MME Form 9
Rev. Nov. 65

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey

OFFICIAL DOCKET FILE

Contract No. _____ Docket No. 6807

Application
- [x] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [x] Owner's Consent to Lien and Subordination Agreement
- [x] Application and Attachments

Right Side

- [ ] Project Summary (final)
- [ ] Work Completed Analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semiannual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam. Report (Tab) 6/19/70
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No. _____: Reports
- [ ] Analysis of Semiannual Inspection Reports
- [ ] Project Summary (Interim) by MME Engineers

Right Side

- [ ] Field Team Semiannual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with Transmittal, Narrative and Maps

Folders No. _____: Maps (Use pocket folder or envelope)

Folders No. _____: Settlement Sheets

Folders No. _____: Drill Logs

Folders No. _____: Royalty Material

72195-65

United States Department of the Interior

GEOLOGICAL SURVEY
Office of Minerals Exploration
345 Middlefield Road
Menlo Park, California 94025

November 13, 1969

OFFICIAL
COPY
O. M. E.
RECEIVED
NOV 17 1969
INITIALS | CODE

Memorandum

To: Chief, Office of Minerals Exploration
Washington, D. C.

From: Field Officer
Region II

Subject: New Application (Silver)
Luman Richard Barton
Trail Claims
Inyo County, California

Enclosed is one copy of an application received in this office November 12, 1969. A duplicate, including one copy of the Lien and Subordination Agreements is retained in our file.

The following comments apply to the numbered items in the application.

2. Applicant's Rights in Land:

   (a) Lease is not signed by lessees. Proof of labor is for Trail and Trail 2 Claims. Proposed exploration is on Trail 3 Claim.

   (c) Lien and Subordination Agreements by John R. McLaughlin, one of the lessees, is omitted from the application.

5. Exploration Work:

   (a) Location and direction of proposed adit is not illustrated.

7. Estimate of Costs:

   Overall cost of proposed adit is $130 per foot, partly because operating equipment is included at full purchase price.

R. M. Sorette
for H. K. Stager

Enclosures

MME Form 40
(Revised Nov. 68)

Budget Bureau No. 42-R1368
Approval expires Dec. 1971

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OFFICIAL COPY
O. M. E.
RECEIVED
NOV 17 1969
INITIALS CODE

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Pursuant to Public Law 85—701 (72 Stat. 700; 30 U.S.C. 641)

NAME OF APPLICANT *(Full legal name and mailing address as they should appear on contract if one is executed.)*

Luman Richard Barton
14632 Runnymede Street
Van Nuys, California 91405

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6807

DATE RECEIVED: 11-17-69

REGION: II

DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

- INDIVIDUAL [X]
- CORPORATION [ ]
- PARTNERSHIP [ ]
- OTHER *(Specify)* [ ]

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE

STATE IN WHICH FIRM IS ORGANIZED: California

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE: Silver

ESTIMATED COST OF PROJECT: Twenty Six Thousand Dollars ($26,000)

PROPERTY NAME	LOCATION COUNTY	STATE
Trail	Inyo,	California

GENERAL INSTRUCTIONS

Before filling out this application, please read the *OME Regulations for Obtaining Federal Assistance in Financing Explorations for Mineral Reserves* (30 CFR Chap. II). To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit two copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 2, existing mine workings and geology in item 3, and the proposed exploration work in item 5. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 3(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Department of the Interior, U.S. Geological Survey, Office of Minerals Exploration, Washington, D. C., 20242, or with the nearest OME Field Office.*

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief, and that he would not ordinarily undertake the proposed exploration under current conditions and circumstances at his sole expense.

October 20, 1969
DATED

Luman Richard Barton
BY *(Signature)*

Owner
TITLE

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense.
U. S. Code, Title 18, Sec. 1001.

Luman Richard Barton - 14632 Runnymede
91405 VAN NUYS, CALIF.

INFORMATION REQUIRED WITH THIS APPLICATION

1. Financial Eligibility:

(a) Submit evidence of efforts made within 90 days preceding the filing of this application to obtain credit from your bank of account and at least one other banking institution or other private source of credit. Such evidence shall include (1) true copies of your letters to credit sources which show date of loan request, amount and terms requested, and proposed use of loan funds and (2) true copies of replies from credit sources. If the loan was offered under terms which you consider unreasonable, state why you consider them so.

(b) List names and addresses of affiliated, parent, or controlling companies or organizations and state extent and nature of their interest.

(c) State how you propose to furnish your share of the cost of the exploration work.

2. Applicant's Rights in Land:

(a) State your interest in the land and mineral rights, whether owner, lessee, purchaser under contract, or other. If you are not the owner, submit one true copy of the lease, contract, or other document (with address of owner) under which you control the property. Describe all liens, mortgages, or other encumbrances on the land and state book and page number and official place where recorded.

(b) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all adjacent land which you own or control. Describe any part of the land or workings which should not be subject to Government royalty and liens. If the land consists of unpatented claims, state book and page number for each recorded location notice, including amended locations, and official place where recorded. State all the names by which you know the property.

(c) For all land or mineral rights encumbered or not owned, submit five copies of Lien and Subordination Agreements signed by owner on MME Form 52. If the agreements cannot be obtained, state reasons and whether you can furnish a performance bond.

3. Physical Description:

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the land. Include existing mine workings and all production facilities.

(b) State your interest, if any, in operations described in (a)

(c) State, if you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves, giving quantities and grades.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) If you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates. State your reasons for expecting to find ore.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you have, indicating whether you require their return.

4. Accessibility of Property:

(a) To aid the OME representative who may examine the property state name, address, and telephone number of person who will meet him; give directions for reaching the property; and describe accessibility of property and of any mine workings.

(b) Name the shipping and supply points and state the distances to the property.

5. Exploration Work:

(a) Describe fully the proposed exploration work giving individual footages and sizes of openings *for each item of work*. Use narrative, maps, plans, and sections as necessary. Show location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *land boundaries* or to the closest identifiable corner.

(b) If an access road must be built, show the proposed location on the property map and state the length, type and construction methods proposed.

(c) If an OME contract is executed, state how soon thereafter work would be started and finished. State your anticipated average daily or monthly rate of progress for each type of work.

6. Experience:

State your operating experience and background to conduct this exploration work and also that of the person who will supervise the work.

7. Estimate of Costs:

Furnish detailed estimates of the necessary costs for time and materials *for each item of the work proposed in 5(a)* under the headings listed below with a total for each heading and the estimated total cost of the work. Costs for any work to be performed by an independent contractor should be listed separately under category (a) below. Costs for any work that is not to be performed by an independent contractor should be listed under categories (b) through (g).

(a) Independent contracts. State the total cost of any proposed independent contract for all or any part of the work, and the number of units and the unit cost for each type of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, or per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. (*Note*—If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. The cost of supervision, engineering and geological services, outside consultants, and labor should be itemized by numbers and classes of employees; rates of wages, salaries or fees; and periods of employment. State whether these services are available.

(c) Operating materials and supplies. List items of material and supplies giving quantity and price of each. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of equipment and tools costing $50 or more per unit. Give specifications and indicate how each item is to be acquired—i. e., rented, purchased or provided by the applicant. If rented or purchased, state the estimated rental or purchase price. If furnished by the applicant, state condition and present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant which will be used in the exploration work.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration work, stating specifications and cost including labor, materials, and supervision.

(g) Miscellaneous. Describe the type and estimate the cost of repairs and maintenance of the operating equipment listed in 7(d). Do not repeat initial repairs listed in 7(e). Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories. [*Note*—The Government will not contribute to costs incurred before the date of the contract, or to costs of or incident to: (1) acquiring, using, or possessing land and any existing improvements, facilities, buildings, installations, and appurtenances, or the depreciation and depletion thereof; (2) general overhead, corporate management, interest and taxes (other than payroll and sales taxes); (3) insurance (other than employees' liability insurance); and (4) damages to persons or property (other than authorized repair to or replacement of equipment or other property used in the work).]

1. Financial Eligibility
   (a). Enclosed
   (b). None
   (c). Cash in my bank prior to Government Loan, this from personal money and small interest which I have a buyer.

Luman Richard Barton
14632 Runnymede
Van Nuys, Calif.
91405

1. (a)
(b)
(c)

September 9, 1969

Mr. Mike Martin, Loan Officer
Security Pacific Bank
6300 Van Nuys Blvd.
Van Nuys, Calif. 91401

Dear Mr. Martin:

I plan to commence exploration work on some silver mining property in Inyo County within the next sixty days.

The property has excellent geological reports which I would like to present to you in order that you might arrange a loan for me. The cost of this exploration will be about $28,000..

I would appreciate seeing you at your earliest convenience.

Yours very truly,

L. R. Barton

LRB/lrb

Lemon Richard Barton
14632 Runnymede
Van Nuys, Calif.
91405 1. (a)

SECURITY PACIFIC NATIONAL BANK

VAN NUYS BRANCH, 6300 VAN NUYS BLVD., VAN NUYS, CALIFORNIA · (213) 786-1700

MAILING ADDRESS: POST OFFICE BOX 271, VAN NUYS, CALIFORNIA 91408

September 11, 1969

Mr. L. R. Barton
14632 Runnymede Street
Van Nuys, California 91405

Dear Mr. Barton:

I regret to inform you that at this time Security Pacific National Bank will not be able to grant your request for a $28,000.00 loan to do exploration work in silver mining.

Sincerely,

D. M. Martin
Administrative Assistant

DMM/lw

Leman Richard Barton
14632 Runnymede St.
Van Nuys, Calif.
91405

1.(a)

September 8, 1969

Mr. John T. McHugh, V.-Pres.
Trans-World Bank
5400 Van Nuys Blvd.
Sherman Oaks, California

Dear Mr. McHugh:

Within the next sixty days I plan to commence exploration work on some silver property near Death Valley, California.

The cost of this exploration will be an estimated $28,000.00. I would appreciate an appointment with you to show you the engineering and geological reports on this property.

Please let me know what will be a convenient time for you.

Yours very truly,

L. R. Barton

L. R. Barton

LRB/lrb

Lumon Richard Barton
14632 Runnymede
Van Nuys, Calif.
91405

1, (a)

TRANS-WORLD BANK
5400 VAN NUYS BOULEVARD · SHERMAN OAKS, CALIFORNIA 91401
TELEPHONE 213 783-1621

September 11, 1969

Mr. L.H. Barton
Barton Mining Properties
14632 Runnymede
Van Nuys, California 91405

Dear Mr. Barton:

It was a pleasure to meet with you.

We are sorry at this time we cannot grant your request for a loan.

Sincerely,

J. T. McHugh
Vice President

JTM:lr

Lyman Richard Barton
14632 Runnymede
Van Nuys, Calif.
91405 1.(a)

2. Applicant's Rights in Land:

(a). Lease enclosed (copy)
No Liens, mortgages, or other encumbrances

(b). The location of the property is in Sections 3 and 4, Township 21 South, Range 45 East, in the Panamint Mining District of Inyo County, California. (SOUTH PARK MINING DISTRICT)
Unpatiented Claims, recorded in the Inyo Co., Courthouse at Independence, California, in
Books 98-101, Pages 507,
933-939
982-984
867-868

The claims are known as "TRAIL CLAIMS"

(c). Lien and Subordinate Agreements enclosed

Luman Richard Barton
14632 Runnymede
Van Nuys, Calif
91405

2. (a)
(b)
(c)

LEASE AND AGREEMENT

THIS AGREEMENT, made this 1st day of July, 1968 by and between the SILVER OUTCROP MINING COMPANY, a Nevada Corporation, whose address is Masonic Temple Building, P. O. Box 623, Carson City, Nevada, hereinafter known as Owners and Lessors, and L. R. BARTON and JOHN R. McLAUGHLIN, whose address is 14632 Runnymede, Van Nuys, California, hereinafter known as the Lessees.

WHEREAS the Lessors are the owners of the following unpatented lode mining claims:

Trail	Recorded in Book 98; Page 507 - 1964
Trail No. 2	Recorded in Book 100; Page 933
Trail No. 3	Recorded in Book 100; Page 934
Trail No. 4	Recorded in Book 100; Page 935
Trail No. 5	Recorded in Book 100; Page 936
Trail No. 6	Recorded in Book 100; Page 937
Trail No. 7	Recorded in Book 100; Page 938
Trail No. 8	Recorded in Book 100; Page 939
Trail No. 9	Recorded in Book 100; Page 984
Junction No. 1	Recorded in Book 100; Page 982
Junction No. 2	Recorded in Book 100; Page 983
Trail No 8 Mill Site	Recorded in Book 101; Page 867
Trail No. 9 Mill Site	Recorded in Book 101; Page 868

All of the above Lode Mining Claims being located in the South Park Mining District, Inyo County, State of California and the location notices recorded with the County Recorder of Inyo County, California.

The Assessment Work on the above claims was performed and Recorded with the County Recorder of Inyo County in Volume 22, Page 228.

The Lessors do hereby agree to lease the above legally described mining property to the Lessees under the following terms:

(1) Lessees shall cause to be paid to the Lessors the sum of Two Hundred Fifty ($250.00) Dollars monthly as a minimum royalty. The receipt of the first Two Hundred Fifty ($250.00) dollars monthly royalty is hereby acknowledged

(2) Lessees shall cause to be mined and or milled and sold to the Smelter marketable ore within six (6) months from the beginning of the lease.

Luman Richard Barton
14632 Runnymede
Van Nuys, Calif.
91405

2(a)

(3) Lessees agree to pay all costs or expenses of mining, milling and transportation, or any incedential costs or expenses or fees of operation, including fee for Smelter or Mill Assay. Further agree to cause the Smelter or Mill to deposit the Lessors' share of receipts (Eight (8%) per cent of Smelter or Mill Return in a designated bank to the account of the Lessors. Lessors pay their pro rata eight (8%) percent of rail cost to smelter....

(4) Lessees agree to maintain and to operate and to work said properties, claims, mills, premises, and equipment and appurtenances in full compliance with all California State Mining Rules and Regulations. All work to be done in a minerlike fashion without waste, with due regard to safety and the preservation for the future development for a workable mine. Pillars must be left on all drifts and slopes, also keeping at all times, the drifys, shafts, tunnels and other passages drained and clear of loose rocks and rubble of any description.

(5) Lessees must be responsible for all insurance, compensation and liability in full compliance with the State of California Mining Laws. To keep at all times all the property properly posted.

(6) All ore unmilled or mill tailings shall be stockpiled so as not to impede any future working of the property, this site to be at some agreed upon area.

(7) Lessees agree to keep said property clear and free of all charges, liens for work or material, taxes and assessments and all other obligations arising from the operation of the property. Proof that taxes and assessment work are paid and filed must be furnished at least in ample time to keep the property clear and free of any such encumbrance.

(8) Lessors or their agents have the right to enter upon the premises at reasonable times to inspect the operation, check records, or any papers pertaining to the operation of this property.

(9) This lease nor any part thereof cannot be sublet nor sold without the full consent of the Lessors unless it be to a company in which the Lessees are stockholders or partners.

(10) Lessees agree that in the event of any default on the part of the Lessees they shall quietly and without any legal action being necessary leave the premises allowing the Lessors full access to all books and records of the operation to that date. Thiss will also constitute a complete waiver on the part of the Lessees. Any costs or fees encountered in the event of legal action having to be taken on the part of the Lessors must be paid by the Lessees.

Lemon Richard Baxter
14632 Kennymede
Van Nuys, Calif.
91405

2(a)

(11) Failure to insist upon the strict performance of the lease on the part of the Lessors does not constitute or can't be construed as a continuing part of the agreement. The lease is considered the legal rules and regulations that the Lessors require.

(12) The terms of this lease shall be for ten (10) years with the option to renew for additional ten (10) year periods to a total of fifty (50) years. Notice of intention to renew on the part of the Lessees shall be given at least thirty (30) days prior to the termination of any period.

(13) The payment of the monthly royalty in the amount of Two Hundred Fifty ($250.00) Dollars as provided in item (1) shall be made on or before the first day of each month. However the eight (8%) per cent royalty as provided in item (3) may be considered a portion of any monthly payment.

The Lessors and the Lessees have read this Lease and Agreement and do hereby agree to its terms.

LESSEES:	LESSORS:
	SILVER OUTCROP MINING COMPANY
L. R. BARTON	By: Chas. F. Fowler
JOHN R. McLAUGHLIN	CHAS. F. FOWLER - VICE PRESIDENT
	William E. Dial
	WILLIAM E. DIAL - ASST. SECT.

STATE OF NEVADA)
) SS.
COUNTY OF ORMSBY)

I, the undersigned Notary Public, hereby certify that before me personally appeared CHAS. F. FOWLER and WILLIAM E. DIAL, as Vice-President and Assistant Secretary, respectively, of SILVER OUTCROP MINING COMPANY, a Nevada Corporation, to me known to be the officers who executed the foregoing instrument on behalf of said corporation, and severally acknowledged the execution of said instrument to be their free act and deed as such officers and that they affixed the official seal of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, at my office in aforesaid County and

Lemon Richard Baxter
14632 Kennymeade
Van Nuys, Calif.
91405

State, on this 11th day of July, 1968.

Mabel J. Snooks

MABEL J. SNOOKS
Notary Public — State of Nevada
Ormsby County
My Commission Expires Dec. 2, 1969

Notary Public in and for the
County of Ormsby, State of Nevada.

STATE OF CALIFORNIA)
) SS.
COUNTY OF)

On this _____ day of July, 1968, personally appeared before me, a Notary Public in and for the said County and State, L. R. BARTON, known to me to be the person described in and who executed the foregoing instrument, and acknowledged to me that he executed the same freely and voluntarily and for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

_____
Notary Public, in and for the said County and State.

My Commission Expires:

STATE OF CALIFORNIA)
) SS.
COUNTY OF)

On this _____ day of July, 1968, personally appeared before me, a Notary Public in and for the said County and State, JOHN R. McLAUGHLIN, known to me to be the person described in and who executed the foregoing instrument, and acknowledged to me that he executed the same freely and voluntarily and for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

_____
Notary Public in and for the said County and State.

My Commission Expires:

Lemon Richard Barton
16632 Rennyside Dr.
Van Nuys, Calif.
91405

2(a)

RECORDING REQUESTED BY

VOL. 23 PAGE 519

WHEN RECORDED MAIL TO

NAME L. R. BARTON

STREET ADDRESS 14632 RUNNYMEDE

CITY & STATE VAN NUYS, CALIF.

3126
RECORDED AT REQUEST OF
L. R. Barton
1969 SEP 2 AM 9 29
Proofs of Labor
INYO COUNTY, CALIF.
DONALD L. BELL, RECORDER

FEE $2.80

FOR RECORDER'S USE ONLY

STATE OF CALIFORNIA
COUNTY OF INYO } ss.

PROOF OF LABOR

BEFORE ME, personally appeared L. R. BARTON
(Please print name in full)

who, being duly sworn, says: My current mailing address is 14632 RUNNYMEDE,
(Number, Street, City, State, Zip Code Number)
VAN NUYS, CALIF., my current residence is 14632 RUNNYMEDE
(Number, Street, City, State, Zip Code Number)
VAN NUYS, CALIF. Certain labor and/or improvements required by law were performed or made on or for the benefit of the following mining claim(s), (which together comprise a group of contiguous claims) located in Inyo County, California, in the mining assessment work year ending on September 1, 1969, as follows:

Name of Claim (in full)	Mining Records Original Location Book	Page	Mining Records Last Amendment Book	Page
TRAIL	98	507		
TRAIL 2	100	933 (Cons)		

The work performed and/or improvements made consisted of the following (state value of each item and the dates on which, or periods of time within which, the same was performed or made):

DOZED 2 MILE OF ROAD $320. JANUARY 1969
COMPLETED LIVING QUARTERS $740. JANUARY 1969
STARTED SINKING SHAFT 300. JANUARY 1969

The total fair and reasonable value thereof was $ 1360.00, and the amount and value thereof on or for the benefit of each claim was $100 or more. The name and address of the person who performed the labor or made the improvements, as known to me, are: L. R. BARTON

The owners of the mining claims are:

Name	Current Mailing Address	Current Residence Address
SILVER OUTCROP MINING CO.	MASONIC BLDG. CARSON CITY, NEVADA	

All notices required by law to have been erected and all notices required by law have been posted on each claim or copies of such notices were in place on the claim on JANUARY 1969, also on that date each corner monument bore or contained marking sufficient to designate the corner of the mining claim to which it pertained and the name of the claim.

The above listed claim(s) is (are) held and claimed by the owner(s) or the undersigned (if he is entitled to possession thereof) for the valuable mineral contained therein.

SUBSCRIBED AND SWORN TO before me this 2nd day of September 1969

Celia C. Kwalk
Notary Public
My Commission Expires November 23, 1972

L. R. Barton
(Signature)
Lemar Richard Barton
14632 Runnymede, Van Nuys
Calif. 91405

2(b)

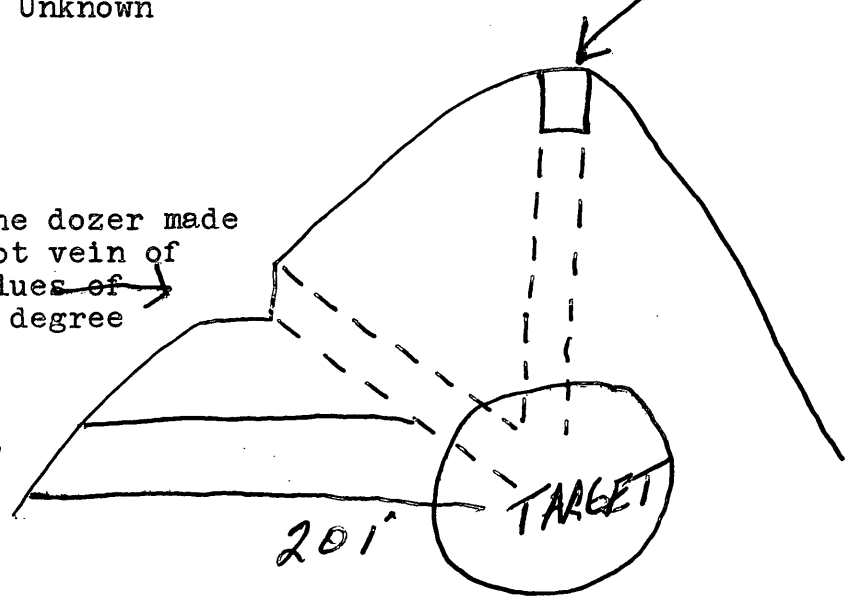
Chalfant Press

3. Physical Description
   (a). None
   (b). None (a).
   (c). None
   (d). Unknown
   (e).

X-21.44 ozs. silver. Quartz outcrop sunk 20 feet deep, probably 80 years ago.

In building road, the dozer made cut exposing 4-6 foot vein of silver-lead with values ~~of~~ $96.15 per ton. 33 degree incline.

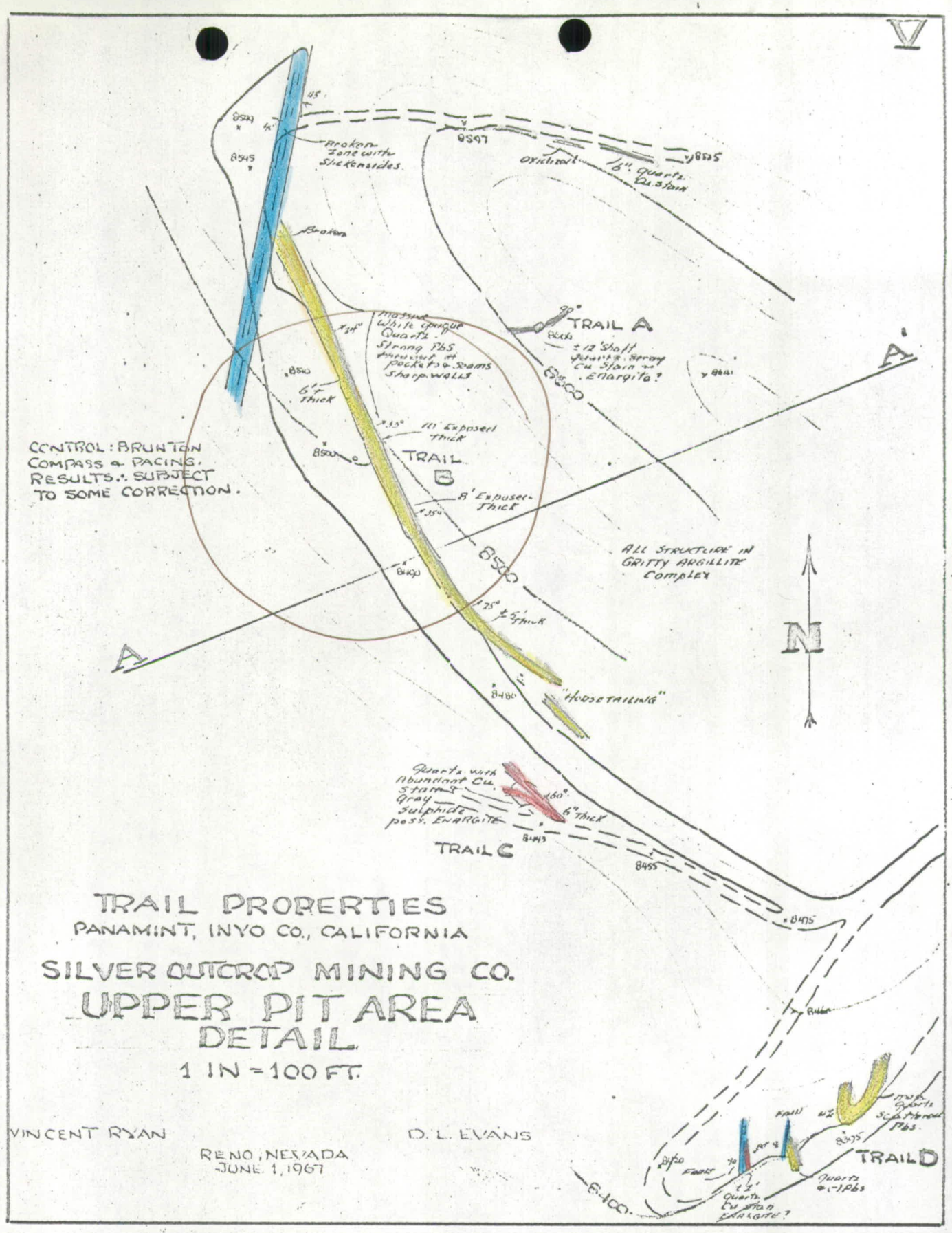
Proposed adit of 201 feet to explore for ore body.



(f). Samples taken from X and Y above, assays enclosed. Both veins are exposed, and at point of joining should have a good ore body.

(g). All reports enclosed, you may keep.

Luman Richard Barton
14632 Runnymede
Van Nuys, Calif.
91405
3. abcdefg



TRAIL PROPERTIES

PANAMINT, INYO CO., CALIFORNIA

SILVER OUTCROP MINING CO.

UPPER PIT AREA DETAIL

1 IN = 100 FT.

VINCENT RYAN

D. L. EVANS

RENO, NEVADA
JUNE 1, 1967

5 (a)

III

TRAIL PROPERTIES

PANAMINT, INYO CO., CALIFORNIA

SILVER OUTCROP MINING CO.

CLAIM MAP

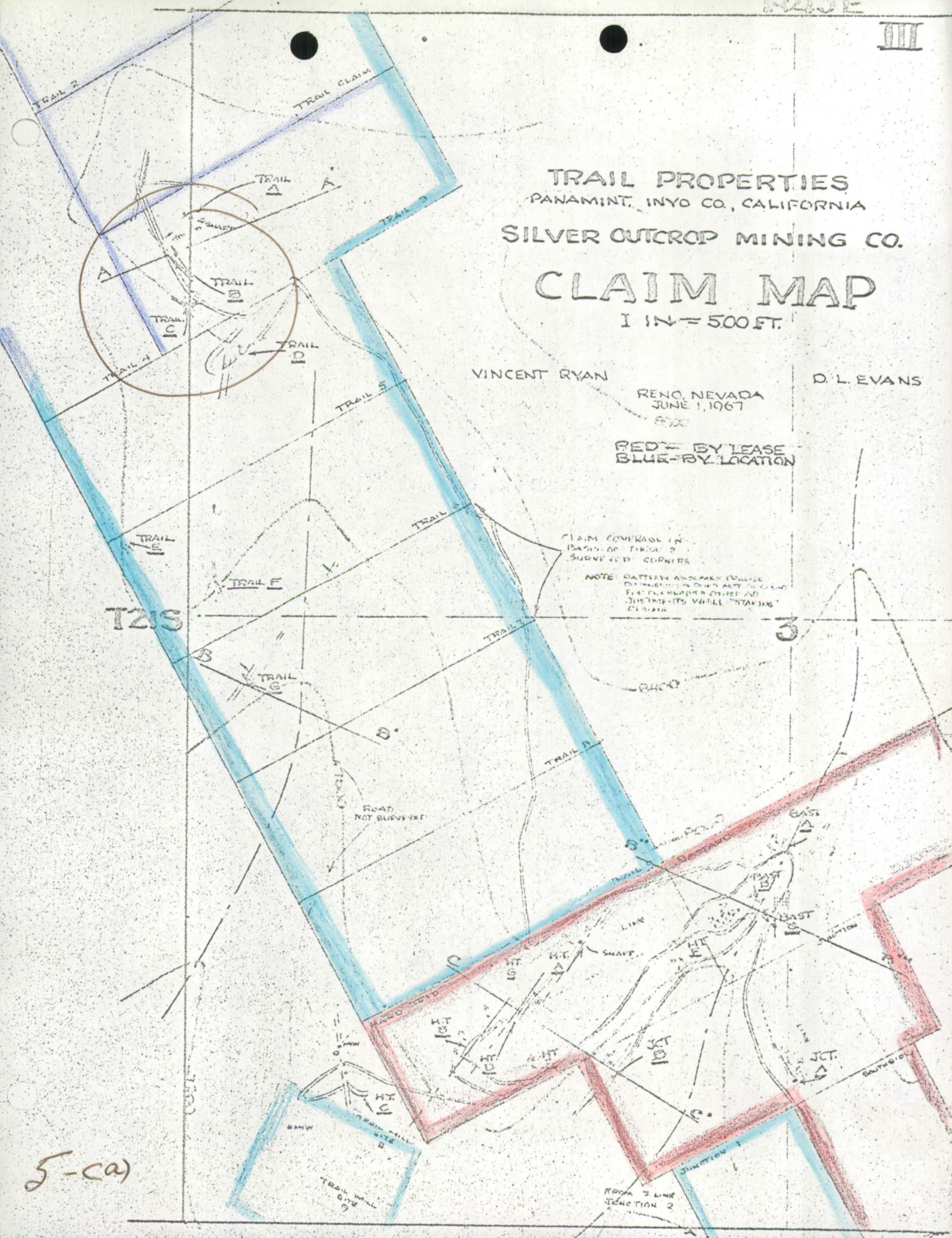
1 IN = 500 FT.

VINCENT RYAN

D. L. EVANS

RENO, NEVADA
JUNE 1, 1967

RED = BY LEASE
BLUE = BY LOCATION



5-(a)

R45E

IV

TRAIL PROPERTIES
PANAMINT, INYO CO., CALIFORNIA

SILVER OUTCROP MINING CO.

MINERAL 'SHOWS'
1 IN = 500 FT.

VINCENT RYAN

RENO, NEVADA
JUNE 1, 1967

D. L. EVANS

CONTROL: BRUNTON COMPASS & PACING. RESULTS ∴ SUBJECT TO SOME CORRECTION

CLAIM COVERAGE ON BASIS OF TIES TO SURVEYED CORNERS

NOTE: PATTERN AND NUMBER TOGETHER DEFINITELY DOES NOT INCLUDE FOR OVERLAPS & OTHER ADJUSTMENTS WHILE "STAKING" CLAIMS

T21S

LOWER TRAIL AREA

UPPER PIT AREA

HARD TRIP AREA

BASTARD VEIN AREA

LOWER PIT AREA

ROAD NOT SURVEYED

FROM S. LINE JUNCTION 2

5(a)

RECONNAISSANCE REPORT

TRAIL CLAIMS

Panamint City
Inyo County, Calif.

June, 1968

Dudley L. Davis

The Trail Claims adjoin the Hard Trip and Bastard claims to the northwest. There are several exposures of quartz veining on these claims and one in particular shows possibilities of developing an economic mine.

This occurrence is a strong quartz vein which varies from two to ten feet in width and has been exposed in a bulldozer trench for approximately 100 feet along the strike. The vein strikes easterly and westerly and dips 33° to the north. Galena and the oxidized lead minerals anglesite and cerussite occur in lenses in the quartz vein up to a maximum thickness of four feet. About midway in the exposure, a north-south shear zone intersects the vein. This shear zone trends toward a shaft which has been sunk on a two-foot quartz vein which shows silver mineralization. The quartz vein is nearly vertical so that it would intersect the east-west vein which has been prospected by the dozer cut. The intersection of these two vein structures forms a worthwhile target for exploration. It is recommended that the lead-silver ore exposed by the bulldozer trench be developed by sinking down dip along the trace of the intersection of the hanging wall vein.

Two samples were taken in the vein exposed in the bulldozer cut. One was selected material which would correspond to ore sorted from the blasting of the vein and the second sample represents the material which would be discarded by such mining operations. The cost of development of this property can be partially defrayed by shipment of this sorted ore. It is possible that an ore deposit of economic size and grade can be developed at the intersection of the two vein structures under the shaft. This target area is approximately 100 feet from the vein exposed by the bulldozer trench.

Perusal of the settlement sheet appended hereto will show that ore must have a gross value of $60 per ton to justify mining and shipment to a smelter from this locality.

Respectfully submitted,

Dudley L. Davis

DUDLEY L. DAVIS
Registered Professional Engineer
No. 3038

Registered Professional Engineer (Mining)
CERTIFICATE EXPIRES
DUDLEY L. DAVIS
DEC. 31, 1968
ARIZONA, U.S.A.

assay was $96. on the surface

Encl.

DLD:bd

Lemon Richard Baxter
14632 Runnymede
Van Nuys, Calif. 91405

3 (g)

THE EISENHAUER LABORATORIES
316-322 South San Pedro Stret
Los Angeles, California 90013

ED. EISENHAUER JR.
C. EISENHAUER RAYMOND
LAWRENCE EARL RAYMOND
All membrs of American Institute of Mining, Metallurgical, and Petroleum Engineers

ASSAY CERTIFICATE

PHONE 622-9828

Los Angeles, Calif. May 8/68 19

I hereby Certify that the samples described below, received from

R. L. Barton assay as foows:

Owner's Mark and Sample	GOLD OZS. PER TON	GOLD VALUE PER TON	SILVER OZS. PER TON	SILVER VALUE PER TON	TOTAL VALU PER TON	PERCENTAGE OF COPPER	PERCENTAGE OF LEAD	PERCENTAGE OF ZINC
Top of Mt. TRAIL	.03	$ 1.05	8.40	$ 21.00	$ 96.15		28.5	
Silver Lead Hoit "	.025	$ .88	21.44	$ 53.60	$ 54.48			
~~Adit~~	~~.03~~	~~$ 1.05~~	~~3.89~~	~~$ 9.73~~	~~$ 10.78~~		~~0.52~~	

The adit was from this location

no lead assay taken

GOLD @ $35 PER OZ.
SILVER @ $2.50 PER OZ.
LEAD @ 13 c.
COPPER @ ____ c.

CHARGES $ 20.00

Paid

ASSAYER

Established 1916

Lemar Richard Barton
14632 Kennymeade
Van Nuys, Calif.
91405

3-(f)

100 Ralston Street
Reno, Nevada
June 3, 1967

Silver Outcrop Mining Company
Post Office Box 623
Carson City, Nevada 89701

Gentlemen:

In accordance with your request to make an examination and report on your property in the Panamint Mining District, in the interests [illegible] I engaged Mr. David Evans, Geologist, to assist me in mapping [illegible] and report on the Geology. In this manner [illegible] work could be accomplished [illegible] minimum of time.

We left Reno on the morning of May 25, 1967, and returned [illegible] on the evening of May 29, 1967. Three days were spent on the property.

The following report is compiled from information gathered during these three days of reconnaissance, mapping and sampling, and from information made available to us by Mr. Carl Moran.

Consideration should be given to acquiring an OME Silver Loan of substantial proportions, in order to thoroughly explore and develop the major structures on the property.

Due to the lack of water, further tests for dry concentration, to verify results obtained from previous tests should be made.

Consideration should be [illegible] ring the water rights in Surprise Canyon.

Acquisition of the [illegible] y of wh[illegible] known as the American Silver Mine shou[illegible] ed.

The outlook for silver for the next several years is extremely [illegible] couraging, and it is anticipated that a continuous rise in price is likely to occur during that time.

Mr. Evans and I wish to acknowledge with gratitude the wonderful hospitality extended to us on the trip by Mr. and Mrs. Moran. Because of their cooperation and assistance, the examination was completed with a minimum of lost time.

Respectfully yours,

Vincent M. Ryan

Vincent M. Ryan

Leman Richard Barton
1432 Kennyside
Van Nuys, Calif.
91405 3(g)

VINCENT M. RYAN
CONSULTING ENGINEER
MINING GEOLOGY

100 Ralston Street
Reno, Nevada 89503
June 21, 1967

Silver Outcrop Mining Company
Post Office Box 623
Carson City, Nevada 89701

Gentlemen:

Further to my report dated June 3, 1967, this is to advise you that my opinion of the Gran property is that it is an excellent prospect and has the potential to become a mine. Mineralization, geological conditions and other factors justify fully the expenditure of considerable more money for development work.

As I stated in my report, I believe that rotary drilling should be accomplished to evaluate the several veins and that an O.M.E. loan of the proportions outlined should be applied for. With this expenditure the prospects for developing a mine of considerable proportions are extremely bright.

Very truly yours,

Vincent M. Ryan

Vincent M. Ryan

PROPERTY:

The property is comprised of 12 claims and 2 millsites, owned outright by the Company and 4 claims and one millsite under lease. Owned outright are Trail Claims 0 through 9, Junction #1 and Junction #2, and Millsites Trail 8 and 9. Under lease are the Hardtrip Bastard, Junction and Southside, and Millsite at the Camp. These claims form a compact group. None of the claims are patented.

Location of the property is in Sections 3 and 4, Township 21 South, Range 45 East, in the Panamint Mining District of Inyo County, California. It is some 40 miles north and east of Trona, California, and 12 miles northeast of Ballerat, California, a ghost town at the base of the Panamint Range. Four-wheel drive vehicles are required to reach the mine. The main workings are at an elevation of 7500 to 8500 feet, representing a considerable vertical spread of the mineralization. Roads serving the mine are steep and transportation is difficult and expensive.

HISTORY:

The Panamint City area and the mines around Surprise Canyon have produced many millions of dollars in silver and lead before the turn of the century. Exact records of this production are not available. Ruins from an old smelter of considerable capacity which served the mines of that era are still standing. Attempts to rework some of the mines have been made at various times. The Silver Outcrop property is on the north side of Surprise Canyon, and until the present time apart from the Stewart Wonder mine, little attempt has been made to thoroughly explore this section in spite of the similarity of the geology with that of the south side.

GENERAL:

The camp is quite isolated and supplies would have to be hauled from Trona or Ridgecrest. No timber or power is available near the mine. Sufficient water is available at the campsite for domestic purposes and perhaps a small amount of development work. Ample water is available in Surprise Canyon, but to get this water to the mine is a matter of considerable expense. Due to these conditions, costs will be somewhat higher than normally would be the case.

EXPLORATION AND DEVELOPMENT:

Present exploration has been undertaken by bulldozer cuts and trenches. A few feet of tunnel was driven on the Hardtrip AB vein and one raise was driven to intersect the ore shown at the outcrop. A few short drifts and shafts remain from the old workings. There are numerous outcrops and exposures of veins, and nearly all show mineralization in varying degrees. It becomes necessary to evaluate these occurrences for consideration of priority of development work.

Target area #1 should be the Trail B vein, now being trenched. Mineralization is observed for its entire length. This vein averages 8' in width, is 450' long, strikes N40 and dips NE at an angle of 34 degrees. Above this vein and some 100 feet to the east of the center of the exposure is a 20' shaft that appears to have been sunk on a mineralizing cross fracture. This vein is high in silver content. Before development is undertaken on this vein it is strongly recommended that a rotary drill be employed to establish the continuity of the dip and strike of the vein. With this information the development of the vein can be undertaken with a minimum of development per ton.

Target area #2 should be the major vein on the Hardtrip claim designated as HT AB. This vein is strong and continuous for some 900'. Mineralization is strong on the west end, and again in the area of the 70' shaft toward the eastern end of the vein . Cross-fracturing is noticed at both of these areas. This vein is striking northeast and in contrast to many of the others, is a steep dipping vein. Also, in this target area and below this vein another prominent vein designated as Junction B. The vein is parallel to HT AB, but dips at 30 degrees to the northwest. The vein is exposed for some 400 feet and shows a possible extension to 900'. In this target area, a crosscut tunnel should be driven at a point 50 feet below the Junction B vein, in a northwest direction, which will cut both of these major veins , and one that appears from surface indications to be of minor importance, or as an alternative, two shorter tunnels could be driven to intersect the veins individually.

In this target area #2 are also included the veins and outcrops of the Bastard and Junction claims, a zone of major importance includes the so-called gold vein, and a zone some 20' wide designated as Bast C, where the bulldozer uncovered highgrade ore incutting the road. Although the face sample taken in the oxidized face showed low values, evidence of the highgrade can be seen in the gulley below the road. Reference is made to Section B" - B".

Target Area #3 would have to be the Trail "G" vein, which is primarily a silver-copper vein. Although somewhat narrower than the others, the predominance of silver mineralization puts it high on the list, since any assistance from OME would necessarily be for silver.

In both Target Areas #1 and #3, ownership is also a determining factor, since there will not be any royalties to pay.

SAMPLING:

All work accomplished to date has been of the surface trenching type and sampling at this stage of development cannot describe an average grade. The samples taken, which appear on a separate part of this report, were taken for information purposes only, and particularly to ascertain the relationship between the silver and the lead, with a minor emphasis on the Copper content.

The Assay Certificate attached indicates the wide variance in sampling.

Chip, or channel sample, will vary widely, and in future exploration and development, bulk sampling will be necessary to arrive at an average grade. However, bulk sampling is not advisable until some depth beyond the present exposures is undertaken with the recommended development of the veins. Mineralization is certainly sufficient to justify further development.

Attached to this report is the Assay Certificate from the Nevada Assay Office, together with a description of the samples.

METALLURGY:

One bulk sample was run by Sutton Steele and Steele, of Dallas, Texas, manufacturers of equipment for dry separation by fluidization. Results from this test were very encouraging, and prove that the material can be handled in this manner. Since no weights of the various products are available, it is not possible to estimate the recovery.

Another test was run by a Phoenix, Arizona firm, and the results generally paralleled those of Sutton, Steele and Steele.

Dry separation is an extremely important segment of the economics at this property. Lack of water at the mine, and the high cost of transportation makes it mandatory for the present to concentrate the ore at the vicinity of the mine. At some later date, when development indicates sufficient tonnage, other aspects of milling can be considered.

Further study, and additional tests should be run, to make certain of the optimum grind for maximum recovery of the silver and lead. These further studies can be made from bulk samples taken from development as this work progresses, in the different ore zones.

A small concentrating plant was installed by the early operators, but apparently did not function properly. It is in a sad state of repair at present, but it is possible that parts of it could be rehabilitated, and the necessary additions made to be used for a sampling plant as development progresses. It is not suitable for production purposes of any large tonnage.

TRAIL PROPERTIES
Panamint District
Inyo County, California

By: David L. Evans

GEOLOGY

Introduction:

Foreword:

Reference is made to Plats II and IV through IX, attached to this study. Plats and sections can present a more understandable picture than the written test.

Purposes:

To determine a reasonable tonnage potential has been the purpose of this geological study. Tonnage will become "ore" only on the basis of commercial values, and values can be determined only by carefully sampling the property and its many exposures. Time allotted to this investigation was insufficient for such a sampling program.

Therefore, field efforts were limited to a survey of the property for purposes of accurately showing mineral occurrences and determining, per prospect, lineal extent, thicknesses, degrees of inclination and topographic setting.

This is not to say that other geological features were ignored. It is to say that emphasis was placed on structural detail.

Proceedures:

Field: The USGS 15 minute topographic sheet, "Telescope Peak Quadrangle" provides several shaft and tunnel sites in Section 3, Township 21 South, Range 45 East. These can be precisely plotted on an enlarged scale.

Following the first field-day, devoted to a reconnaissance of major features with operators' representative, our survey was started from an established point (shallow shaft shown on the West line of the NW quarter of the NW quarter of Section 3) and completed on the fourth day in the southeast quarter of Section 3.

Surveying was by Brunton Compass and geological pacing. Those points, not thus established, were determined by three point intersection, as the survey progressed. Areas of major interest were surveyed on a scale of 1 inch to 100 feet; otherwise 500 scale was employed.

With survey completed and a percentage of error noted between accurately established points, a factor was then employed to reduce our personal survey to a final accuracy.

References: Report 28, California Division of Mines (1932) provides:

(1) "Geology of a Part of the Panamint Range"; pp. 329-355, by F. M. Murphy.

(2) "Mineral Deposits of a Part of the Panamint Range"; pp. 357-376, by R. J. Sampson.

Both have been used in the preparation of this report.

Geological Summary:

With reference to Plat II, the Panamint District, discovered in 1860, reached its peak of production in the 1870's. Better than $2,000,000 were produced, mostly in silver, with antimony, gold and lead being marketed in minor commercial quantities.

Panamint City supported a population of 2,500. Major producers were the Wyoming Mine on the south side of Surprise Canyon, and the Stewart-Wonder mine, located on the north side. Production was from quartz veins, with about 6 feet of average width, carrying Freibergite (copper, antimony sulphide with silver bi-values) and stained with silver-bromides and the green and blue copper minerals, malacite and azurite. Quartz veins cut through the Marvel dolomite and extended into the overlying Surprising formation. All operations were shallow, being reached from surface tunnels.

Lying three-quarters of a mile north of the Stewart Wonder or one and one-half miles north of the Wyoming, Silver Outcrop's Trail properties repeat the quartz-Freibergite-copper stained mineralization in quartz veins with width averages exceeding 7 feet. Other veins, carrying heavy concentrations of the lead sulphide, galena, are reported to carry lower silver values.

Silver Outcrop's deposits, with one exception, occur as sharp vein structures, cutting across bedding and lines of schistosity. A vertical extent of at least 1100 feet is indicated. The six most promising mineralized structures provide a total lineal extent of 2,300 feet, and it is believed that continued development will increase the total appreciably.

Veins cut through Middle Park argillite, Sourdough limestone and Surprise metamorphosed formations, all above and younger than the Marvel dolomite-limestone, the Panamint major ore horizon. Average dip of Trail structure is 55 degrees.

2300 feet of lineal extent and 7 feet of width would underwrite 100,000 tons per inclined 100 feet, or at 55 degrees, 166,500 tons per vertical 100 feet.

Geological Detail:

Petrology:

Conforming to formational determinations, provided by the Mathews study, mentioned above, vein structures on Trail properties cut through Middle Park (argillites), Sourdough limestone, and Surprise metamorphics. These are listed from younger to older, or from top to bottom.

In conformity with our purpose, except for an occasional reference to "argillite", and some development in light blue of the Sourdough limestone formation (a key bed), plans and sections are not encumbered with petrological detail.

Formations are briefly described as follows:

Middle Park

Beds of buff to brown-colored slate and shale, gritty-shale and fine quartzites; note our occasional reference to "argillite" on plans and sections.

Sourdough Limestone

Thinly bedded, overall-gray limestone; characterized by alternating thin white and gray layers, with weathered surfaces, corrugated because of variations in weathering effects.

Surprise Metamorphics

Schists (thinly foliated, micaceous rocks) and other rechrystalized rocks, all darkly greenish in color, are dominant. The formation represents a great mixture of rock types, but schist is the most prominent.

The above, and Marvel dolomite in the Panamint workings are all "host" rocks. Mineralization should have its origin in intrusive rocks (i.e. granites, etc.). Apparently the closest intrusive area is a stock of granite-porphyry, making up the crest of the ridge, at the head of Surprise Canyon, about one mile east of Panamint. This is the "Little Chief" granite porphyry. Future detailed mapping, it is believed, could locate other and closer granitic intrusives.

Structure:

Mineralized Structure: Sharp, clean, foot and hanging walls characterize all mineralized structures. Structures exhibit occasional lines of unmineralized selvage, indicating an original fault-origin, before being later filled with mineral matter.

With reference to Plat IV, note that northeast mineralized structural trends dominate, with variations from N30E to N50E, all dipping to the northwest. A major exception is the 400 feet of structure at Trail B (Upper Pit Area) with trend of N25W, and dip to the northeast.

Simplicity of structure is complicated by a tendency of veins to break into a series of smaller, nearly parallel, veins at trend limits. This "horse-tailing" indicates a so-called en-echelon structural pattern, breaking a continuous trend into a series of segments, both in plan and in section. Further use of the principle might be used to discover other mineralization on trend, and to look for a steepening of dip, with depth, for the Trail B structure.

Structural trends of promise are represented by:

(1)	Trail B	in Upper Pit Area
(2)	Trail G	In Lower Trail Area
(3)	HTA	in Hardtop Area
(4)	Jct. B	in Lower Pit Area
(5)	Bast A	in Bastard Vein Area
(6)	Bast C	in Bastard Vein Area.

Considering intensity of structure, Bast C appears to head the list. The zone, in the 150 feet of opening-up, shows as much as 20 feet of thickness, has near-vertical dip, reflects continued post-mineral movement, and provides exceptional lead sulphide and probably lead carbonate. Further exploration of this trend is especially warranted as is work on the other areas listed above.

And, finally, it is apparent that contacts have controlled the emplacement of some mineralization. A prime example is the Bastard Vein area, at Jct. A, where quartz and galena follow the base of the Sourdough lime member.

Post Mineral Structure: Note the faulting terminating the northwest limit of Trail B and minor faults shown at Trail D, on Plat V.

A series of northeast trending faults have slightly displaced the Hard Trip vein, as well as a mineralized mass at HT C (Southwest of the Hard Trip vein).

As noted above, there has been continued and post-mineral movement in the 20 foot zone at Bast C.

Mineralization:

Trail properties are characterized by two mineralization types, namely:

(1) White opaque quartz, associated with galena (lead-sulphide) in pockets and streaks throughout, and occasionally cerrussite (lead carbonate) where oxidation has effected primary mineralization. It has been reported that silver values for this zone are lower. On maps and sections, the galena-dominant mineralization is shown in orange.

(2) White, opaque quartz, with scattered gray, sectile sulphides, always accompanied by blue and green encrustations , considered silver bromide and the copper carbinates, azurite and malachite. This type has been reported as being high in silver. Earlier references call the gray sulphide, Friebergits (a silver-bearing, tetrahedrite; copper-antimony-sulphide). Note that all plats and sections refer to enargite (a silver-bearing, copper-arsenic-sulphide). Lack of a red streak, in cut material, made the writer discard the tetrahedrite field determination. Maps have been left, noting "enargite"; it is a difference of antimony as against arsenic; both carry high silver "impurities". This tetrahedrite-dominant mineralization is shown in red on all illustrations.

Order of mineralization has not been determined. Suffice it to say that the two types occupy like stricture and appear close together.

Economic Geology:

Possibilities depend on average grade. As summarized above, an initial tonnage-in-place target, exceeds 166,000 tons per vertical 100 feet of depth, on the basis of measurements established by this survey. Further development should increase the total.

With vertical distribution exceeding 1100 feet, successful development would provide a reserve to support a small to medium sized mining operation.

On the other hand, mineralization throughout the full lineal extent of structure would be the exception and not the rule. The to-be-anticipated valueless gaps will reduce any ultimate total.

Assuming that selected sampling, completed during the course of this examination confirms exceptional silver possibilities, the geological picture, outlined above, would warrant the next step, i.e.: a detailed sampling of mineralization in place, by channeling and at regular intervals.

June 2, 1967

David LeCount Evans

ORE:

Evans has touched on this aspect, and to repeat, there is an indicated length of 2300' of exposures in the major outcrops. To a projected vertical depth of 100' a total of 166,000 tons are indicated, of unknown grade.

COSTS:

The cost of the recommended rotary drilling will be a negotiated matter. Costs for drifting and raising can be contracted at a rate of $40.00 per foot. The Company would have to furnish water for drilling purposes. Timbering, should it be necessary, will be on a straight cost basis. Otherwise, all labor and material are included in the $40.00.

SUMMARY:

It is recommended that an O.M.E. Silver loan for perhaps $150,000 be applied for. This would mean, if the loan is granted, the Company would have to put up $50,000.00.

Rotary Drilling should be employed as a first step in the development of the property. Priority should be given to Trail B area and later any other areas that can be reached with the equipment, and can be drilled to advantage.

With information gathered from this drilling, intelligent drifting can then be undertaken. To develop both Trail B and A and Trail D, it is possible with the O.M.E. assistance to develop more than one of these veins simultaneously.

Due to the very erratic results from channel or chip samples, bulk sampling of each round of development work is essential to the establishment of an average grade.

Additionally, the old plant might be rehabilitated for sampling purposes. From the mapping, mineralization and structural conditions observed in these major areas warrant the further development of the property.

Vincent M. Ryan

Assay-Chemical Division

ABBOT A. HANKS

ESTABLISHED 1866

1300 SANSOME STREET • SAN FRANCISCO, CALIFORNIA 94111 • TELEPHONE (415) 434-0166

Assayers
Chemists
Spectrographers
Mining Consultation
Representatives
Inspectors
Samplers

September 7, 1966 REPORT OF ASSAY

Deposited by J. D. Brundage
Box 96
Covelo, California

Sample of Ore

Labty. No.	Mark	GOLD, per ton of 2,000 lbs. Troy Ounces.	Value at $35.00 oz.	SILVER, per ton of 2,000 lbs. Troy Ounces	Value at	Percentages	
						LEAD	
3499-1	Trail #1			12.00		48.91	#16324
2	Trail #2			17.00		51.28	175.77
3	Trail #3			17.20		36.56	117.83
4	Midway Trail Claim #3			12.60		30.61	108.05
5	Lost Vein C			11.20		27.47	96.80
6	Cat Claim	18.82	$658.70	7.00		38.43	793.62
7	Stu #1			14.20		48.31	163.21
8	Stu #2			32.20			

ASSAY-CHEMICAL DIVISION
ABBOT A. HANKS
By

CA-106

NEVADA ASSAY OFFICE
675 Lester Avenue
Reno, Nevada

June 2, 1967

ASSAYS FROM TRAIL CLAIMS

Sample	Gold Oz./Ton	Silver Oz./Ton	Lead %	Copper %	Remarks
#542	0.01	28.8	4.7	2.0	From Dump - Silver Shaft, Trail "A".
543	Tr.	0.2	0.1		Dump - Hard Trip - 70' Shaft
544	Tr.	1.0	0.3)		Dump - Trail "B" - After
545	Tr.	1.2	1.4)		Hand Cobbing - Fines only including dirt overburden.
546	Tr.	0.4	0.9		Trail "D" Dump Fines
547	0.03	13.5	40.4		Trail "F" Dump Fines, Cobbed.
548	0.02	21.4	0.6	1.6	Trail "G" 3' Channel from Stope
549	Tr.	0.4	0.4		Dump - Jct. "B" - Fines
550	0.01	2.0	3.5		H.T. "B" - Chip from Vein, 7' wide.
551	0.02	13.5	31.1		H.T. "B" - Fines from Dump at Portal of Tunnel.
552	0.01	0.2	0.4		24" Channel across Gold vein - Bast - "A".
553	Tr.	0.2	0.2		OTZ Stringers across Gold vein - Bast - "A".
554	0.02	20.5	40.8		Hand picked cobbed ore from all locations.
555	Tr.	1.0	0.6		6' channel across Bast. "C" outcrop.
555B	Tr.	0.4	1.2		Dump Sample - Fines, H.T. "C"
Intrusive	Tr.	0.1		Nil	Boulder from Canyon

Transcribed from the original, copies of which are attached hereto.

AMERICAN SMELTING AND REFINING COMPANY

ASARCO

SELBY SMELTER
SELBY, CALIFORNIA

JOSEPH T. ROY
MANAGER

August 3, 1966

Mr. Joe D. Brundage
1155 Hilcrest Place
Redding, California

Dear Sir:

The two samples of ore delivered by you on July 18, 1966 have been assayed with the following results:

Sample No.	1	2
Gold	0	0
Silver	22.3 ozs./ton	36.9 ozs./ton
Lead	62.2%	0
Copper	Trace	0.6%
Approximate Value per Ton f.o.b. Selby	215.36 $159.12	50.90 $28.25

The above samples represent shipping grade ores which we will be pleased to receive on the basis of the enclosed open purchase schedules for (1) lead ores and concentrates, and (2) gold-silver ores and concentrates. On the basis of these terms ores as represented by the above samples would have a net value per ton as shown above, delivered at our plant. The above valuation is based on lots of 15 tons or more, since on smaller lots there are sampling and assaying charges as shown on the reverse side of the enclosed schedules.

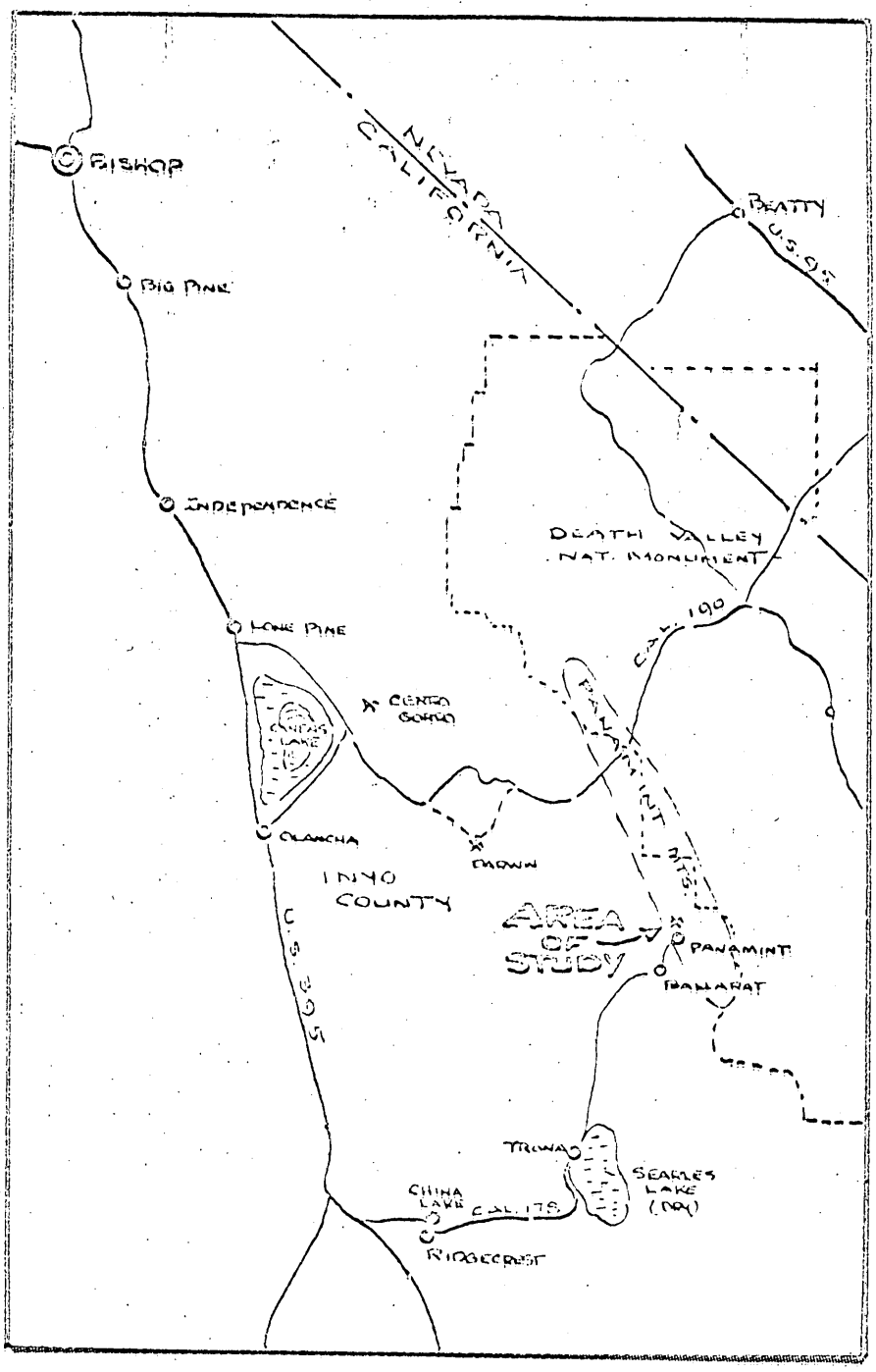
We will be pleased to hear from you regarding shipment of this ore.

Very truly yours,

George H. Playter

GEORGE H. PLAYTER
Assistant Manager

GHP:cs
Enclosures



TRAIL PROPERTIES

PANAMINT, INYO CO., CALIFORNIA

SILVER OUTCROP MINING CO.

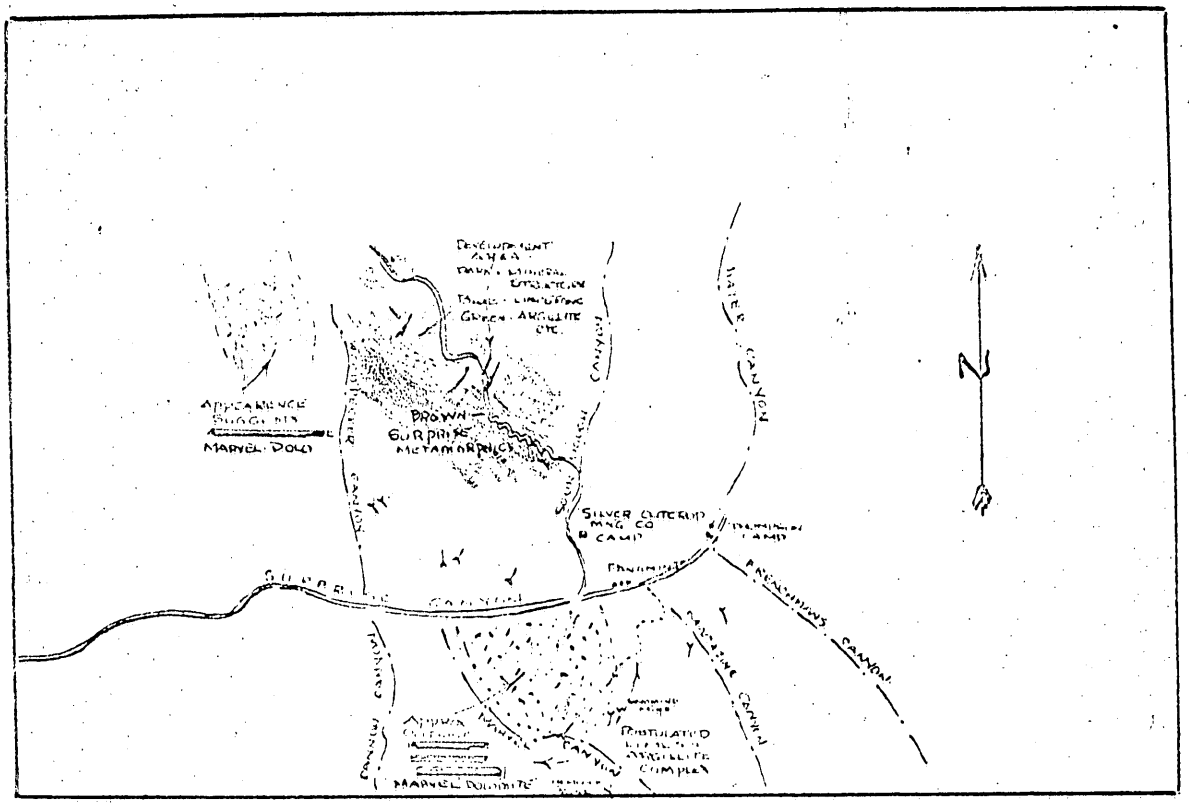
INDEX MAP

1" IN = 21 MI.

VINCENT RYAN

D. L. EVANS

RENO, NEVADA
JUNE 1, 1967



TRAIL PROPERTIES

PANAMINT, INYO CO., CALIFORNIA

SILVER OUTCROP MINING CO.

PANAMINT DIST.

1 IN = 1 MI.

VINCENT RYAN

D. L. EVANS

RENO, NEVADA
JUNE 1, 1967

TRAIL PROPERTIES

PANAMINT, INYO CO., CALIFORNIA

SILVER OUTCROP MINING CO.

CLAIM MAP

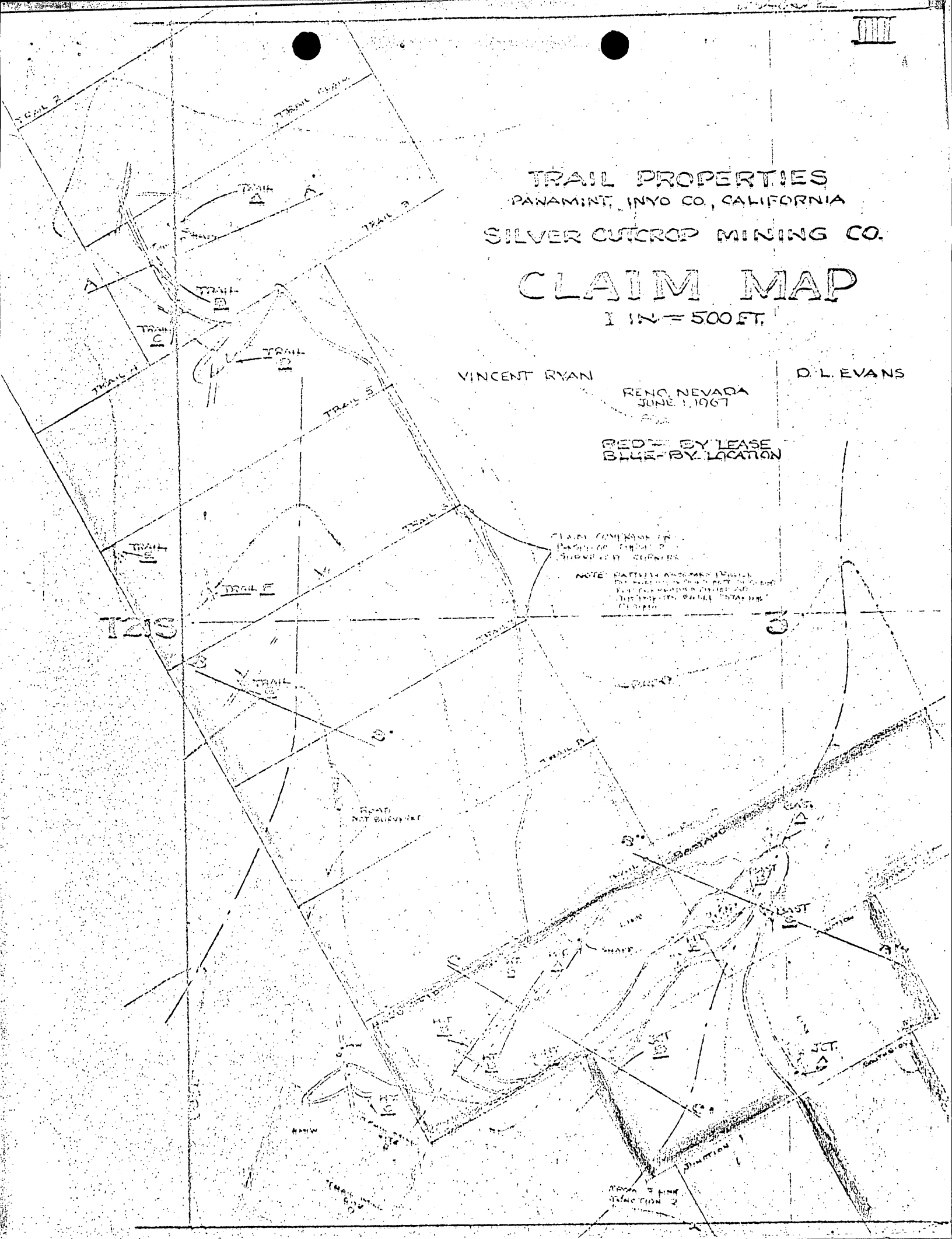
1 IN. = 500 FT.

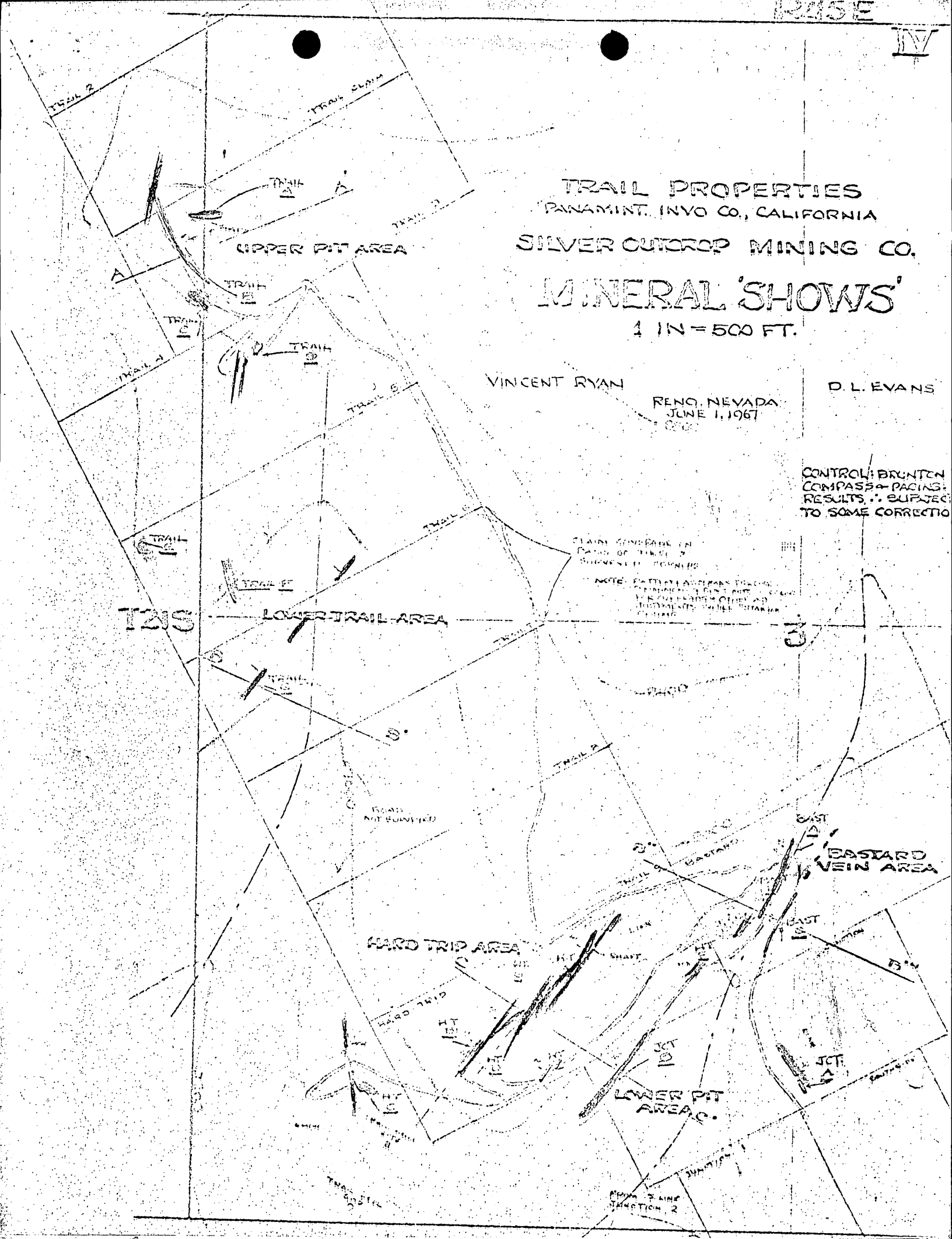
VINCENT RYAN

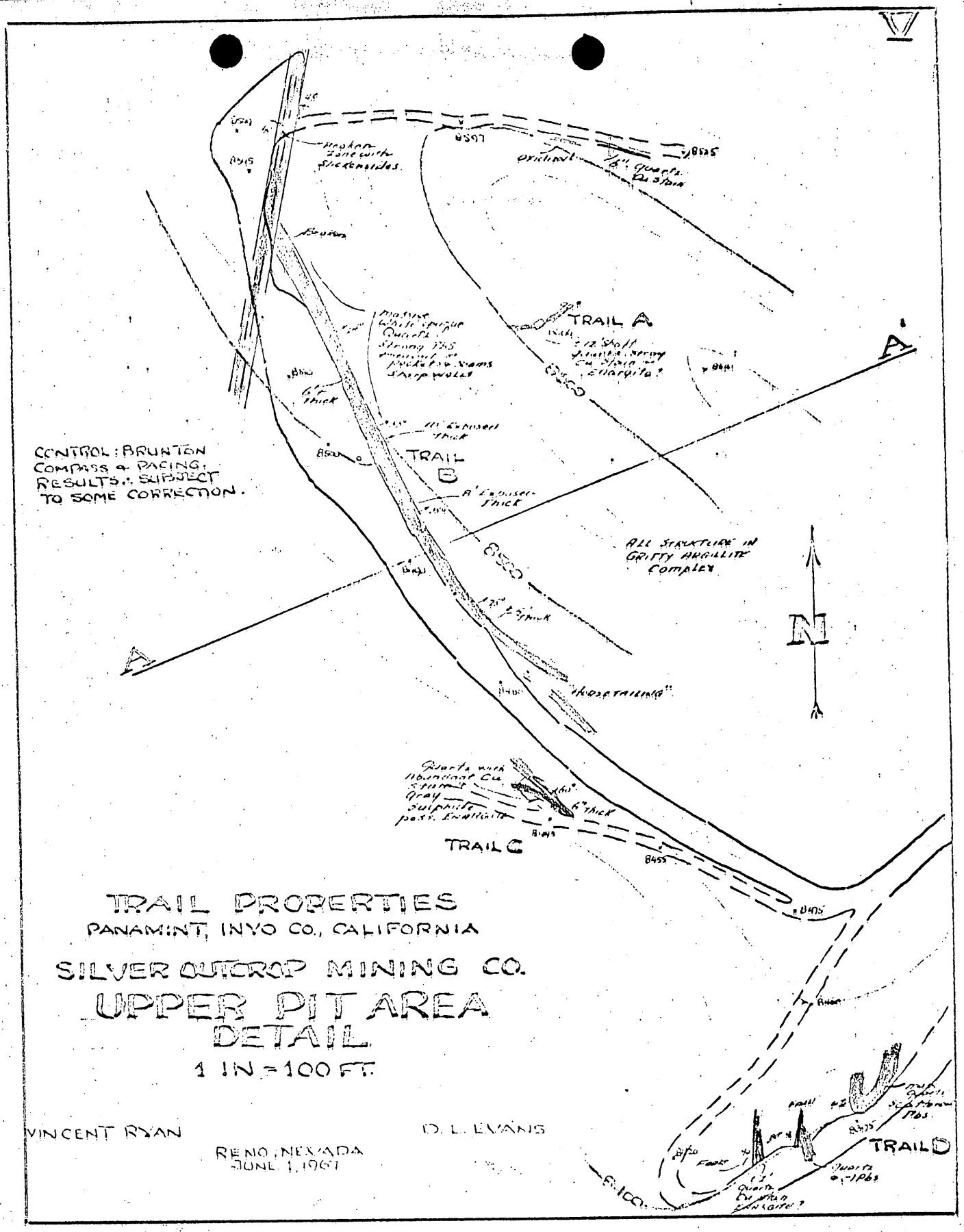
D. L. EVANS

RENO, NEVADA
JUNE 1, 1967

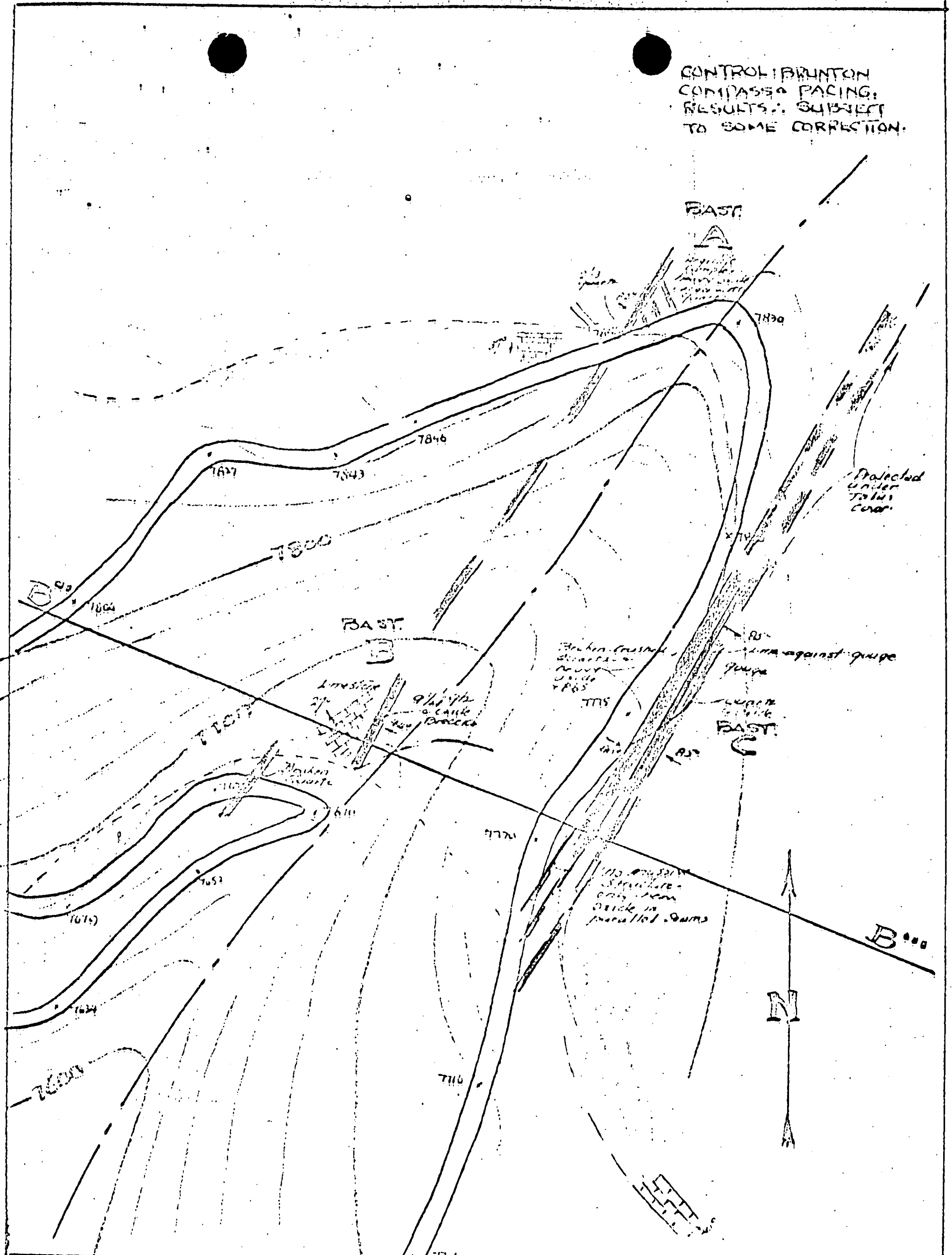
RED = BY LEASE
BLUE = BY LOCATION




IV
TRAIL PROPERTIES
PANAMINT, INYO CO., CALIFORNIA
SILVER OUTCROP MINING CO.
MINERAL 'SHOWS'
1 IN = 500 FT.
VINCENT RYAN
RENO, NEVADA
JUNE 1, 1967
D. L. EVANS
CONTROL: BRUNTON
COMPASS & PACING:
RESULTS ∴ SUBJEC
TO SOME CORRECTIO
UPPER PIT AREA
LOWER TRAIL AREA
T21S
HARD TRIP AREA
BASTARD
VEIN AREA
LOWER PIT
AREA
TRAIL 2
TRAIL CLAIM
TRAIL A
TRAIL B
TRAIL C
TRAIL D
TRAIL E
TRAIL F
TRAIL G
TRAIL H
TRAIL I
TRAIL J
TRAIL K
TRAIL L
TRAIL M
TRAIL N
TRAIL O
TRAIL P
TRAIL Q
TRAIL R
TRAIL S
TRAIL T
TRAIL U
TRAIL V
TRAIL W
TRAIL X
TRAIL Y
TRAIL Z
HARD TRIP
BASTARD
EAST
HT
JCT
SHAFT
LINE
SHOW
TRANSITION
NOT FURNISHED


TRAIL A
TRAIL B
TRAIL C
TRAIL D
A
A'
N
CONTROL: BRUNTON COMPASS & PACING. RESULTS ∴ SUBJECT TO SOME CORRECTION.
ALL STRUCTURE IN GRITTY ARGILLITE COMPLEX
"HOSE TAILING"
TRAIL PROPERTIES
PANAMINT, INYO CO., CALIFORNIA
SILVER OUTCROP MINING CO.
UPPER PIT AREA
DETAIL
1 IN = 100 FT.
VINCENT RYAN
D. L. EVANS
RENO, NEVADA
JUNE 1, 1961

VI



TRAIL PROPERTIES

PANAMINT, INYO CO., CALIFORNIA

SILVER OUTCROP MINING CO.

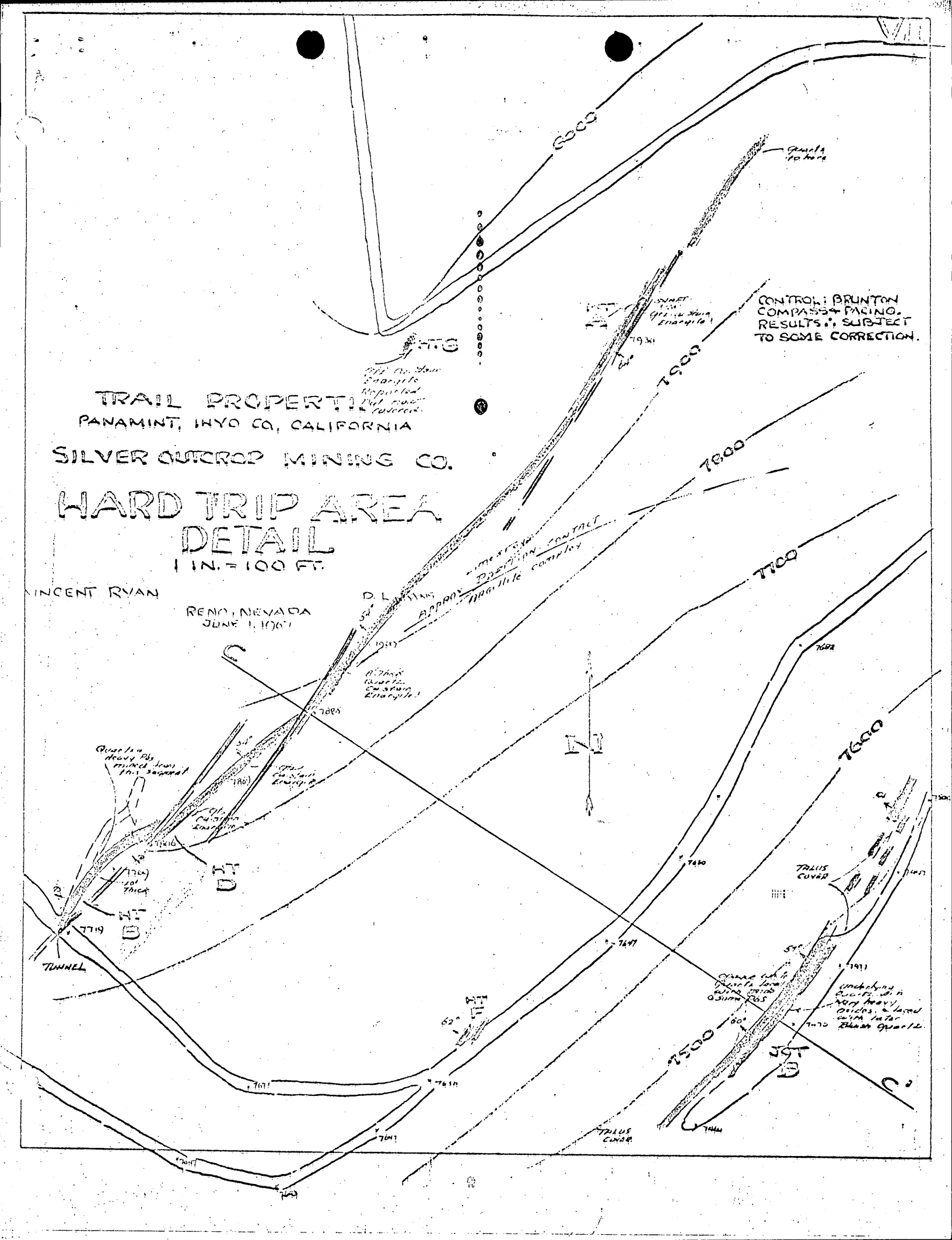
BASTARD VEIN AREA DETAIL

1 IN. ~ 100 FT.

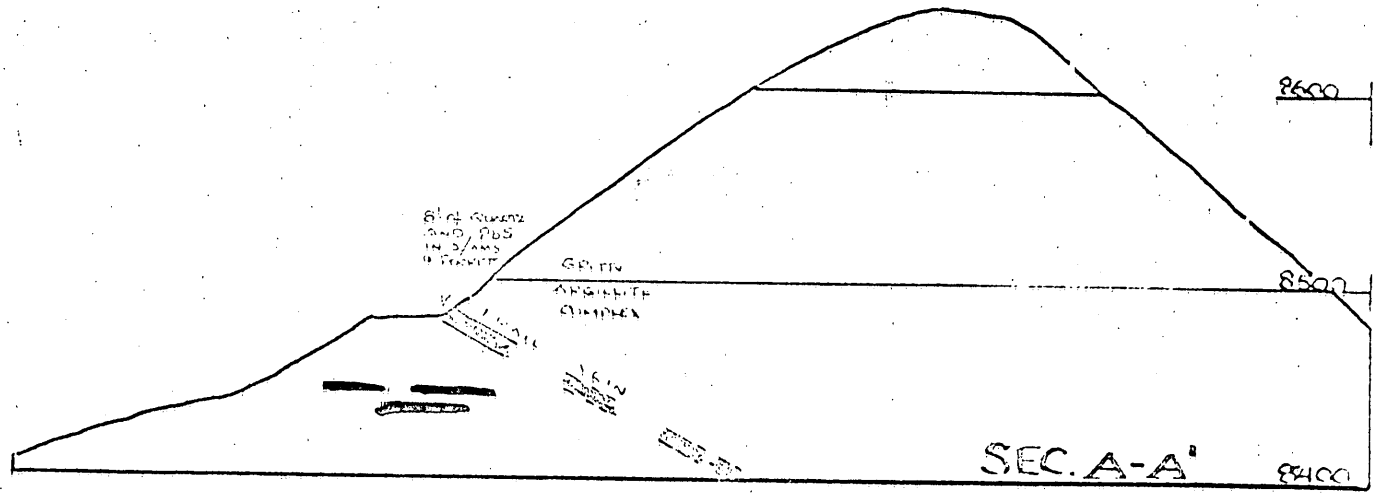
VINCENT RYAN

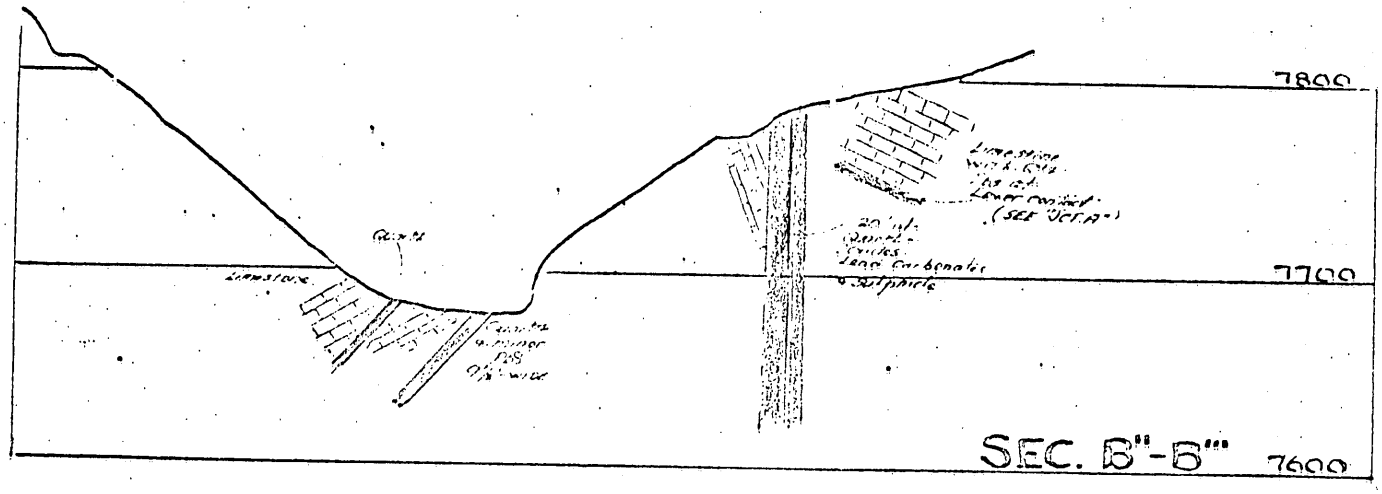
D. L. EVANS

RENO, NEVADA
JUNE 1, 1957


TRAIL PROPERTIES
PANAMINT, INYO CO, CALIFORNIA
SILVER OUTCROP MINING CO.
HARD TRIP AREA
DETAIL
1 IN. = 100 FT.
RENO, NEVADA
JUNE 1, 1967
CONTROL: BRUNTON COMPASS + PACING. RESULTS: SUBJECT TO SOME CORRECTION.
TUNNEL
TALUS COVER
7600
7700
7800
7900
8000
7500

VII





TRAIL PROPERTIES

PANAMINT, INYO CO., CALIFORNIA

SILVER OUTCROP MINING CO.

CROSS SECTIONS

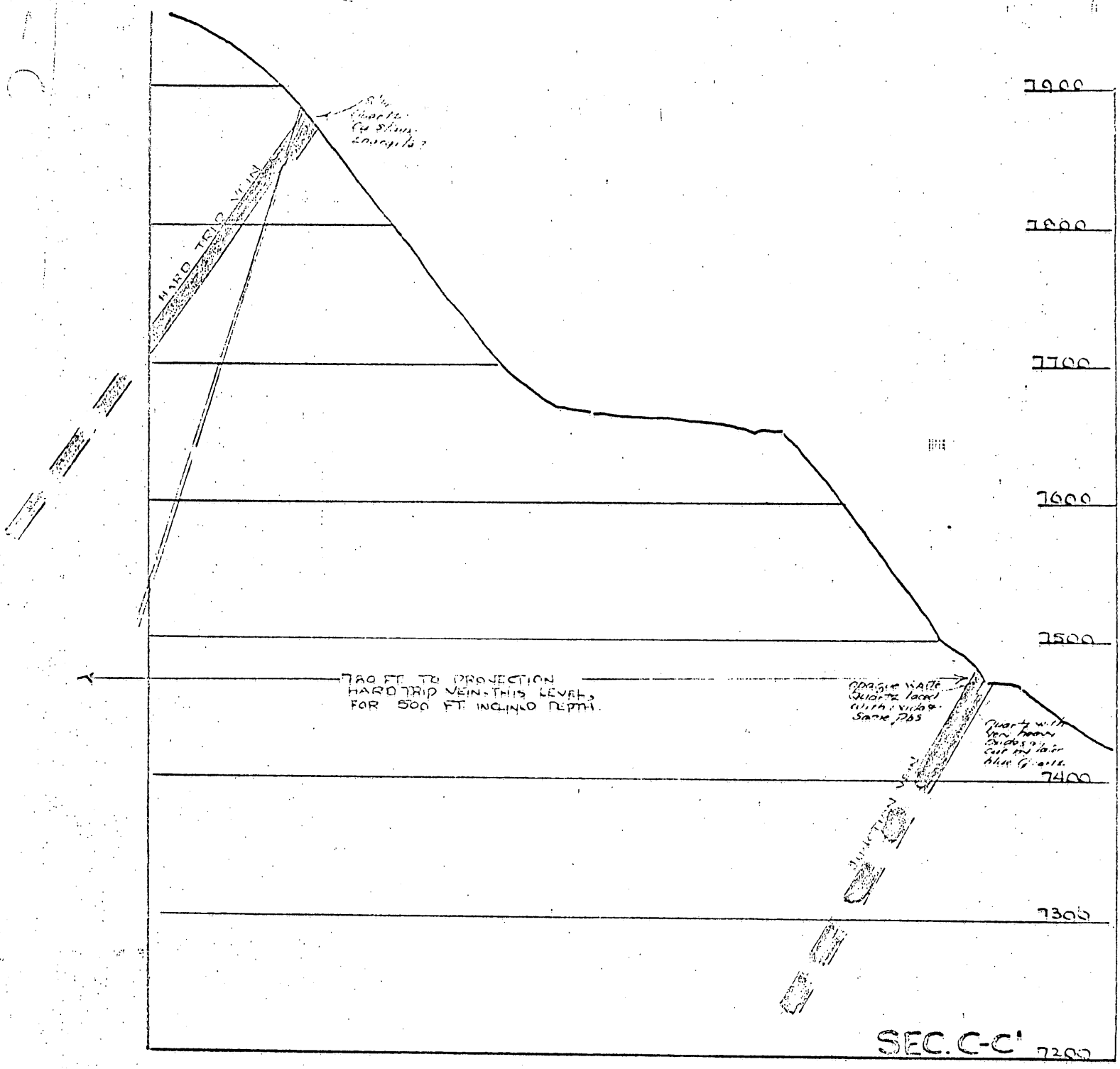
1 IN.=100 FT.

VINCENT RYAN

D. L. EVANS

RENO, NEVADA
JUNE 1, 1967.

IX



TRAIL PROPERTIES
PANAMINT, INYO CO., CALIFORNIA

SILVER OUTCROP MINING CO.

CROSS SECTIONS

1 IN = 100 FT.

VINCENT RYAN

D. L. EVANS

RENO, NEVADA
JUNE 1, 1967

4. Accessibility of Property:

(a). Luman Richard Barton
14632 Runnymede St.
Van Nuys, California 91405
213-782-2453
I will be happy to met and take to location
or

Monte Manwell
Trona, California
714-372-5003

The TRAIL CLAIMS are located 40 miles North and East of Trona, California.
Enclosed Death Valley Map with area marked.

(b). The nearest rail and supply is 40 miles at Trona, California.

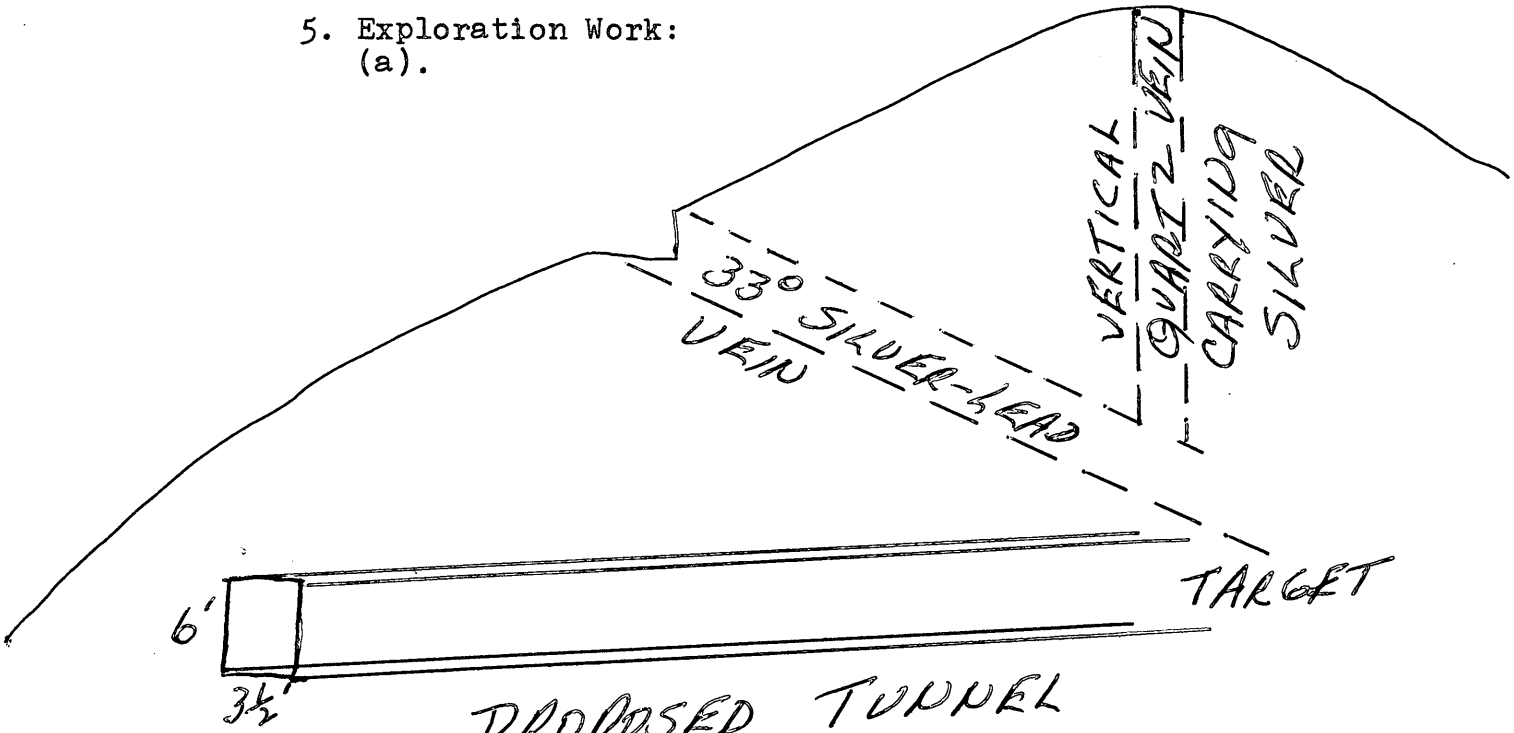
BARTON MINING PROPERTIES
14632 RUNNYMEDE
VAN NUYS, CALIF. 91405
TELE. (213) 782-2453

L. R. BARTON

Luman Richard Barton
14632 Runnymede
Van Nuys, Calif.
91405

4.(a)(b)

5. Exploration Work:
(a).



PROPOSED TUNNEL
3½' BY 6' - HORIZONTAL
201 FEET LONG
TIMBERING AS NEEDED
+ REQUIRED

TRAIL # 3 CLAIM
BUT SHOWS TRAIL "B"
ON MAPS + REPORTS

(b). The access road we have already built, it leads to the proposed tunnel area.

(c). Work can be started within one week from execution of an OME Loan. The average daily work will be about five feet of tunnel, for the 200 feet, it should take 60 to 70 days.

Luman Richard Barter
14632 Runnymede
Van Nuys, Calif.
91405

5. (a)(b)(c)

6. Experience:
Since 1946 I have been interested in mining, but until six years ago only as an investor in other peoples mines and as an observer. Six years ago, I hired a Nevada Registered Mining Engineer, by the name of Harold Vaughn, a graduate in 1931 from the MacKay School of Mines, University of Nevada, For six years Mr. Vaughn and I looked for a mining property with merit. We turned down well over one thousand prospects. After much checking out, He had me acquire the Trail Property, which I am seeking an OME Loan. Mr. Vaughn had a stroke one year ago and will probably never recover.

The man I now have to supervise the mining is an old time miner. Monte Manwell has mined in Nevada and California for over thirty years and now lives at Trona, California.

All engineering will be done by professionals.

I will personally be on the location from beginning to end.

Leman Richard Barton
14632 Runnymede
Van Nuys, Calif.
91405

7. Estimate of Costs:

(a). None

(b). Supervision

3 months at $750.00 per month	$2,250.00	
Expenses	600.00	
Mining engineer 3 trips plus expenses	900.00	
One miner at $4.50 per hr.		
3 muckers at 4.00 per hr.		
50 hr. per week for 12 weeks	$9,900.00	
All above are available		$13,650.00

(c). Operating Materials & Supplies(12wks)

Fuel for generator & Compressoe	$300.00	
Sledge hammer	12.00	
2 carbide lamps	14.00	
carbide	30.00	
6 hard hats and head bands	34.00	
6 lamps for hats	11. 00	
6 picks	36.00	
2 shovels	16.00	
1 wheel barrow	24.00	
1 rip saw	6.00	
1 five gallon can	6.00	
drill bits	46.00	
first aid equipment	24.00	
		$559.00

(d). Operating equipment (12 weeks)

air hammer drill with hose-buy	$900.00	
2½KW generator-buy used	400.00	
#105 Compressor-buy used	650.00	
Dozer-rented when needed	1800.00	
skip loader-rented when needed	650.00	
water tank on wheels-buy	125.00	
4 wheel drive truck-rented	600.00	
dynamite, caps, & fuses	180.00	
air system for tunnel	280.00	
rail & ½ton car	700.00	
Timber	1100.00	
food-five men 12 weeks	840.00	$8,225.00

(e). Initial rehabilitation & repairs

complete living quarters with roof, windows, one side, and insulation	$680.00	
Bedding-six beds complete	180.00	
stove & refrigerater-used	90.00	$950.00

(f). New Bldgs.,fixtures, & install.

Tool & dynamite shed		$240.00

(g). Miscellaneous

The State people could only give me a rough estimate as to Workmen's Comp. & Liability, so I have grouped them with analytical,accounting and payroll taxes.		$2,916.00

TOTAL COSTS OF EXPLORATION $26,540.00

Luman Richard Barton
14632 Rennyville
Van Nuys, Calif.

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

FOR GOVERNMENT USE ONLY
Operator
Docket No. OME –
Contract No. 14-23-090 –
Contract Date

LIEN AND SUBORDINATION AGREEMENTS[1]

To the United States of America:

That certain land in the County of INYO, State of CALIFORNIA, described as follows:[2] ~~MINING CLAIMS (unpatented) known as the TRAI, TRAIL NO.2, TRAIL NO. 3, TRAIL NO. 4, TRAIL NO. 5, TRAIL NO. 6, TRAIL NO. 7, TRAIL NO. 8, TRAIL NO. 9, JUNCTION NO. 1, JUNCTION NO. 2, TRAIL NO 8 MILL SITE and TRAIL NO. 9 MILL SITE OF SOUTH PARK MINING DI TRICT~~ hereinafter called the "land", is the subject of a proposed exploration contract, hereinafter called the "Contract", between the United States of America, hereinafter called the "Government" and

Luman Richard Barton[3] hereinafter called the "Operator". In consideration for and as an inducement to the Government executing the Contract, the undersigned:

1. (a) Being the owner of an interest in the land, hereby grants to the Government a lien upon all of his right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of the royalty on production provided for by the Contract, and agrees if the Operator's interest should be surrendered or terminated at any time prior to the expiration of the rights of the United States under said Contract to pay royalty to the Government according to the terms of said Contract; or

(b) Being the holder of a claim, lien, or encumbrance against the land, hereby subordinates his claim, lien, or encumbrance in or against the land and in any production therefrom to the rights of the Government under the Contract with respect to royalty on production and liens to secure same.[4]

2. Undertakes and agrees that property in which the Government may acquire an interest or equity under the Contract may be dismantled, severed from the land, and removed as may be provided in the Contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned.

3. Represents and undertakes that there is no claim, lien, or encumbrance upon the undersigned's right, title, claim, or interest in or against the land other than the following: (If "none" insert the word "none". Do not leave blank.)

NONE

1/ Production from the land is not required, and in the absence of production there is no obligation to pay royalty to the Government.

2/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease /or contract, deed, or other document/ dated_____, and recorded in Book_____, Page____, official records of said county". If (b) is used, the book and page of recordation must be inserted above. If the space provided is insufficient, use an Annex and refer to the Annex in the space.

3/ Insert name exactly as it appears in the Application MME Form 40.

4/ Subparagraph 1(a) does not apply to the holder of a claim, lien, or encumbrance.

Luman Richard Ba
14632 Ramona
Van Nuys
Calif. 91405

4. Undertakes and agrees (a) neither to commit any act nor assert any claim in conflict with the provisions of this Agreement; and (b) to give advance notice of the Government's rights under this agreement to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, claim, or interest in or against the land or any production therefrom, furnishing the Government with two true copies of such notice; and

5. Consents to all amendments (including an agreement of termination) and assignments of the Contract without notice thereof, and undertakes and agrees that this agreement shall extend and apply thereto.

6. Added provisions NONE (State "None" or "See Annex No. ____".)

Dated this 2nd day of October, 1969.

Jack Grundage (Seal) PRESIDENT	1155 HILLCREST ROAD REDDING, CALIFORNIA 95001	(Street) (City & State)
Chas. F. Lawler (Seal) VICE-PRESIDENT	850 E. WILLIAMS ST., CARSON CITY, NEVADA 89701	(Street) (City & State)
Carl J. Morane (Seal) SECRETARY-TREASURER	P. O. BOX 962 ALLEGHENY, CALIFORNIA	(Street) (City & State)
William E. Seal (Seal) ASST. SECRETARY - TREASURER	301 WEST THIRD STREET CARSON CITY, NEVADA 89701	(Street) (City & State)
(Seal)		(Street) (City & State)
(Seal)		(Street) (City & State)

I, William E. Seal (Name) certify that I am the ASST. SECT. (Title—Secretary, etc.) of the corporation named herein; that Person listed above (Name), who signed this agreement was then OFFICERS (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

SILVER OUTCROP MINING COMPANY

By: William E. Seal
ASST. SECT. - TREAS.

(Corporate Seal)

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

FOR GOVERNMENT USE ONLY
Operator
Docket No. OME –
Contract No. 14-23-090 –
Contract Date

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Luman Richard Barton[3]

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(b) Being the holder of a claim, lien, or encumbrance against the land, hereby subordinates his claim, lien, or encumbrance in or against the land and in any production therefrom to the rights of the Government under the Contract with respect to royalty on production and liens to secure same.[4]

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3. Represents and undertakes that there is no claim, lien, or encumbrance upon the undersigned's right, title, claim, or interest in or against the land other than the following: (If "none" insert the word "none". Do not leave blank.)

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Luman Richard Bar
14632 Raymond
Van Nuys
Cal

4. Undertakes and agrees (a) neither to commit any act nor assert any claim in conflict with the provisions of this Agreement; and (b) to give advance notice of the Government's rights under this agreement to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, claim, or interest in or against the land or any production therefrom, furnishing the Government with two true copies of such notice; and

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6. Added provisions NONE (State "None" or "See Annex No. ____".)

Dated this 2nd day of October, 19 69.

Joel D. Grundage (Seal) PRESIDENT	1155 HILLCREST ROAD REDDING, CALIFORNIA 95001	(Street) (City & State)
Chas. F. Fowler (Seal) VICE-PRESIDENT	850 N. WILLIAMS ST. CARSON CITY, NEVADA 89701	(Street) (City & State)
Carl J. Moran (Seal) SECRETARY-TREASURER	P. O. BOX 962 ALLEGHENY, CALIFORNIA	(Street) (City & State)
William E. Dial (Seal) ASST. SECRETARY - TREASURER	301 WEST THIRD STREET CARSON CITY, NEVADA 89701	(Street) (City & State)
(Seal)		(Street) (City & State)
(Seal)		(Street) (City & State)

I, _____ (Name), certify that I am the ASST. SECT. (Title—Secretary, etc.) of the corporation named herein; that Person listed above (Name), who signed this agreement was then OFFICERS (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

SILVER OUTCROP MINING COMPANY

By: William E. Dial
ASST. SECT. - TREAS.

(Corporate Seal)

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

FOR GOVERNMENT USE ONLY
Operator
Docket No. OME –
Contract No. 14-23-090 –
Contract Date

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Luman Richard Barton[3]

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Luman Richard Barton
14632 Runnymede
Van Nuys, Calif 91405
2(c)

4. Undertakes and agrees (a) neither to commit any act nor assert any claim in conflict with the provisions of this Agreement; and (b) to give advance notice of the Government's rights under this agreement to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, claim, or interest in or against the land or any production therefrom, furnishing the Government with two true copies of such notice; and

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Jack D. Greenhage	(Seal)	1155 HILLCREST ROAD REDDING, CALIFORNIA 95001	(Street) (City & State)
PRESIDENT			
Edward T. Fowler	(Seal)	850 E. WILLIAMS ST., CARSON CITY, NEVADA 89701	(Street) (City & State)
VICE-PRESIDENT			
Carl O. Morcom	(Seal)	P. O. BOX 962 ALLEGHENY, CALIFORNIA	(Street) (City & State)
SECRETARY-TREASURER			
William E. Deal	(Seal)	301 WEST THIRD STREET CARSON CITY, NEVADA 89701	(Street) (City & State)
ASST. SECRETARY - TREASURER			
	(Seal)		(Street) (City & State)
	(Seal)		(Street) (City & State)

I, William E. Deal (Name) certify that I am the ASST. SECT. (Title—Secretary, etc.) of the corporation named herein; that Person listed above (Name), who signed this agreement were was then OFFICERS (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

SILVER OUTCROP MINING COMPANY

By: William E. Deal

ASST. SECT. - TREAS. (Corporate Seal)

INT.-GEO. SUR., WASH., D.C. 7110

Oliman Richard Barton
14632 Runnymede
Van Nuys, Calif 91405
2(c)

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

FOR GOVERNMENT USE ONLY
Operator
Docket No. OME –
Contract No. 14-23-090 –
Contract Date

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1. (a) Being the owner of an interest in the land, hereby grants to the Government a lien upon all of his right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of the royalty on production provided for by the Contract, and agrees if the Operator's interest should be surrendered or terminated at any time prior to the expiration of the rights of the United States under said Contract to pay royalty to the Government according to the terms of said Contract; or

(b) Being the holder of a claim, lien, or encumbrance against the land, hereby subordinates his claim, lien, or encumbrance in or against the land and in any production therefrom to the rights of the Government under the Contract with respect to royalty on production and liens to secure same.[4]

2. Undertakes and agrees that property in which the Government may acquire an interest or equity under the Contract may be dismantled, severed from the land, and removed as may be provided in the Contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned.

3. Represents and undertakes that there is no claim, lien, or encumbrance upon the undersigned's right, title, claim, or interest in or against the land other than the following: (If "none" insert the word "none". Do not leave blank.)

NONE

1/ Production from the land is not required, and in the absence of production there is no obligation to pay royalty to the Government.

2/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease /or contract, deed, or other document/ dated_____, and recorded in Book_____, Page____, official records of said county". If (b) is used, the book and page of recordation must be inserted above. If the space provided is insufficient, use an Annex and refer to the Annex in the space.

3/ Insert name exactly as it appears in the Application MME Form 40.

4/ Subparagraph 1(a) does not apply to the holder of a claim, lien, or encumbrance.

Luman Richard Barton
14632 Rainmoke
Van Nuys,
Calif. 91405 2(c)

4. Undertakes and agrees (a) neither to commit any act nor assert any claim in conflict with the provisions of this Agreement; and (b) to give advance notice of the Government's rights under this agreement to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, claim, or interest in or against the land or any production therefrom, furnishing the Government with two true copies of such notice; and

5. Consents to all amendments (including an agreement of termination) and assignments of the Contract without notice thereof, and undertakes and agrees that this agreement shall extend and apply thereto.

6. Added provisions NONE (State "None" or "See Annex No. ____".)

Dated this 2nd day of October, 19 69.

Jack D. Brundage	(Seal)	1155 HILLCREST ROAD REDDING, CALIFORNIA 95001	(Street) (City & State)
PRESIDENT			
Chas. T. Fowler	(Seal)	850 E. WILLIAMS ST., CARSON CITY, NEVADA 89701	(Street) (City & State)
VICE-PRESIDENT			
Carl J. Moran	(Seal)	P. O. BOX 962 ALLEGHENY, CALIFORNIA	(Street) (City & State)
SECRETARY-TREASURER			
William E. Deal	(Seal)	301 WEST THIRD STREET CARSON CITY, NEVADA 89701	(Street) (City & State)
ASST. SECRETARY - TREASURER			
	(Seal)		(Street) (City & State)
	(Seal)		(Street) (City & State)

I, William E. Deal (Name) certify that I am the ASST. SECT. (Title—Secretary, etc.) of the corporation named herein; that Person listed above (Name), who signed this agreement were was then OFFICERS (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

SILVER OUTCROP MINING COMPANY

By: William E. Deal

ASST. SECT. - TREAS. (Corporate Seal)

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
6/25/70	Emerick	120
6/26/70	Kirkemo	120
6/26	[illegible]	
		220

AIRMAIL

JUN 26 1970

Mr. L. R. Barton
Barton Mining Properties
14632 Runnymede Street
Van Nuys, California 91405

Re: OME-6807 (Silver)
Luman Richard Barton
Trail Claims
Inyo County, California

Dear Mr. Barton:

A careful review of your application for financial assistance to explore the subject property and other information available to us indicates that the probability of disclosing significant reserves of silver on your property is not sufficiently promising to justify Government participation in the proposed exploration. Accordingly, we regret to inform you that your application for assistance is denied.

We wish to thank you for your interest in the minerals exploration program and for bringing your property to our attention.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Mineral Resources File
OME Docket
OME Reading File
OME Region II
Mr. Emerick

WLEmerick/bsl 6/25/70

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
6/25/70	Emerick	120
6/26/70	Kirkemo	120
6/26	[illegible]	
		220

June 25, 1970

Memorandum

To: The File

From: William L. Emerick
Office of Minerals Exploration

Subject: OME-6807 (Silver)
Luman Richard Barton
Trail Claims
Inyo County, California

Justification for Denial of Application

The Applicant proposed to explore a silver deposit by driving a crosscut adit about 200 feet in length to intersect the principal vein at a depth of about 150 feet below the outcrop. Total estimated cost of the work was $26,500. The Government share would be $19,875.

There are several recent shallow shafts or prospect pits and numerous bulldozer trenches and cuts on the property, as well as some ancient caved and inaccessible shafts and short adits. The property is in an area of steep relief with good rock exposures on the claims but the field examination indicated that the Applicant's exploration would not be in rock considered to be the principal host for ore deposits in the district. Geologic evidence does not indicate larger or higher grade ore bodies below the exposures or elsewhere on the claims. It appears from assay results that the principal metal value of the deposits here is lead with only minor silver values. The deposit could not be worked for silver alone. The field examination also indicated that more adit footage would be required than estimated by the Applicant, and it doesn't appear favorable that the Applicant could furnish his share of the costs. In addition, the deposit is too isolated and difficult of access to be economically operated and the small size of the deposit would not justify the cost proposed.

The Field Officer recommends that the application be denied on the basis that the geologic probability of making a significant discovery of silver ore as a result of the proposed work is too small to justify Government participation. I concur with the Field Officer's recommendation.

William L. Emerick

William L. Emerick

cc: Director's Reading File
Mineral Resources File
OME Docket
OME Reading File
Mr. Emerick

WLEmerick/bsl 6/25/70

UNITED STATES
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY
Office of Minerals Exploration
345 Middlefield Road
Menlo Park, California 94025

June 19, 1970

O. M. E.
JUN 22 1970
INITIAL CODE

Memorandum

To: Chief, Office of Minerals Exploration
Washington, D. C.

From: Field Officer
Region II

Subject: OME-6807 (Silver)
Luman Richard Barton
Trail Claims
Inyo County, California

Enclosed is an Application Report on the subject property recommending that the application be denied on the basis that the geologic probability of making a significant discovery of silver ore as a result of the proposed work is too small to justify Government participation.

H. K. Stager

Enclosure

UNITED STATES

DEPARTMENT OF THE INTERIOR

WALTER J. HICKEL, SECRETARY

GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION

REPORT OF EXAMINATION

REGION II

APPLICATION REPORT

OME-6807 (Silver)
Luman Richard Barton
Trail Claims
Inyo County, California

By

H. K. Stager
Field Officer
OME, Region II

June 19, 1970

ON-SITE
EXAM.RPT.

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ILLUSTRATIONS

Figure 1. Index map of Inyo County, California

INTRODUCTION

Mr. L. R. Barton, 14632 Runnymede Street, Van Nuys, California 91405, applied to the Office of Minerals Exploration for Government assistance in an exploration project, Docket OME-6807, to explore for silver on the Trail Claims, Inyo County, California. The Applicant infers the presence of minable silver ore bodies along quartz veins in metamorphic rocks on the property and wishes to explore for these ore bodies by crosscutting and drifting.

A review and field examination was requested by the Office of Minerals Exploration and was made by H. K. Stager, Field Officer, on May 15, 1970, accompanied by Mr. L. R. Barton, the Applicant. The Applicant's maps, cross sections, reports, and assay data were examined and compared with surface exposures on the property. One sample was taken of ore being mined at the time of the examination.

SUMMARY

The Trail Claims contain several lead- and silver-bearing quartz veins along faults in metamorphic rocks of Precambrian age. The results of the examination indicate that the principal metal of value in the deposit is lead with only minor amounts of silver. The deposit is too small to justify the cost of the Applicant's proposed exploration and the location is too isolated, and difficult of access, to permit an economic operation. There is no geologic evidence to indicate larger or higher grade ore bodies below the exposures or elsewhere on the claims.

The Applicant proposed to explore the deposit by driving a crosscut adit about 200 feet in length at an estimated cost of about $26,500, of which the Government's share would be about $19,875.

RECOMMENDATIONS

It is recommended that the application be denied on the basis that the geologic probability of discovering minable silver ore bodies as a result of the proposed work is too small to justify Government participation.

LOCATION, ACCESSIBILITY, AND LOCAL FACILITIES

The Trail Claims are in secs. 3 and 4, T. 21 S., R. 45 E., MDBM, South Park-Panamint City mining district, Inyo County, California (Fig. 1), on the west slope of the Panamint Range, at an altitude of about 8,500 feet.

To reach the property, that is about 60 miles northeast of Ridgecrest (the closest major town), drive northeast on California Highway 178 about 22 miles to Trona, then continue north on the paved Panamint Valley Road and a short graded dirt road about 25 miles to Ballarat, from Ballarat continue northeast up Surprise Canyon about 10 miles to the site of the old mining camp of Panamint City, then turn north up Sourdough Canyon on a steep mine access road about 4 miles to the property. The road from Ballarat is extremely rough and steep. A four-wheel-drive, or powerful truck-type, vehicle is required to reach the property. The drive from Ridgecrest requires about 3 hours.

Mail, telephone, trucking, and railroad services are available in Trona (40 miles). Labor, mining equipment, materials, and supplies are available in Ridgecrest. Ample water is available in Surprise Canyon (4 miles) but must be hauled up the steep mine access road. Assay service, at a cost of about $5 per sample for gold and silver and $2 per sample for copper or lead, is obtainable in Los Angeles (200 miles). The closest lead-silver smelter is at Selby, California (500 miles).

PROPERTY

History and Production

The silver-bearing quartz veins of the Panamint district were discovered by Mormons in 1858 but the attempts at mining were abandoned in 1862 because of trouble with the Indians in the area. In 1874 the Panamint Mining Company was formed and the population of Panamint City reached 2,500 people. Major production was in the 1870's and 1880's and about $2,000,000 in silver was produced with minor values in lead, copper, and gold. There has been only sporadic activity in the district since that time and only small quantities of ore have been mined. The owner acquired the Trail Claims in 1964 but no work was done, other than assessment work on the access roads. The Applicant obtained the property under the terms of a lease dated July 1, 1968, but had not mined any ore until May 1970. Some ore is presently being mined and stockpiled but it is too low in grade to ship to the smelter. There has been no production sold to date from the property contained in the application.

Ownership

The property consists of 11 unpatented lode mining claims and 2 mill sites, known as the Trail, Trail No. 2 through Trail No. 9, Junction No. 1 and No. 2 Claims, and the Trail No. 8 and No. 9 Mill Sites. These claims are owned by the Silver Outcrop Mining Company, a Nevada corporation, Masonic Temple Building, P. O. Box 623, Carson City, Nevada. The claims are recorded at Independence, California, in Book No. 98, page 507; Book 100, pages 933 to 939; Book 100, pages 982 to 984; and Book 101, pages 867 and 868.

The Applicant is in possession of the claims under the provisions of a Lease and Agreement, dated July 1, 1968, a copy of which is attached to the

application. A Lien and Subordination Agreements, signed by the officers of the Silver Outcrop Mining Company, is also attached to the application.

Financial Eligibility

The Applicant furnished copies of letters to two banks requesting loans for the proposed work and also copies of letters denying the loans. The Applicant proposed to furnish his share of the exploration costs by his labor, use of equipment, and the balance in cash. At the time of the examination the Applicant stated that he had expended all of his previously available funds on the preliminary work and that he hoped to raise additional money by shipping a small quantity of hand-sorted, high-grade ore to the A. S. and R. smelter at Selby, California.

Development

The property is developed by several shallow shafts or prospect pits and numerous bulldozer trenches and cuts. Several old mine dumps indicate that there may have been other shafts or short adits on the property in the past but these workings are now caved and inaccessible. The Applicant has constructed a small, single-room, cabin for living quarters. There are no other surface or underground facilities on the property.

GEOLOGY

Geologic Setting

The Trail Claims are in an area of steep relief and exposures are good. The principal rocks exposed in the claim area are metamorphic rocks of the Middle Park, Sourdough Limestone, and Surprise Formations of Precambrian age. The Surprise Formation consists of dark, greenish-gray schist and is the oldest rock exposed on the claims. It is overlain by the thin-bedded,

interbedded white and gray, Sourdough Limestone and buff to brown, thin-bedded quartzite, slate, and argillite of the Middle Park Formation. All of these rocks are stratigraphically younger than the Marvel dolomite that is the principal host rock for the ore deposits in the district.

There are two prominent sets of faults, one set that strikes northeast and dips northwest and another set that strikes northwest and dips northeast. Both sets of faults are commonly mineralized and contain veins of white quartz. It is within these quartz veins that the lead and silver deposits occur.

Ore Deposits

The ore body that is exposed, and is presently being mined on the Trail No. 3 Claim, consists of lead- and silver-bearing ore shoots in a quartz vein that strikes N. 25° W. and dips about 30° NE. The vein is from a few inches to about 10 feet in thickness, with an average thickness of about 6 feet for an exposed strike length of about 500 feet. Mineralization occurs in pods and streaks along the strike. Exposures are not adequate to determine the size or grade of the ore shoots or the down dip extent of the mineralization.

Ore minerals are argentiferous galena and cerussite, with minor quantities locally of freibergite or enargite. Only traces of gold are present and locally there are minor amounts of chalcopyrite, azurite, and malachite. Gangue minerals are quartz, pyrite, calcite, and oxides of iron and manganese.

Sampling

One sample was taken during the examination of ore being mined from a shallow winze on a quartz vein that crops out on the Trail No. 3 Claim. This sample was taken across a galena-rich part of the vein, 3 feet in thickness,

and assayed 16.05 percent lead, 4.90 ounces of silver, and 0.01 ounce of gold per ton.

Other assays, attached to the application, of samples taken by the Applicant on the Trail Claims indicate a silver content of from 0.4 ounce to 21.4 ounces per ton, gold from a trace to 0.03 ounce per ton, lead from 0.3 to 51.28 percent, and copper from a trace to 2.0 percent.

It appears, from most of the assays available, that the ratio of silver content to lead content is low. The silver is present in a ratio of about 1 ounce per 3 to 4 percent lead and represents less than half the dollar value of the ore. The ore is not minable for its silver content alone.

Ore Reserves

There are no significant silver ore reserves on the property. The Applicant is mining material that contains about 5 ounces of silver per ton, and about 16 percent lead, that is upgraded to about twice this grade by hand sorting. Mining, sorting, hauling, and smelter costs total about $60 per ton. There are no custom mills available within a reasonable distance of the property.

EXPLORATION

Applicant's Proposal

The Applicant proposed to explore the deposit by driving a crosscut adit about 200 feet in length to intersect the principal vein at a depth of about 150 feet below the outcrop. The estimated cost of this project was $26,540.00 or about $130 per foot of crosscut.

The Applicant completed part of the proposed preliminary work during the period between submitting the application and the field examination but

had not started the adit. He now estimates the cost of driving the crosscut at about $50 per foot. A Brunton and pace survey from the outcrop to the proposed portal site, taking into account the dip of the vein and the slope of the surface, indicates that a minimum of 300 feet of crosscut would be required to reach the vein. A minimum exploration program consisting of 500 feet of crosscutting and drifting, with some timbering, sampling, and assaying would cost about $30,000. A project of this size is probably beyond the financial capability of the Applicant. The Applicant is not interested in a drilling program inasmuch as it would not provide an opening to permit mining of any ore found.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OME-6807
(Silver)

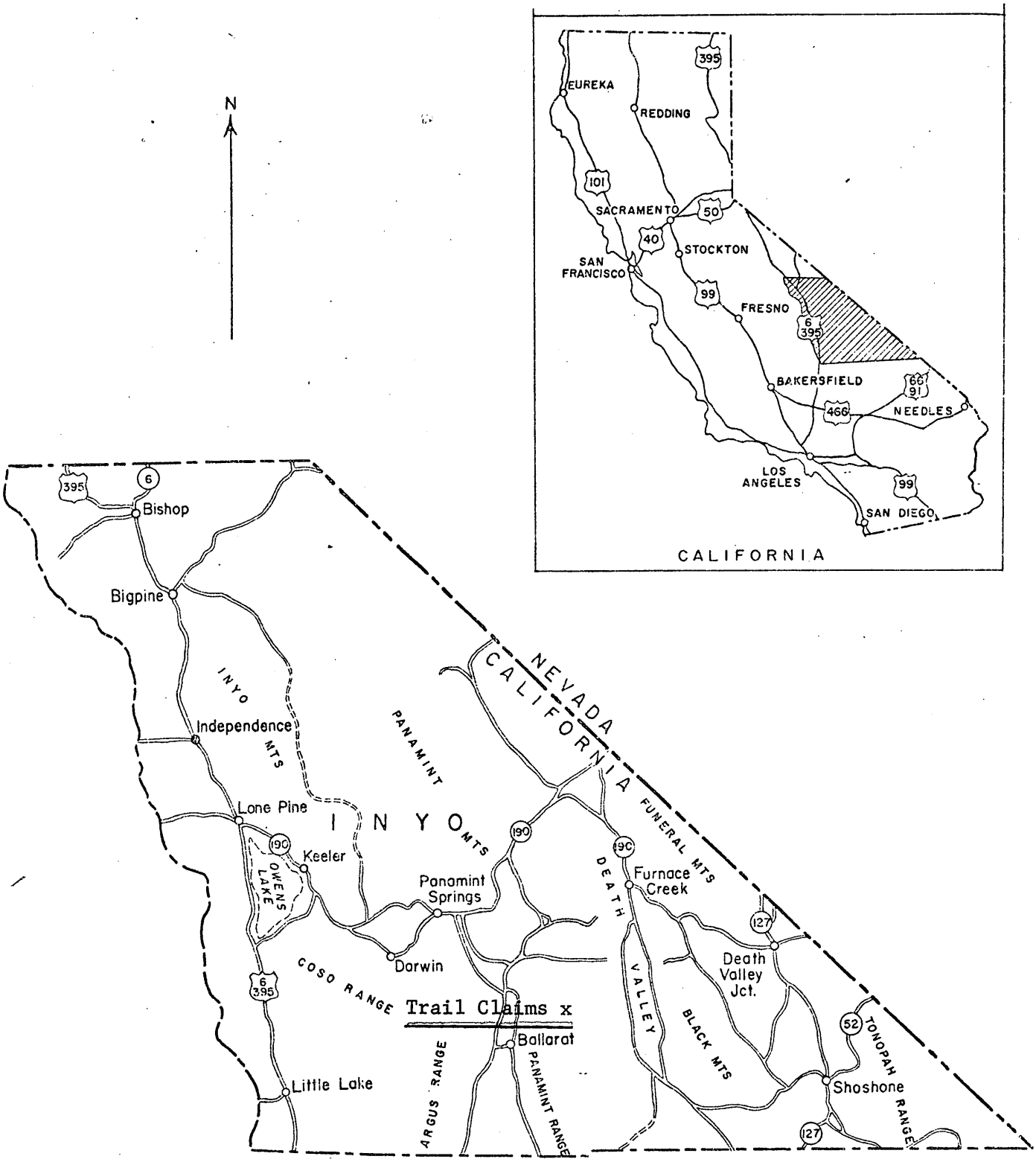


Figure 1. INDEX MAP OF INYO COUNTY, CALIFORNIA

0 25 50 75 Miles

BARTON MINING PROPERTIES
14632 RUNNYMEDE
VAN NUYS, CALIF. 91405
TELEPHONE (AREA CODE 213) 782-2453

June 1, 1970

OFFICIAL COPY
O. M. E.
RECEIVED
JUN 8 1970
INITIAL | CODE
HK 1 20

Mr. Staegger
Office Of Mineral Explorations
345 Middlefield Road-Bldg.2
Menlo Park, California 94025

RE: OME-6807

Dear Mr. Staegger:

Enclosed, please find copy of assignment from John R. McLaughlin, as per your request.

Thanks for inspecting my property and am trusting OME will grant me a loan.

Sincerely,

L. R. Barton

L. R. Barton

ENCLS/1
LRB/lrb

RECEIVED
JUN - 3 1970
OFFICE OF MINERAL EXPLORATION
U.S. GEOLOGICAL SURVEY
MENLO PARK, CALIF.

BARTON MINING PROPERTIES
14632 RUNNYMEDE
VAN NUYS, CALIF. 91405
TELEPHONE (AREA CODE 213) 782-2453

March 7, 1970

ASSIGNMENT

I, John R. McLaughlin, do hereby transfer all my ownership in the Trail Leases located in the South Park Mining District, Inyo County, California, recorded in Vol. 183, Page 539 of the official Records in Inyo, County, to L. R. Barton.

John R. McLaughlin

orm 7

OFFICIAL FILE COPY

Date	Surname	Code
4/23/70		120
4/23	cac	220
		120M

APR 23 1970

AIRMAIL

Memorandum

To: Field Officer, Region II

From: Chief, Office of Minerals Exploration

Subject: OME-6807 (Silver)
Luman Richard Barton
Trail Claims
Inyo County, California

The subject application is referred to you for further study, a field examination if warranted when you are in the vicinity of the property on other field work of the program, and recommendations.

Pursuant to our discussion about this by telephone on April 22, and especially because you plan to be very near this property soon, we are referring it to you despite the shortcomings of the application.

Harold Kirkemo (gla)

Harold Kirkemo

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
Mr. Kirkemo
130

HKirkemo/gla 4-23-70

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
4/23/70		120
		220
		120M

AIRMAIL

APR 23 1970

Mr. L. R. Barton
Barton Mining Properties
14632 Runnymede Street
Van Nuys, California 91405

Re: OME-6807 (Silver)
Luman Richard Barton
Trail Claims
Inyo County, California

Dear Mr. Barton:

Reference is made to your letter of January 5, 1970, indicating a desire to keep the subject application in an active status. Although our funding situation has not changed since our letter of January 2, 1970, and the outlook for the next fiscal year beginning July 1 is unknown, we are referring your application for further consideration to Mr. Harold K. Stager, Field Officer, Region II, Office of Minerals Exploration, U. S. Geological Survey Building 2, 345 Middlefield Road, Menlo Park, California 94025.

Mr. Stager will notify you if additional information concerning the application is needed. This action should not be construed as a commitment by the Government to grant a contract.

Sincerely yours,

Harold Kirkemo (gla)

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
Mr. Kirkemo
OME Region II

HKirkemo/gla 4-23-70

BARTON MINING PROPERTIES
14632 RUNNYMEDE
VAN NUYS, CALIF. 91405
TELEPHONE (AREA CODE 213) 782-2453

OFFICIAL COPY
O. M. E.
RECEIVED
JAN 9 1970

January 5, 1970

Mr. Harold Kirkemo
Chief, Office of Mineral Exploration
United States Department of Interior
United States Geological Survey
Washington, D. C. 20242

RE: OME-6807 (SILVER)
LUMAN RICHARD BARTON
TRAIL CLAIMS
INYO COUNTY, CALIFORNIA

Dear Mr. Kirkemo:

I appreciate your letter of January 2, 1970, regarding my request of financial assistance.

Please continue to process my application as I feel that circumstances may change for the better in your financial position.

Sincerely yours,

L. R. Barton

L. R. Barton

LRB/lrb

Copy to R-II

rm 7

OFFICIAL FILE COPY

Date	Surname	Code
1/1/70		120
		220
		120M

JAN 2 1970

AIRMAIL

Mr. Luman Richard Barton
14632 Runnymede Street
Van Nuys, California 91405

Re: OME-6807 (Silver)
Luman Richard Barton
Trail claims
Inyo County, California

Dear Mr. Barton:

This is in further response to your application for financial assistance to explore the Trail claims.

Applications received since July 1, 1969, have not been processed because of budgetary constraints on the OME program. With funds now available we will be able to execute only a few new contracts in the fiscal year ending June 30, 1970. These contracts are being prepared on applications received and approved in previous fiscal years but which could not be executed earlier because of lack of funds. The extent of future contracting will depend on availability of funds.

Owing to curtailment of the program, the processing of applications is being delayed. Therefore, field examinations necessary to reach decisions on applications are being made largely in connection with other field work of the program. In due course of time we will inform you whether or not your application can be approved for a contract when funds are available. Priority on available funds will be given to approved applications offering the best opportunities for making significant discoveries.

Under these circumstances, should you wish to withdraw your application, please so advise. If you wish to keep your application in active status, we will process it as explained above.

We regret that this action is necessary, but under present funding circumstances we cannot offer better service at this time.

Sincerely yours,

Harold Kirkemo (glr)

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Mineral Resources File
OME Docket
OME Reading File
OME Region II

HKirkemo/bsl 1/2/70

November 17, 1969

Mr. Luman Richard Barton
14632 Runnymede Street
Van Nuys, California 91405

Subject: OME-6807

Dear Mr. Barton:

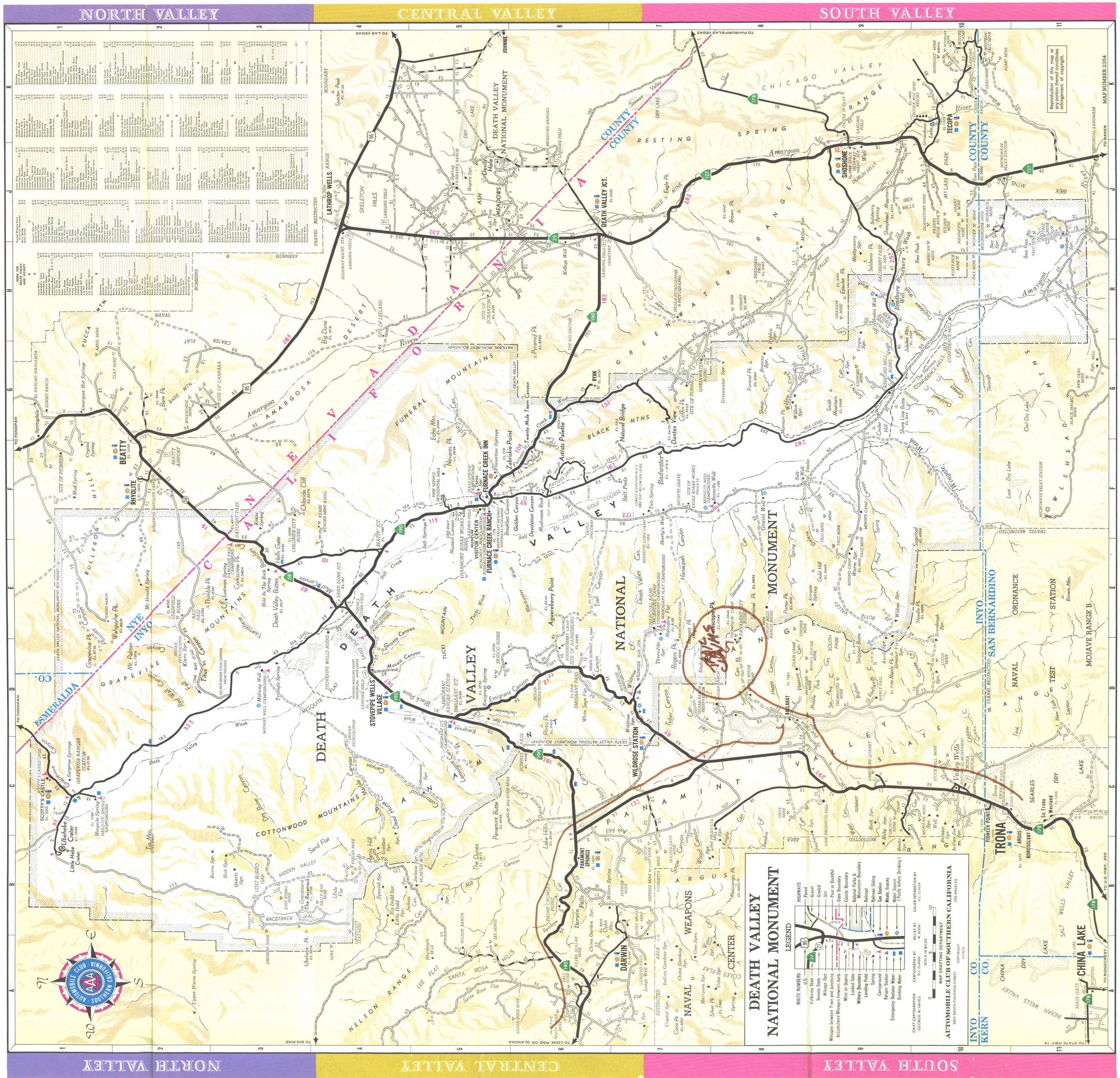
Your application for exploration assistance, dated October 20, 1969, submitted to our office at Menlo Park, California, has been assigned Docket No. OME-6807.

Please identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Harold Kirkemo
Chief, Office of
Minerals Exploration

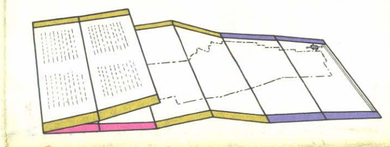
Copy to Region II

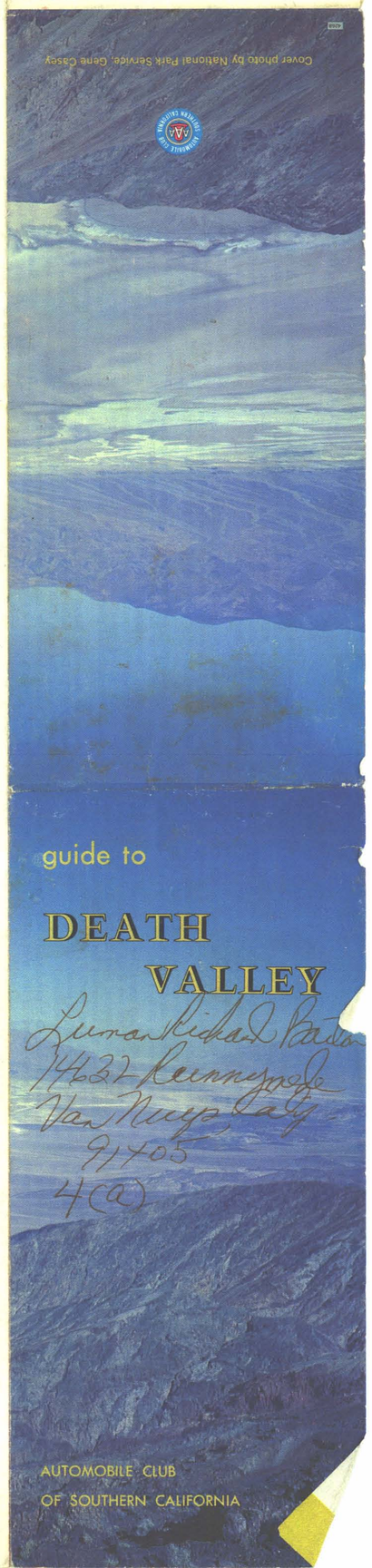


Introducing a New Map-Guide Format

In an effort to provide more comprehensive information on California's National Parks and Monuments, the Automobile Club of Southern California presents this new map-guide for Death Valley. The large-scale map covering one side is coordinated with its corresponding writeup on the reverse side so that both can be read together.

The map is divided into three general sections — North Valley, Central Valley, and South Valley. By folding the information side over along the natural creases to match color borders, you can study the map a section at a time while reading in detail about its attractions, accommodations, camping facilities, and available supplies and services. The general introduction is set apart on the information side; it should be read first as it will answer many questions not covered in the sectional contents.





Cover photo by National Park Service, Gene Casey

CENTRAL VALLEY

Attractions

Aguereberry Point (E-6; dirt road) Phil Townsend Hanna of the Automobile Club of Southern California named this lookout in honor of Pete Aguereberry, a prospector who had built a road from his mine to the Point so that others could share his enjoyment of the impressive panorama of Death Valley below. Along the approach road is the site of **Harrisburg,** a small mining camp that existed in the early 1900's during the boom days of Skidoo; it was originally the gold claim of Aguereberry and his partner Shorty Harris. Near the Point begins Trail Canyon; a very steep jeep trail winds downward to the valley floor.

Artist's Drive (F-6; one-way paved road) Oxidation produces a rich color-rainbow on this drive. Late afternoon light is the best photo setting, when the colors are intensified by the sun's western position. **Artist's Palette,** about halfway through the canyon, is an unusual color mosaic splashed on a hillside.

Borax Museum (F-5; at Furnace Creek Ranch, State Route 190) Large mining machinery and historical exhibits pertaining to Death Valley borax can be seen here free of charge (open November through April only). The main museum building is the first frame house of Death Valley, moved from its original site in Twenty-Mule Team Canyon where it had been a boarding house for miners. Another building is the original 20-mule team barn, moved from its Mojave location.

Burned Wagons Point (D-4; State Route 190) The historical marker describes an Illinois Jayhawker camp made here in late December 1849 by pioneers attempting a winter crossing to the California gold fields. (See *History* section of general introduction.)

Cottonwood Canyon (C-5; jeep road) Steep canyon walls, some carved with Indian petroglyphs difficult to find, line the trail to Cottonwood Spring. The jeep trail ends near the spring, but hikers can continue as far as 20 miles along the stream. Wild burros often graze here among the cottonwood trees.

Devil's Cornfield (E-4; State Route 190) Soil erosion causes the clumps of arrow weed to look like eerie corn shocks. Indians used these plants for their arrow shafts, hence the name arrow weed. At the southern edge of Devil's Cornfield a spur road leads west from State Route 190 to **Salt Creek** and its rare desert pupfish (see *Wildlife* section of general introduction).

Devil's Golf Course (F-7; spur road off paved road) As ancient Death Valley lakes evaporated, hard crusts of salt deposits became layered alternately with gravel rubble; geologists have estimated that the layers reach a depth of 9,000 feet. Pushed upward by crystallizing salt forces and sculpted by wind and rain, the jagged surface of short spires is mud-brown in color, greyed by patterns of salt tracings. Look for the occasional **Salt Pools:** Because the water table is close to the surface, water undermines the salt crust in places so that it collapses; the water then seeps in to fill the void until crystallization builds the salt crust up again to surface level.

Devil's Hole (J-5; dirt road) A small part of the Monument located outside the main boundary, this 40-acre tract preserves the rare Devil's Hole Pupfish (see *Wildlife* section of general introduction), which are related to those at Salt Creek (see under *Devil's Cornfield* in this section) and Saratoga Springs (see *South Valley* attractions). An observation platform has been built for viewing the clear aquamarine water at the opening of the underground water-filled cave. The pool is 50 feet deep, its surface measuring 40 by 8 feet.

Echo Canyon (G-5; jeep road) This is a popular drive with jeep riders because it is not too rough and leads through pleasant and colorful canyon scenery. Near the State Route 190 entrance to Echo Canyon are **Travertine Springs,** historically significant as the first spring water found by the 1849 pioneers after they had crossed the Amargosa Desert into Death Valley. (See *History* section of general introduction.)

Emigrant Canyon (D-5; paved road) Wild burros graze on the abundant scrub growth in this wide canyon, and they are frequently seen near the road. Indian petroglyphs, difficult to see, are carved on a few rock faces about one-half mile north of the Skidoo turnoff. The Emigrant Canyon road passes through **Harrisburg Flats,** which are the remains of Death Valley's original contours before folding, faulting, and volcanic activity took place. (For more information see *Wildlife, History,* and *Geology* sections of general introduction.)

Golden Canyon (F-6; dirt road closed in summer) Late afternoon sunlight paints deep golden tones on the canyon walls, accenting the russet earth colors. Indians used the red clay at the canyon mouth for face paint. Short trails at the end of the road lead to two scenic places: Red Cathedral, a natural amphitheatre; and Manly Beacon, a pinnacle named for a pioneer hero who led several people of the 1849 crossing out of Death Valley.

Grotto Canyon (D-4; jeep road) Hike from the end of the jeep trail into rugged canyon narrows of spectacular grotto formations that have been caused by heavy rainfalls.

Jayhawker Canyon (D-5; no trail) This canyon is historically interesting as one of the routes that the early pioneers took out of Death Valley in 1849 (see *History* section of general introduction). The hike to Jayhawker Spring is about two miles.

Marble Canyon (C-4; jeep road) Hikers who walk about two miles from the end of the jeep trail are rewarded with numerous Indian petroglyphs etched on the black limestone canyon narrows. (See *History* section of general introduction.)

Mosaic Canyon (D-4; dirt road) The road leads up the canyon's alluvial fan to its mouth, from which there is a sweeping view of the northern valley. Walk along the narrow canyon floor to look at wall patterns of polished rock strata, most sharply defined by direct lighting from the noontime sun.

Mushroom Rock (F-6; paved road) Carved by wind, rain, and salt crystals, this grotesque basalt rock stands out in sharp focus against a background of comparatively uniform mountain crests.

Natural Bridge (F-7; dirt road closed in summer) Hike about one-fourth mile from the end of the road into the canyon to see a natural bridge formation 50 feet above the road. Water rushing through the canyon gradually undercut the rock to shape the bridge. Hiking one-quarter mile further into the canyon reveals a water-formed grotto of arches and spillways.

Ruins of Harmony Borax Works (F-5; spur road off State Route 190) To Death Valley prospectors gold, silver, copper, and lead were the first lures. Then borax was found to be a mineral worth mining; besides its use in many cleansing and pharmaceutical products, borax is also an important ingredient of more than 100 industrial products. Following its purchase of the claim of Aaron Winters, discoverer of Death Valley borax, Harmony Borax Works operated from 1882 until 1888. Extensive ruins remain of the refinery and its outlying buildings. Walk northwest about two miles (no trail) across the salt flats to see mounds of dried mud that look like haystacks; a form of borax called cottonball was once leeched out of them. A mile-long one-way dirt road north of the refinery leads through **Mustard Canyon,** a series of low hills colored ochre by oxidizing iron.

Ruins of Keane Wonder Mine (F-4; jeep road) One of the first Death Valley gold camps of the early 1900's surrounded the mine and mill here. The mine sold for $150,000 before it was even developed, typical of business transactions during the days of gold rush fever. From the few shacks left at the base of the cliff, hike about one mile up along the interesting old tramway to see another small scattering of ruins.

Ryan Ghost Town (G-6; paved road) From 1914 through the 1920's Ryan was a lively borax town. The well-preserved buildings, though not open to the public for exploration, are interesting to look at from outside.

Sand Dunes (D-4; State Route 190) Sunrise, late afternoon, and moonlight are dramatic light settings for the velvet dune contours contrasted against serrated mountain silhouettes. Animal footprints, deep shadows, and rippled surfaces accent the tawny hues. The dunes are deposits of wind-borne quartz particles from the Cottonwood Mountains; because of mountain barriers and opposing wind currents, they do not move cross-country with the wind. Try walking barefoot on the finely sifted sand during the cooler hours of the day.

Site of Stovepipe Wells (E-4; spur road off State Route 190) An old hand-operated water pump marks the site of a waterhole that was important during the boom days of Rhyolite and Skidoo. The name is derived from the practice of pushing stovepipe into the ground to keep wells from caving in.

Skidoo Ghost Town (D-5; dirt road) Mine shafts and an old mill are twilight remains of the raucus days of Skidoo when it thrived in the early 1900's. Gold and silver mining lured a population peak of 1,000. The townspeople put up many buildings, helped run the telephone line across Death Valley to Rhyolite, and piped in water 23 miles from a spring on the slopes of Telescope Peak. Because this distance was the same as the number in a popular expression of the day — "Twenty-three Skidoo" — the town was christened Skidoo.

Texas Spring (F-5; State Route 190) A borax miner is honored here with an elaborate stone monument built by his friend; graves of his family surround the monument.

Twenty-Mule Team Canyon (F-6; one-way dirt road closed in summer) Borax mined here was never transported by the unique 20-mule teams; their route out of Death Valley was south through Wingate Pass 165 miles to Mojave. These amazing teams could — and did — pull as much as 36 tons, and were quite an innovation to the Death Valley borax mining industry. (For more information see *Borax Museum* in this section.)

Visitor Center Museum (F-5; State Route 190) Well-designed exhibits and an hourly slide program provide a good orientation to the natural and historic attractions of the Monument. Ask at the information desk for schedules of evening naturalist programs (given November-April) and guided walks and trips. Publications for sale at the information desk include many good sight-seeing guides that appeal to a wide variety of special interests. Visitor Center hours are 8:00 a.m. to 9:00 p.m. November-April, and 8:00 a.m. to 5:00 p.m. May-October.

Zabriskie Point (F-6; State Route 190) Sunrise produces a spectacular lighting effect at Zabriskie Point, highlighting the foreground badlands with earth-tone golds and contrasting shadows as the mountains across the valley subtly change from pink to blue-grey. Zabriskie Point is an area of lake sediments deposited five to ten million years ago. The ancient lake beds have been tilted by folding and faulting (see *Geology* section of general introduction) and eroded by wind and water.

Accommodations

Stove Pipe Wells Village (D-4) offers good views of the nearby Sand Dunes. Open year-round; 95 units (21 without bath). European Plan rates: main buildings, double occupancy $14.50 - $17.50; cottages for 2, 3, 4, or 5 people $10.50 - $24.50; lower rates May to October. Dining room (7-9 a.m.; 12-1 p.m.; 6-7 p.m.), cocktail lounge, outdoor swimming pool, light recreation such as table tennis and croquet, evening entertainment, general store, service station, landing strip for light planes. Deposit refund notice 4 days. Address: Death Valley, California 92328.

Furnace Creek Ranch (F-5) is set oasis-like in a cultivated date-palm grove. Open early November to late April; 125 units with bath, some living room suites available. European Plan rates: cabins, single occupancy $8.00 - $10.00, double $11.00 - $14.00; poolside rooms and furnished cottages, double $16.00 up; children 3 years and older full rate, under 3 no charge if bedding not required; trailer space $2.50 per day. Cafeteria (7-10 a.m.; 12-2 p.m.; 6-8 p.m.), cocktail lounge, snack bar, outdoor swimming pool, golf and riding (extra charge), general store, laundromat, service station, landing strip for light planes. Deposit refund notice 2 days (4 days during holiday periods). Address: Death Valley, California 92328; phone (714) 786-2345.

Furnace Creek Inn (F-5) is a desert resort, its grandeur approaching that of Scotty's Castle. Open early November to mid-April; 67 units with bath. American Plan rates: double occupancy $36.00 - $48.00, triple occupancy (cot added) additional $15.00; children 8 years and older $15.00, 3-7 years $10.00, under 3 $7.50. Dining rooms, cocktail lounge, sun deck, outdoor swimming pool, recreation center, tennis courts, free golf for weekly guests, riding (extra charge), gift shop, barber and beauty shop, limited laundry service, garage. Deposit refund notice 2 days (4 days during holiday periods). Address: Death Valley, California 92328; phone (714) 786-2361.

Wildrose Station (D-7), surrounded by wooded canyon scenery, features a curio shop stocked with unusual items such as rare Indian pottery, antique desert glass, and a good selection of Death Valley rocks and minerals. Open year-round; 4 units with bath. European Plan rates: double occupancy $6.50 - $8.50; family accommodations $10.50 - $14.00. Cafe (7 a.m. to 7 p.m.), service station. Deposit refund notice 2 weeks. Address: Box 397, Trona, California 93562.

Camping

Sand Dunes (E-4; spur road off State Route 190) Elevation sea level. The unshaded campsites are set against a sand-dune background. Closed in summer; 25 campsites with pit toilets. No water.

Emigrant Junction (D-5; State Route 190) Elevation 2,160 feet. Sparsely shaded campsites in scrub growth surroundings have good mountain and valley views. Open year-round; 3 campsites with fireplaces, tables, water, flush toilets.

Furnace Creek (F-5; State Route 190) Elevation sea level. Some campsites are shaded, and views include the mountains lining the central valley. Open year-round, very hot in summer; 10 campsites with fireplaces, tables, water, flush toilets.

Texas Spring (F-5; spur road off State Route 190) Elevation sea level. This campground has generally the same mountain views as Furnace Creek, but very sparse shade. Closed in summer; 85 campsites with fireplaces, tables, water, flush toilets.

Wildrose (D-7; paved road) Elevation 4,000 feet. Well shaded in a canyon, this is a good place for hearing burro "serenades." Open year-round; 10 campsites with tables, water, pit toilets.

Supplies and Services

Gasoline and Oil
Stove Pipe Wells Village; station open 7:00 a.m. to 8:00 p.m. November-April, 7:00 a.m. to 7:00 p.m. May-October.

Furnace Creek Ranch; station open 7:00 a.m. to 9:00 p.m. November-April, 9:00 a.m. to 5:00 p.m. May-October.

Wildrose Station; station open 7:00 a.m. to 7:00 p.m. year-round.

Auto Repairs and Towing
Furnace Creek Inn garage

Camping Supplies
Stove Pipe Wells Village (ice, limited supplies, groceries); store open 7:00 a.m. to 8:00 p.m. November-April, 7:00 a.m. to 7:00 p.m. May-October.

Furnace Creek Ranch (ice, groceries, butane gas, white gas, kerosene); store open 7:00 a.m. to 9:00 p.m. November-April, 9:00 a.m. to 12:00 p.m., 4:00 p.m. to 7:00 p.m. May-October.

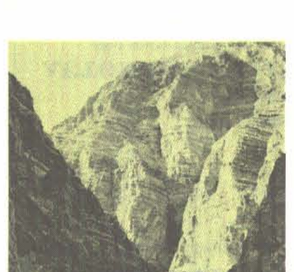
Furnace Creek General Services
Post office, telephone, medical service (November through April only), laundromat, showers, church services.

Park Rangers
Emigrant Ranger Station
Monument Headquarters at Furnace Creek
Wildrose Ranger Station

Entertainment
Check at Stove Pipe Wells Village and Furnace Creek Ranch for schedules of movies, dances, campfire programs, and recreation.

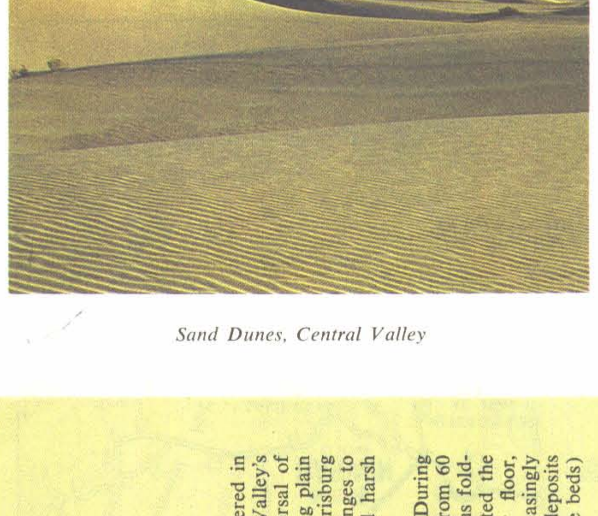
CENTRAL VALLEY

NORTH VALLEY



Titus Canyon, North Valley

Leadfield ruins, Titus Canyon



Sand Dunes, Central Valley

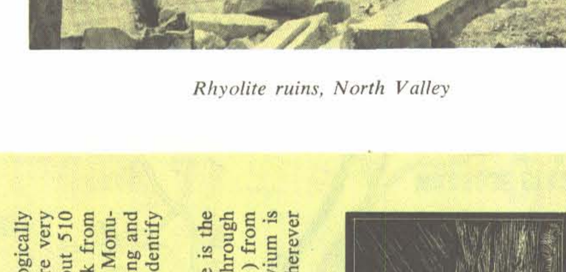
Attractions

Chloride City Ghost Town (F-3; dirt road) Near Chloride Cliff with its vista of Death Valley stand a few board shacks, run-down remains of a town that sprang up in the 1870's. Ghost town enthusiasts find this site historically interesting, as Chloride City built the first road out of Death Valley. The road was later used by both the Eagle and Harmony borax works.

Death Valley Buttes (E-3; paved road) These dark grey, worn hulks form a magnificent structural contrast to the sharper mountain peaks around them and the pale Sand Dunes far below on the valley floor.

Hidden Valley (B-3; jeep road) If there has been an abundance of winter rain, this typical higher desert valley is transformed into a brilliant tapestry of color by springtime wildflowers. Hidden Valley looks much like Racetrack Valley, but it has no moving rocks. Several abandoned mines lie nearby, notably the Lost Burro (one-mile jeep trail) and Keeler (three-mile jeep trail).

Racetrack Valley (B-3; dirt road) A dried mud lake bed formed by the evaporation of an ancient lake (see *Geology* section of general introduction), this valley's shape resembles that of a racetrack with grandstand. Scientists are still mystified by the moving rocks of the Racetrack. By some natural means, rocks weighing as much as 600 pounds are moved along the lake bed, leaving long furrows in their wake; smaller rocks have left trails hundreds of feet in length. New rocks appear on the Racetrack every year, and obvious tracks can be seen. The best theory to date is that heavy gusts of wind together with rain-slicked mud surfaces are responsible for this strange movement.



Rhyolite ruins, North Valley

Hikes from Racetrack Valley along jeep trails reveal ruins and mine shafts of the old Ubehebe (one-mile hike) and Lippencott (five-mile hike) mines.

Rhyolite Ghost Town (F-2; paved road) Imposing stone and concrete ruins are stark testaments to the spirited town that lived a brief five years at the turn of the century. A rich gold strike in the nearby Bullfrog Hills attracted a population of 7,000 who constructed numerous elaborate buildings, piped in water, and helped run a telephone line across Death Valley to the boom town of Skidoo. Now the mine shafts stand empty in the hills east and west of the town. About one mile south of Rhyolite on a dirt road lies the aging Bullfrog-Rhyolite graveyard, some of the dates still legible on its weathered wood headstones.

The old railroad station of Rhyolite has been turned into a small museum and store offering souvenirs, film, and snacks; and near the railroad station is a gas pump. The restored bottle house sells desert glass and curios, and on the road to the graveyard is a rock shop.

Scotty's Castle (C-1; paved road) Walter Scott, better known as Death Valley Scotty, was a man whose natural showmanship rapidly became part of Death Valley's colorful folklore. During his eventful life he worked at a variety of jobs, including trick rider on the wild west show circuit and sometime-prospector. His supposedly prosperous gold mine (that no one ever saw) financed his flamboyant escapades. Scotty's real gold mine was his millionaire friend, Albert Johnson, who obviously enjoyed watching the tall tales grow. The combination of Scotty's imagination, Johnson's money, and their shared sense of humor resulted in a successful hoaxing team.

Their most fantastic enterprise, Scotty's Castle, took ten years to build and cost about two million dollars. The Spanish-Moorish mansion is lavishly but comfortably furnished, exhibiting good taste and appreciation for fine craftmanship. The rooms are on public view only during hourly tours, and photography is welcomed at those times. The tours include demonstrations of a player concert piano and player pipe organ in the upper music room. Tour hours are 9:00 a.m. to 6:00 p.m. seven days a week. Admission: adults $1.00; children 6-12 50¢; under 6 free. Gift shop and snack bar open 8:30 a.m. to 6:00 p.m. seven days a week.

Titus Canyon (E-2; one-way 25-mile dirt road closed in summer) Steep grades and switchbacks gradually lead into scenic Titus Canyon, its wineglass shape typical of the Death Valley canyons. Near the head of the canyon a few corrugated metal shacks and yawning mine shafts mark the town of **Leadfield,** which existed for one year during the 1920's. Investors were duped by a promoter who staged the area to appear rich in lead ore and then put out preposterous handbills showing heavy ore-ship traffic on the dry Amargosa River, the length of which he had conveniently extended to Titus Canyon.

Not far from Leadfield, Titus Canyon begins to narrow and steepen, the rock colors changing from bright earth hues to a predominance of soft grey and russet tones. Titanic rock upthrusts are evident in the swirling stratification of the canyon walls. Near **Klare Spring** a large boulder is inscribed with ancient Indian petroglyphs, which unfortunately have become obscured and defaced by present-day sightseers. The road leads out of Titus Canyon down its large alluvial fan. (See *Geology* and *History* sections of general introduction.)

The best time to take the two- to three-hour drive through Titus Canyon is early morning; then the sun is behind the car, good lighting for photography is ahead along the road, and there is a better chance of seeing small wildlife at Klare Spring.

Ubehebe Crater (B-1; paved road) A violent volcanic explosion some 3,000 years ago left this crater one-half mile wide and 800 feet deep. Oxidizing ores give orange tints to the dark volcanic ash of the crater walls. Hike south from Ubehebe about one-half mile (no trail) to see **Little Hebe,** a small crater 200 years old, by comparison extremely young in geologic time.

Accommodations

See Central Valley section

Camping

Scotty's Castle (C-1; paved road) Elevation 3,000 feet. Set in scenic Grapevine Canyon, the well-shaded campsites are part of the grounds of Scotty's Castle. Open year-round; 100 campsites with tables, water, flush toilets, showers. No open fires permitted.

Mesquite Spring (C-1; spur road off paved road) Elevation 1,760 feet. Mesquite trees shade some of the campsites, and the views extend from gravel desert surroundings to mountains lining the north valley. Open year-round; 25 campsites with tables, water, flush toilets.

Midway Well (D-3; spur road off paved road) Elevation sea level. This campground has the same scenery as Mesquite Spring, but the mesquite shade is sparse. Closed in summer; 10 campsites with no facilities except water and pit toilets.

Daylight Pass (E-3; paved road) Elevation 4,317 feet. From unshaded campsites there are views of surrounding buttes. Open year-round; 6 campsites with no facilities except water and pit toilets.

Supplies and Services

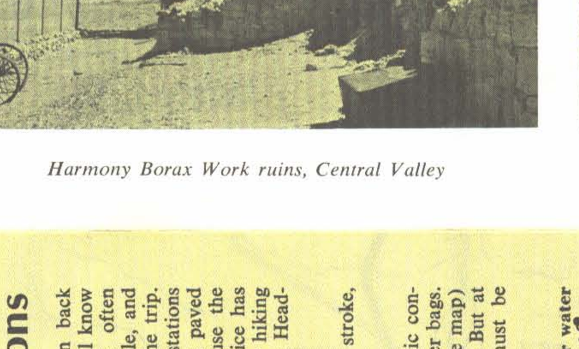
Gasoline and Oil
Scotty's Castle; station open 24 hours a day.

Auto Repairs and Towing
See Central Valley section

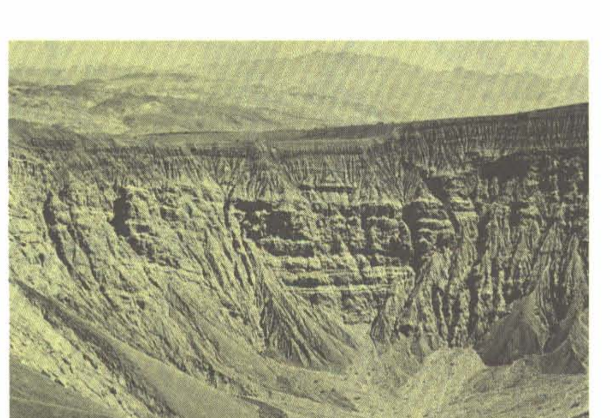
Camping Supplies
See Central Valley section

Park Rangers
Grapevine Ranger Station

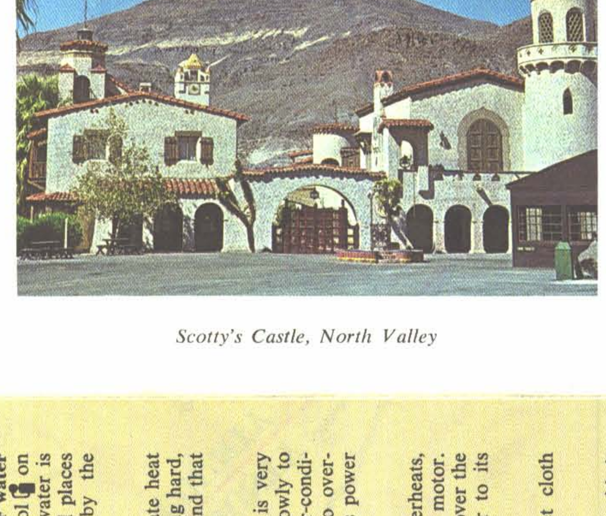
Entertainment
See Central Valley section



Harmony Borax Work ruins, Central Valley



Ubehebe Crater, North Valley



Scotty's Castle, North Valley

NORTH VALLEY

DEATH VALLEY NATIONAL MONUMENT

Its rough textures muted by the serenity of desert quiet, Death Valley is an unrefined region of angular mountain profiles, rock strata mosaics, and the entire spectrum of earth colors. Death Valley offers rich composites of natural and human history, and a variety of challenging jeep and hiking trails.

The National Monument, located east of the Sierra, is bounded on the west by the Panamint Range (Last Chance, Cottonwood, and Panamint Mountains) and on the east by the Amargosa Range (Grapevine, Funeral, Black, and Greenwater Mountains). About 500 of the Monument's total 3,000 square miles lie below sea level, and elevations range from 282 feet below to 11,049 feet above sea level.

The valley floor has been called the hottest desert in the world, with a record of 134 degrees on July 10, 1913. Temperatures of 100 degrees feel more comfortable than they would in humid areas, because Death Valley's climate is extremely dry. And as a general rule, temperatures lower five degrees with every 1,000-foot increase in elevation. During Death Valley's most favorable weather (November through April), chances of heavy rain are least likely and daytime temperatures average around 70 degrees.

Roads

Although the Monument is open year-round, several of its dirt roads are closed during the summer. These roads are graded, opened, and maintained only during the winter season — November through April — when there is heavier traffic in the Monument. Road closure signs should *always* be strictly obeyed; infrequent rainstorms can cause washouts along both paved and dirt roads, leaving them temporarily impassable to traffic.

All paved entrance roads leading into the Monument are scenic and in good condition. The most spectacular approach is State Route 190 from Lone Pine to Towne's Pass; the road is narrow and steep along some stretches as it winds through magnificent canyon country.

Flora

The mirage-like brilliance of springtime wildflowers in Death Valley is unexpected. Over 600 species of plants and trees flourish at all elevations in the Monument. Twenty-two species exist nowhere else in the world but here — among them the Panamint daisy, Death Valley sage, desert rock-cress, rattleweed, and the Death Valley sandpaper plant. Cactus varieties are actually outnumbered by the many types of marsh grass. Arborescent Joshua trees, few in number, are found on the back slopes of Tin Mountain and near Grapevine Canyon. Bristlecone pines, thousands of years old, grow at elevations above 10,000 feet on Telescope Peak.

Wildlife

Several kinds of reptiles, small ground animals, and birds populate Death Valley, adapting well to the desert environment; most of them are nocturnal. Rarely seen bighorn sheep inhabit the mountain areas, and wild burros (descended from prospectors' burros) frequent the Panamint Mountains. At Badwater there is an unusual species of soft-bodied saltwater snail found only in Death Valley — its nearest relative is in Mission Bay, San Diego. Small pupfish descended from Ice Age predecessors thrive nowhere else in the world but in Salt Creek, Saratoga Springs, and Devil's Hole.

Attractions

An alluring variety of scenic and historic places of interest are listed alphabetically in the specific guide sections that correspond to the map. Map keys are given for easy reference, and descriptive detail highlights the significance of each attraction.

Accommodations

Death Valley hostelries satisfy a wide range of lodging preferences in both resort and rustic settings. All accommodations in the Monument are described in the corresponding sectional text and keyed to the map. Those that are AAA-recommended are printed in heavy type. Because space is limited, it is best to make advance reservations. American Plan rates include meals, but European Plan rates do not. **Meals and snacks** are available only at accommodations and at Scotty's Castle.

Camping

Eleven Monument campgrounds and one at Scotty's Castle, detailed in the corresponding guide sections and keyed to the map, provide several choices of scenic background. All campgrounds are free of charge; space cannot be reserved. The camping limit is 14 days at Monument campgrounds and two days at Scotty's Castle. Campers must supply their own trash containers and firewood. Signs are posted at all campgrounds where water should be purified before drinking.

Supplies and Services

The only service and supply sources described in this guide are those located within the Monument boundaries. Automobile services, drinking water, and meals are also obtainable at the nearby towns of Beatty (Nevada), China Lake, Darwin, Death Valley Junction, Panamint Springs, Shoshone, Tecopa, and Trona. AAA Emergency Road Service is available at Lisle Garage in Beatty (phone: day — 4851; night — 2841). ERS stations are also located in towns immediately outside the area covered by the map: Baker, Lone Pine, Olancha, and Ridgecrest.

Researched and written by Ruth Posselt
Staff Writer
Map-Guide design by
Robert A. Goings and Ruth Posselt
Travel Research and Publications Department
Automobile Club of Southern California

Geology

Fossils of prehistoric mammals have been discovered in the Monument, proving that ancient Death Valley's climate and terrain were almost a complete reversal of what they are now. The region was a fertile rolling plain (the remains of which can still be seen at Harrisburg Flats) before it underwent a series of colossal changes to become today's arid salt flats, gravel desert, and harsh peaks.

Death Valley was not formed by stream erosion. During the Cenozoic era (a geologic time period dating from 60 million years ago through present time) prodigious folding, faulting, and volcanic forces gradually uplifted the surrounding mountains and dropped the valley floor, forming a fault basin. As the climate became increasingly dry, ancient lakes slowly evaporated to leave salt deposits such as Devil's Golf Course and mud playas (lake beds) such as Racetrack Valley.

Although the mountains of Death Valley are geologically young in structure, the rocks composing them are very old, some dating back to Precambrian times about 510 million to two billion years ago. Remains of rock from the early geologic time periods are visible in the Monument; but because of the extremely complex faulting and folding, it is difficult for the untrained eye to identify them.

The gradual changes continue today. One example is the formation of alluvial fans. Torrential rains wash through the canyons and carry rock debris (called alluvium) from the floors to the canyon mouths. There the alluvium is deposited outward in large mounds of gravel. Wherever two fans meet, the formation is called a bajada.

History

Indians
The Lake Mojave Indians were probably the first people to enter Death Valley, arriving at the close of the Ice Age. They were followed by the Mesquite Flat Indians about 5,000 years ago, who gave way to the Saratoga Indians 3,000 years later. The last of these old Indian cultures, the Desert Shoshone (whose descendants are the present-day Shoshone), came to Death Valley about 1,000 years ago.

Carved figures and symbols (called petroglyphs) found on rocks at more than 200 sites in the Monument are the work of the ancient peoples. Scientists still puzzle over their exact meaning. Most of the Indian petroglyph sites in the Monument are very difficult to reach, but a few can be seen on some of the jeep trails described in this guide.

Pioneers
Many of the picturesque names of places in the Monument are derived from names of pioneers and prospectors, and from the situations they confronted — some humorous, some tragic. Death Valley itself is said to have been named by the first groups of pioneers (Illinois Jayhawkers, Georgians, and Mississippians) who crossed the region in 1849. Arriving at Salt Lake City too late in the year to take the Donner Pass crossing to the California gold fields, they struck a southern route which they believed better for winter travel. The recorded facts of this crossing are sketchy, since most of the forty-niners wanted to forget the deprivations they had suffered. But this fact is certain: only one death actually occurred in Death Valley during the forty-niner crossing.

In 1949 at a centennial commemoration of the 1849 crossing, an organization called the Death Valley '49ers was formed to perpetuate the memories of California pioneers and to make known the scenic and historic attractions of Death Valley. The group sponsors a four-day encampment every November at the Monument, featuring special exhibits, programs, and tours.

Prospectors
Amusing yarns and colorful mixtures of fable and fact reflect the adventures of enterprising, inventive prospectors, and the lives of boom towns that briefly flourished in Death Valley at the turn of the century. The ghostly shells of past mines and buildings scattered throughout the Monument echo places that once resounded with the exciting rhythm of gold rush life. Many of the old Death Valley mines are now being worked again on a sometime basis by those who hold valid claims. No Trespassing signs on such private property should be strictly obeyed. It is a good idea to check with a park ranger before exploring the dilapidated remains of mine shafts, since they can be highly dangerous.

Desert Travel Precautions

Consult with park rangers before traveling on back country roads or hiking along any trails. They will know the current road and trail conditions (which often change), whether your proposed route is advisable, and whether you are properly equipped to attempt the trip. (The symbol ▲ denotes the location of ranger stations on the map.) In hot weather stay on the main paved roads since they are patrolled frequently. Because the summer heat is extreme, the National Park Service has established some important guidelines for summer hiking in Death Valley; for details write to Monument Headquarters.

Avoid overexposure to the sun. Sunburn, heat stroke, and heat exhaustion can be very serious.

Carry drinking water, at least five gallons; plastic containers are preferable to metal containers and water bags. Drinking water (marked by the symbol ■ on the map) is obtainable at several places in the Monument. But at sources marked with the symbol ⊠, water must be purified before it is suitable to drink.

Frequently check the gasoline, oil, and radiator water gauges of your car. Service stations (symbol ⛽ on map) are far apart in the Monument. Radiator water is available from emergency storage tanks at several places along the main roads, marked on the map by the symbol ⚑.

Keep tires at normal pressure. Soft tires generate heat and cause blowouts. If you think the tires are riding hard, stop along the road for a few minutes; you will find that the tires cool quickly.

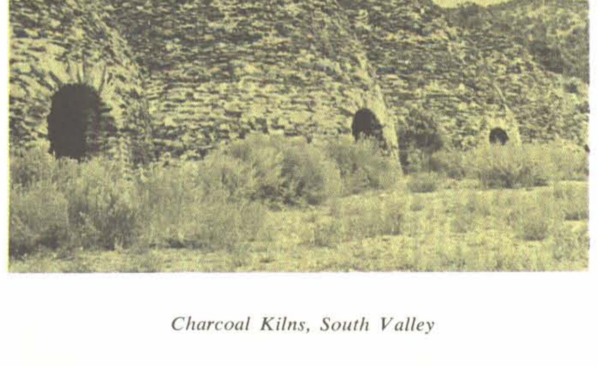
Road grades can be deceptive. If the weather is very hot, shift to a lower gear on grades and drive slowly to avoid overheating the motor. If your car is air-conditioned and the gauge indicates that it is close to overheating, turn off the air conditioner to divert less power from the engine.

Watch the temperature gauge. If the car overheats, pull to the side of the road but do not stop the motor. While the car is at a fast idle, slowly pour water over the radiator core to cool it. Then refill the radiator to its proper level.

If your car develops vapor lock, wrap a wet cloth around the fuel pump and line to cool them.

Summer visitors: If your car breaks down, stay with it and do not attempt to walk for help in the hot sun.

SOUTH VALLEY



Charcoal Kilns, South Valley

Artist's Palette, Central Valley

Attractions

Badwater (F-7; paved road) Well-known as the lowest elevation in the western hemisphere that can be reached by car (−279.8 feet), this permanent pool in salt pan surroundings is fed by water seeping out of the Black Mountains. The water is not poisonous, but it contains a high percentage of Epsom and Glauber salts. A soft-bodied saltwater snail, found only in Death Valley, lives in the water (see *Wildlife* section of general introduction). Large, mud, crater-like formations edged in salt can be seen by walking westward from Badwater (no trail) for about one-half hour.

Ballarat Ghost Town (D-8; dirt road) Crumbling adobe walls are nostalgic remains of a town that had been optimistically named after a famous gold center in Australia. Ballarat lived its short life in the late 1800's as a rowdy supply town for numerous prospectors who worked claims in the Panamint Valley region.

Charcoal Kilns (E-7; dirt road) Although they date back no further than the 1870's, these immense structures look like remnants of an ancient civilization now subdued by encroaching forest. No mortar was used to construct the ten beehive-shaped kilns 30 feet in diameter and 15 feet tall, and the stones still fit together as tightly as pieces of a puzzle. The kilns were designed by Swiss engineers, built by Chinese labor, and worked by Indians. Because this location was the nearest source of wood, the kilns were built here to produce charcoal for the Modoc Mine smelter 25 miles away.

Dante's View (G-7; paved road) The spectacular view (pictured on the cover of this map-guide) is best lighted by the early morning or late afternoon sun. On the horizon is Mount Whitney, elevation 14,495 feet, highest U.S. peak outside Alaska; also visible is the lowest elevation in the western hemisphere, −282 feet near Badwater.

Wild burros, Central Valley Panamint Mts.

Greenwater Ghost Town (G-7; dirt road) A few foundations mark the copper camp that prospered here during the early 1900's. The boisterous population reached 1,000 and the town of several buildings even boasted telephone service. But the most important ingredient, high grade ore, was missing — consequently the town flickered out.

East of the ruins where the dirt road becomes a jeep trail, a mile-long hike along the trail reveals carved petroglyphs and painted pictographs left by ancient Indians (see *History* section of general introduction). The pictographs are found on some of the canyon's cave ceilings. Because they often blend into the rock surfaces behind them, petroglyphs and pictographs cannot always be easily seen by the unpracticed eye.

Mahogany Flat (E-7; steep dirt road) Enhanced by verdant forests of juniper and pinon pine, Mahogany Flat (elevation 8,133 feet) is the highest point in the Monument that can be reached by car. This superb vantage point overlooks the valley floor as far as the eastern mountain boundary of the Monument.

For views unhampered by trees, take the day's hike (seven miles) along the trail that leads from Mahogany Flat to the summit of **Telescope Peak** (elevation 11,049 feet), the highest point in the Panamint Range. Commanding vistas from this peak sweep as far east as the mountains surrounding Las Vegas, and westward to the High Sierra. Above 10,000 feet stand the Bristlecone pines (see *Flora* section of general introduction), found nowhere else in the Monument. The trail is not difficult, except when covered by winter snow; however, be sure to check with the Wildrose Ranger Station before attempting the climb *at any time.*

Panamint City Ghost Town (D-8; jeep road) A large smokestack stands sentinel amid the ghostly fragments of a boom town that flourished in the early 1870's. Gold, silver, and copper strikes attracted crowds of prospectors to Panamint City and nearby Ballarat. The population swelled to 2,000 before new mine strikes lured people elsewhere.

Ruins of Ashford Mill (G-9; paved road) Fortress-thick concrete walls, now hushed by desert quiet, once housed a busy mill that was built in 1915 by the three Ashford brothers. They decided to process their gold ore themselves, rather than pay to have it processed elsewhere. But they ran into legal and then financial difficulties, and had to close down operations before they saw any profit. Their plight is common in the annals of gold rush history.

Ruins of Hungry Bill's Ranch (E-8; no trail) A long hike from the end of Johnson Canyon jeep trail leads to the site of an amazing desert enterprise. Swiss adventurers raised vegetables and fruit to sell in Panamint City ten miles away, since fresh produce brought very high prices during the city's gold fever days. Apple trees grow wild now among the old stone walls near an abandoned house. After the Swiss left, Hungry Bill — a Shoshone Indian over six feet tall and named for his huge appetite — filed homestead papers for the ranch and settled there.

Saratoga Springs (J-11; dirt road) The best approach to Saratoga Springs is from outside the Monument, on State Route 127 about 17 miles south of Shoshone. The 15 acres of marsh and lake stand out like an oasis against the background of salt-flat valley floor. During spring and autumn this area is a stopping place for a variety of migratory birds. There is a good chance of seeing much desert wildlife here, including the rare desert pupfish (see *Wildlife* section of general introduction).

Shore Line Butte (G-9; paved road) North of the Ashford Mill ruins lies a large, black hill marked with several horizontal bands near its rounded crest. This is Shore Line Butte, named for the water lines cut into it by an ancient lake as it slowly evaporated when Death Valley's climate changed (see *Geology* section of general introduction).

Striped Butte (E-9; jeep road) Probably the most dramatic example of the prodigious forces that shaped Death Valley (see *Geology* section of general introduction), Striped Butte's layers of horizontal sediments were thrust upward into an almost vertical position. The butte rises abruptly from a level plain of gravel rubble; it is composed of rock from the Paleozoic era, 180-510 million years ago.

Accommodations

See Central Valley section

Camping

Thorndike (E-7; dirt road not passable to trailers) Elevation 7,500 feet. The campground is well shaded in canyon seclusion near the Charcoal Kilns. Sometimes closed in winter (check at Wildrose Ranger Station); 10 campsites with fireplaces, tables, pit toilets. No water in winter.

Mahogany Flat (E-7; dirt road not passable to trailers) Elevation 8,133 feet. Well-shaded campsites have good overlooks of the valley floor and views of the eastern Death Valley mountains. Sometimes closed in winter (check at Wildrose Ranger Station); 8 campsites with fireplaces, tables, pit toilets. No water.

Bennett's Well (F-7; dirt road) Elevation sea level. There is some shade from a mesquite grove, and views of the mountains lining the south valley. Open year-round, very hot in summer, not easily accessible; 5 campsites with no facilities except water.

Supplies and Services

Gasoline and Oil
See Central and North Valley sections

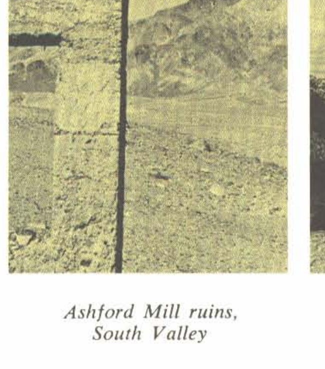
Auto Repairs and Towing
See Central Valley section

Camping Supplies
See Central Valley section

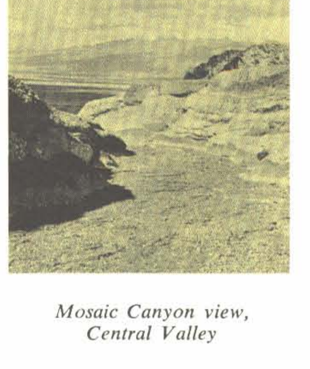
Park Rangers
See Central and North Valley sections

Entertainment
See Central Valley section

Telescope Peak, South Valley



Ashford Mill ruins, South Valley



Mosaic Canyon view, Central Valley

Zabriskie Point, Central Valley

SOUTH VALLEY