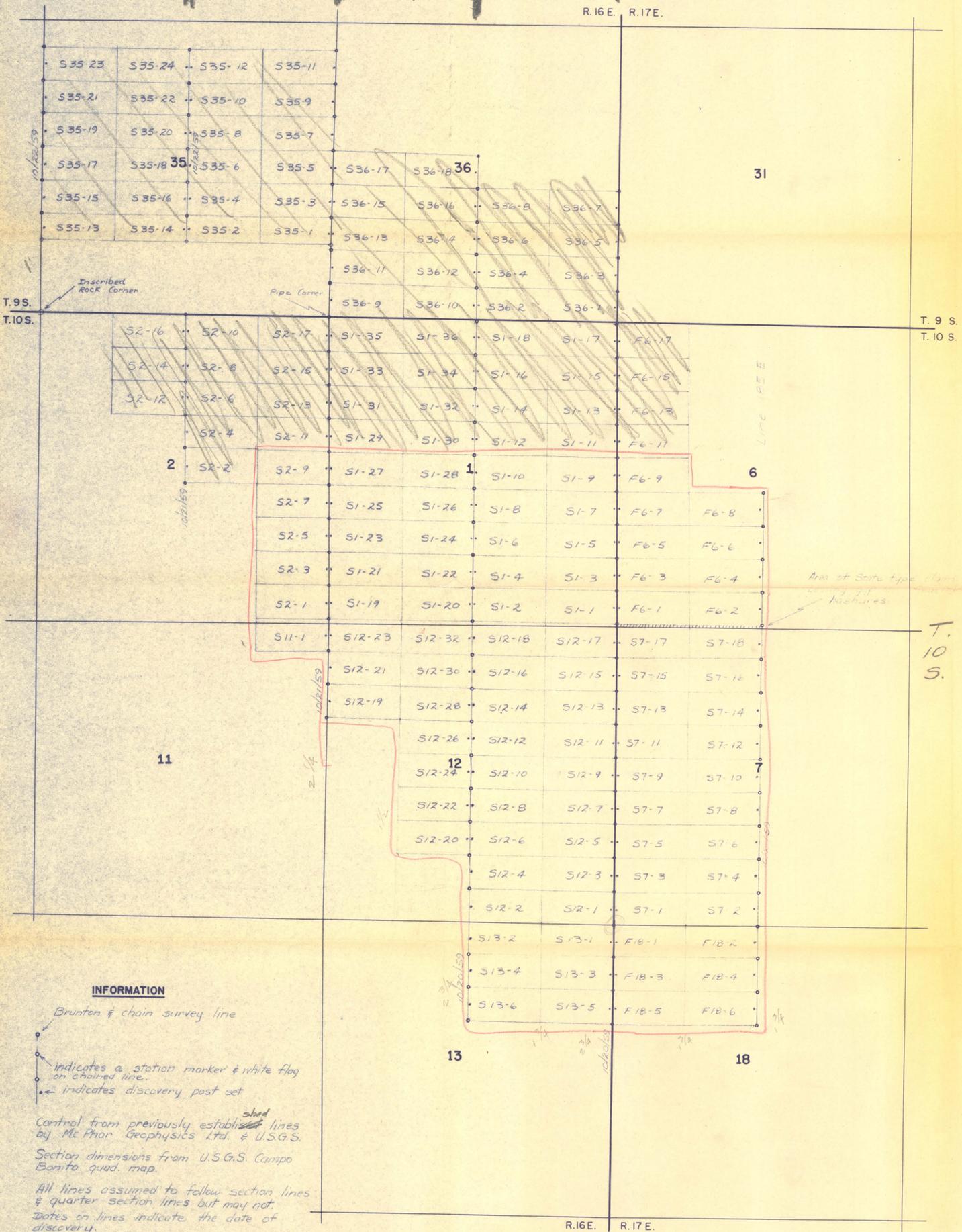
Washington, D. C.

November 1937.

STANDARD SYMBOLS

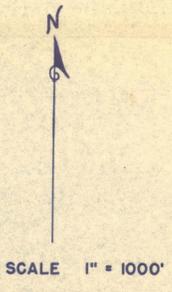
NOTE:—Effective on and after October 1, 1945, the price of standard topographic quadrangle maps will be 20 cents each, with a discount of 20 percent on orders amounting to \$10 or more at the retail rate.

CULTURE (printed in black)															
RELIEF (printed in brown)							WATER (printed in blue)								
WOODS (when shown, printed in green)															



INFORMATION

Brunton & chain survey line
 indicates a station marker & white flag on chained line.
 indicates discovery post set
 Control from previously established lines by McPhor Geophysics Ltd. & U.S.G.S.
 Section dimensions from U.S.G.S Campo Bonito quad. map.
 All lines assumed to follow section lines & quarter section lines but may not.
 Dates on lines indicate the date of discovery.
 Claim code as follows: S = state land, F = federal
 1st number after letter is section claim is located in.
 2nd number is claim number in that particular section.



RIDGE MINING COMPANY
AREA No 6
 PINAL COUNTY, ARIZONA

CLAIM INDEX MAP
 BY
HEINRICHS GEOEXPLORATION COMPANY
 TUCSON P.O. Box 5671 ARIZONA
 OCTOBER, 1959

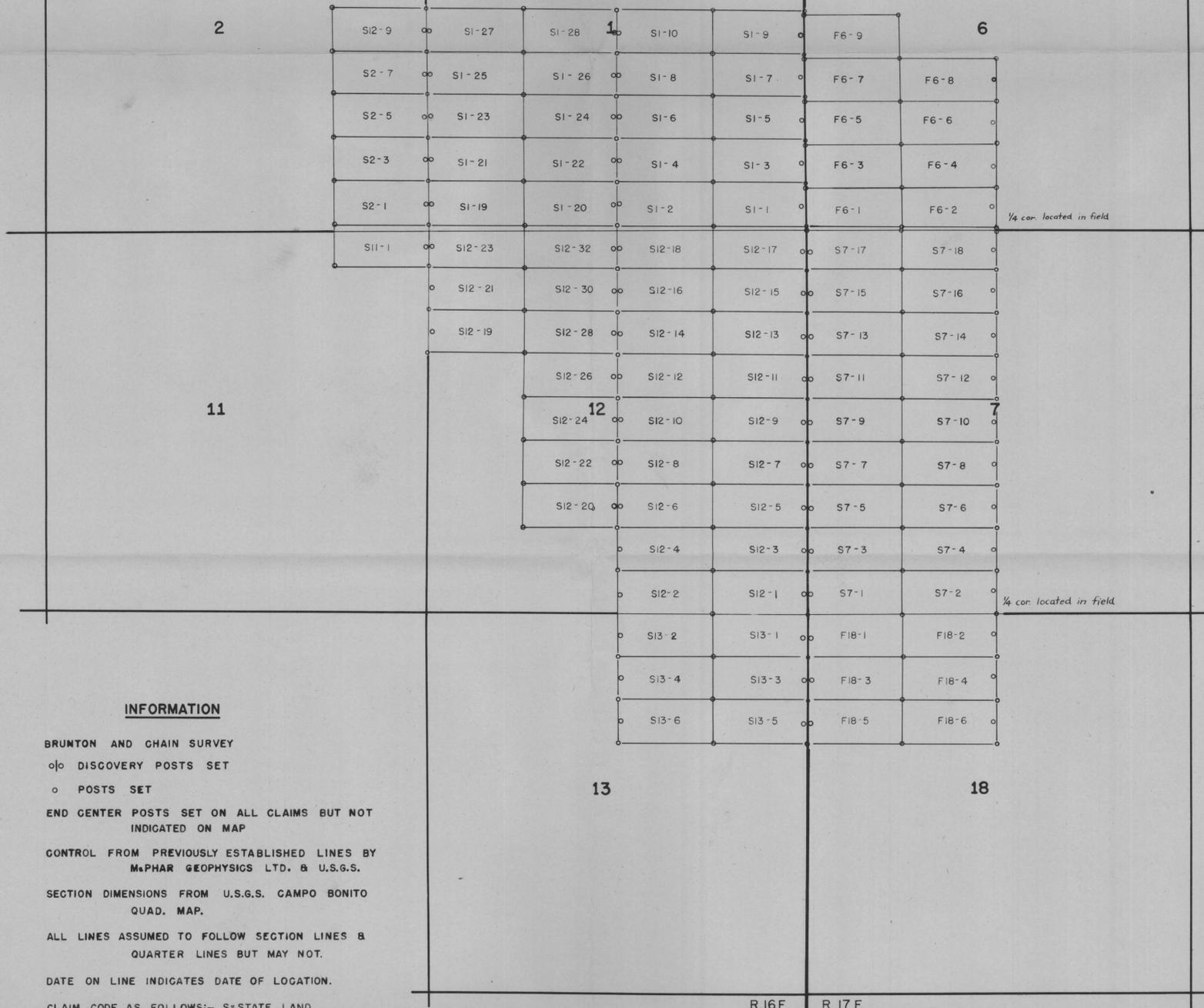
2 1/4 across
 93 claims
 23A
 7.75
 4 inch 8 days
 24 man days
 Agents for Ridge Mng. Co
 10.5 miles
 30 man days
 1/3 mi/day/man

221
 21402
 55502

T. 9 S.
T. 10 S.

R. 16 E. R. 17 E.

T. 9 S.
T. 10 S.



INFORMATION

BRUNTON AND CHAIN SURVEY

o DISCOVERY POSTS SET

o POSTS SET

END CENTER POSTS SET ON ALL CLAIMS BUT NOT INDICATED ON MAP

CONTROL FROM PREVIOUSLY ESTABLISHED LINES BY M&PHAR GEOPHYSICS LTD. & U.S.G.S.

SECTION DIMENSIONS FROM U.S.G.S. CAMPO BONITO QUAD. MAP.

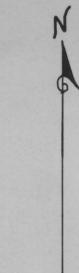
ALL LINES ASSUMED TO FOLLOW SECTION LINES & QUARTER LINES BUT MAY NOT.

DATE ON LINE INDICATES DATE OF LOCATION.

CLAIM CODE AS FOLLOWS:- S=STATE LAND,
F= FEDERAL, 1ST NUMBER AFTER LETTER
IS SECTION CLAIM IS LOCATED IN, 2ND
NUMBER IS CLAIM NUMBER IN THAT PARTICULAR SECTION.

RECORDED 11/12/59 AT 4:00 PM PINAL COUNTY COURT HOUSE, FLORENCE, ARIZONA
DOCKET 246, PAGES 172 THROUGH 264

STATE LEASE CLAIMS FILED IN STATE LAND DEPARTMENT IN PHOENIX, ARIZONA
11/18/59 AT 3:53 P.M.

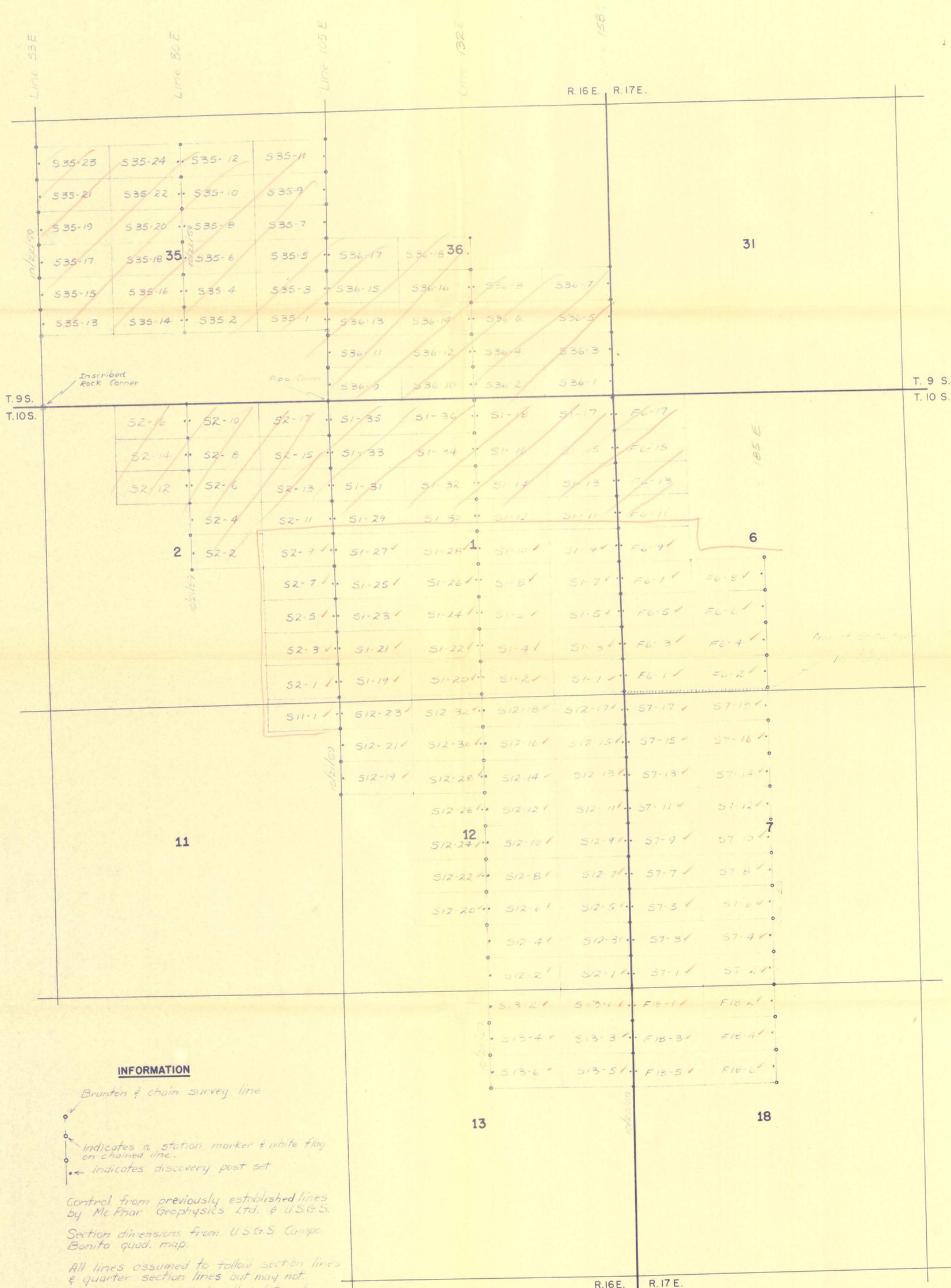


SCALE 1" = 1000'

RIDGE MINING COMPANY
AREA N^o 6
PINAL COUNTY, ARIZONA

CLAIM INDEX MAP

BY
HEINRICHS GEOEXPLORATION COMPANY
TUCSON ARIZONA
OCTOBER, 1959



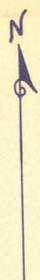
INFORMATION

Brunton & chain survey line
 indicates a station marker & white flag on chained line.
 indicates discovery post set

Control from previously established lines by McPhar Geophysics Ltd. & U.S.G.S.
 Section dimensions from U.S.G.S. Camp Bonito quad. map.

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SCALE 1" = 1000'

Recorded 11/12/59 @ 4:15 PM Pinal County Court House, Florence, Ariz.
 Docket 246 pgs. 172 through 264 in Pinal, Ariz.
 State Lease Claims filed in State Land Dept. 11/18/59 @ 3:53 PM.

RIDGE MINING COMPANY
AREA N^o 6
 PINAL COUNTY, ARIZONA

CLAIM INDEX MAP
 BY
HEINRICHS GEOEXPLORATION COMPANY
 TUCSON ARIZONA
 OCTOBER, 1959