MME Form 40
Dec. 1958

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Budget Bureau No. 42-R1368
Approval expires Dec. 31, 1963

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.)*

American Primary Resources, Inc.
P. O. Box 433
Redding, California 96001

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: OME-6895

DATE RECEIVED: Nov. 27, 1973

REGION: II

DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

INDIVIDUAL	
CORPORATION	X
PARTNERSHIP	
OTHER *(Specify)*	

STATE IN WHICH FIRM IS ORGANIZED: Nevada

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
D. J. Hoare	Box 433, Redding, California 96001	President
J.H. Paulsen	Route 4, De Pere, Wisconsin 54114	Secy-Treas.
J. C. Carroll	Box 290, Lewiston, California	1st Vice Pres.
F. Allstrom	Box 433, Redding, California 96001	2d Vice Pres.

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

ESTIMATED COST OF PROJECT: $ 106,803.00

PROPERTY NAME	LOCATION COUNTY	STATE
Niagara Mine	Shasta	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. III). 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 four 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 Office of Minerals Exploration, Department of the Interior, Washington 25, D. C., 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.

November 15, 1973
DATED

American Primary Resources, Inc.
BY *(Signature)*
By D. J. Hoare
TITLE President

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.

Financial Eligb'ty

North Valley Bank

November 20, 1973

American Primary Resources, Inc.
Box 433
Redding, CA 96001

Attention: David J. Hoare, President

Dear Mr. Hoare:

With regard to your application of recent date for a loan in the amount of $107,003.00, the proceeds of this loan proposed to be used for mineral exploration on the Niagara Mine located in the French Gulch mining district.

After considering all of the information available to us we regret that we will not be able to accomodate your company with this loan request. Primarily there is a lack of adequate source of repayment indicated in financial statement. The liquid assets of the corporation are extremely limited and because of heavy exploration and development costs the operation is still not operating at a profit.

If you wish to discuss this with me further please do not hesitate to contact me.

Very truly yours,

Herb F. Mueller
President

HFM:bw

P. O. Box 4008 Redding, Ca. 96001 (916) 243-8600

American Primary Resources, Inc.

BOX 433 - REDDING, CALIF. 96001

TELEPHONE
(916) 778-3801

BROWN BEAR MINE
DEADWOOD ROAD
LEWISTON, CALIF.

Nov. 15, 1973

H. Mueller, Manager
North Valley Bank
Market at South St.
Redding, Calif. 96001

Dear Mr Mueller;

We wish to formally apply for a loan of $107,003.00 for the purpose of mineral exploration on the Niagara Mine located in the French Gulch Mining District, Shasta Co., California, which we have a lease/option on.

Your standard interest rates will apply for the loan to be repaid in three years.

Yours truly

D J Hoare

David J. Hoare, President

(FORMERLY · BANK OF REDDING)

Offices in all three Pacific Coast states

THE BANK OF CALIFORNIA *National Association*

REDDING OFFICE: 1805 Market Street, Redding, California · *(916) 243-7000*
Mailing Address: Post Office Box 2298, 96001

November 20, 1973

American Primary Resources, Inc.
Box 433
Redding, CA 96001

ATTENTION: David J. Hoare
President

Gentlemen:

Referring to your application of November 15, we would not be interested in a loan of $107,003.00 for mineral exploration on the Niagara Mine.

We feel that the source of repayment is not clearly assured, and therefore, the loan does not meet our present policy.

Yours truly,

W. R. MacGregor
Vice President & Manager

WRM/gq

American Primary Resources, Inc.

BOX 433 - REDDING, CALIF. 96001

TELEPHONE
(916) 778-3801

BROWN BEAR MINE
DEADWOOD ROAD
LEWISTON, CALIF.

Nov. 15, 1973

Mr MacGregor, Manager
Bank of California
Redding Office
1805 Market St
Redding, Ca. 96001

Dear Mr MacGregor;

We wish to formally apply for a loan of $107,003.00 for the purpose of mineral explorationon the Niagara Mine located in the French Gulch Mining District, Shasta County , California, which we have a lease/option on.

Your standard interest rates will apply for the loan to be repaid in three years.

Yours truly

David J. Hoare, President

1. Financial Eligibility.

a) Within 90 days preceding the filing of this application, efforts have been made to borrow funds for exploration from banks with which the Company does business: the North Valley Bank, Redding, California, and the Bank of California National Association, Redding, California.

1) The applications for loan are dated November 15, 1973.
2) The amount of the loan requested was $107,003.00.
3) The proposed use of the funds was to finance exploration of the Niagara Mining Property, in Shasta County, California.

b) American Primary Resources, Inc., has no affiliates, parents or controlling companies or organizations.

c) The company proposes to finance its share of the cost of the exploration work through the use of its own assets, and the funds contributed by its shareholders.

Appendix 1 - Application for loan to the North Valley Bank, Redding, California, November 15, 1973.

Appendix II - Rejection of application for loan by North Valley Bank, Redding, California.

Appendix III - Application for loan to the Bank of California National Association, Redding, California, November 15, 1973.

Appendix IV - Rejection of application for loan by the Bank of California National Association, Redding, California.

2. Applicant's Rights in Land

a) On November 1, 1973, a lease and option was granted to American Primary Resources, Inc. on the Niagara Mining Property. See Exhibit A by Paul F. DeBauge, Laurent C. De Bauge, Barbara Sundahl, Phillip Akin and William P. Gorski.

b) The legal description of the Niagara Mining Property is contained in Appendix A of the lease agreement.

c) The Company will submit under separate cover five copies of Lien and Subordination Agreement on MME Form 52 signed by lessors, or lessee will exercise his option to purchase and thus own the legal and equitable titles and will enter into an indemnity agreement with the Government to guarantee the repayment of the exploration funds.

Appendix V Lease Option to purchase agreement.

Appendix VI Trust deed to E. M. Clark

pacific southwest investments, inc.
A CALIFORNIA CORPORATION

26 October 1973

Mr. William Murray
1606 Standard Plaza Boulevard
Portland, Oregon 97204

Dear Bill,

Thanks for your call. Attached is a copy of the legal and the trustee sale; i.e., we had to foreclose on it at one time.

The names on the deed remain the same with the exception of Richard L. Reynolds. He sold his interest to Barbara Sundahl and Phillip Akin; so there are presently five owners.

Address all correspondence to me and I'll see that the other owners receive copies, etc.

Thanks,

Bill

Bill Gorski

WPG:jah

313 LAUREL STREET • SAN DIEGO, CALIFORNIA 92101 • PHONE 714-235-6127

RECORDED AT REQUEST OF
TRINITY COUNTY TITLE COMPANY
APR 17 1972 1070
156 11:37 A.M.
TRINITY COUNTY RECORDS
HELEN J. SMITH, RECORDER
FEE $ 6.00
COMPARED

INE FOR RECORDER'S USE

ARY TRANSFER TAX $ 55.00
ED ON FULL VALUE OF PROPERTY CONVEYED, OR
ED ON FULL VALUE LESS LIENS & ENCUM-
ES REMAINING THEREON AT TIME OF SALE.
ndra M. Pope
declarant or agent determining tax - firm name
H VALLEY TITLE & ESCROW CO.

first party, hereby grants, without warranty,
and WILLIAM P. GORSKI
AREA
State of California, described as follows:
PART HEREOF)

This conveyance is made pursuant to the powers conferred upon first party by that certain deed of trust between FRENCH GULCH MINES, INC., a California corporation as trustor, said first party as trustee, and PAUL F. DeBAUGE, LAURENT C. DeBAUGE, RICHARD L. REYNOLDS and WILLIAM P. GORSKI as beneficiary, dated December 17, 19 70, and recorded on December 30 (Shasta County) January 18, 1971, 19 70, in the office of the County Recorder of the (Shasta County) Shasta County of Trinity State of California, in Book/ 1053 144 Official Records, page 611 /378, and after the fulfillment of the conditions specified in said deed of trust authorizing this conveyance as follows:

(a) Default was made in the obligations for which such transfer in trust was given as security and notice of default was recorded in the office of the County Recorder of each county in which the property described in said deed of trust, or any part thereof, is situated, the nature of such default being the failure to pay principal and interest when due

Such default still existed at the time of sale.

(b) Not less than three months elapsed between the recordation of said notice of default and the posting and first publication of the notice of sale of said property.

(c) The beneficiary made due and proper demand upon the said trustee to sell said property pursuant to the terms of said deed of trust.

(d) Said trustee gave notice of the time and place of the sale of said property in accordance with the laws of the State of California and the terms of said deed of trust.

(e) All requirements of law regarding the mailing, publication and personal delivery of copies of the notice of default, and of all other notices have been complied with.

7201

RECORDING REQUESTED BY
North Valley Title & Escrow Co.

WHEN RECORDED MAIL TO
Mr. Richard L. Reynolds
2727 Columbia
San Diego, California

RECORDED AT REQUEST OF
NORTH VALLEY TITLE & ESCROW CO.
AT 6 MIN. PAST 12 P. M
OFFICIAL RECORDS SHASTA COUNTY, CALIF.

APR 11 1972
Volume 1112, Page 156
Mildred Montgomery
RECORDER FEE $ 6.00

RECORDED AT REQUEST OF
TRINITY COUNTY TITLE COMPANY

APR 17 1972 1070
11:37 A.M.
TRINITY COUNTY RECORDS
HELEN J. SMITH, RECORDER
FEE $ 6.00
COMPARED

SPACE ABOVE THIS LINE FOR RECORDER'S USE

DOCUMENTARY TRANSFER TAX $ 55 pd.
☐ COMPUTED ON FULL VALUE OF PROPERTY CONVEYED,
☐ OR COMPUTED ON FULL VALUE LESS LIENS AND ENCUMBRANCES REMAINING AT TIME OF SALE.
Affix R.S. $ ..... in this space
D. F. Dinnelle
Signature of Declarant or Agent determining tax. Firm Name
TRINITY COUNTY TITLE COMPANY

DOCUMENTARY TRANSFER TAX $ 55.00
☒ COMPUTED ON FULL VALUE OF PROPERTY CONVEYED, OR
☐ COMPUTED ON FULL VALUE LESS LIENS & ENCUMBRANCES REMAINING THEREON AT TIME OF SALE.
Sandra M. Pope
Signature of declarant or agent determining tax - firm name
NORTH VALLEY TITLE & ESCROW CO.

Trustee's Deed

FIRST AMERICAN TITLE INSURANCE & TRUST COMPANY

a corporation, as trustee under the deed of trust hereinafter particularly described, the first party, hereby grants, without warranty,

to PAUL F. DeBAUGE, LAURENT C. DeBAUGE, RICHARD L. REYNOLDS and WILLIAM P. GORSKI

the second part ies, all of the real property situated in the UNINCORPORATED AREA

County of Shasta and Trinity State of California, described as follows:

(DESCRIPTION ATTACHED HERETO, MARKED EXHIBIT "A" AND MADE A PART HEREOF)

This conveyance is made pursuant to the powers conferred upon first party by that certain deed of trust between FRENCH GULCH MINES, INC., a California corporation as trustor, said first party as trustee, and PAUL F. DeBAUGE, LAURENT C. DeBAUGE, RICHARD L. REYNOLDS and WILLIAM P. GORSKI as beneficiary, dated December 17, 1970, and recorded on December 30 (Shasta County) January 18, 1971, 1970, in the office of the County Recorder of the (Shasta County) 1053 State of California, in Book/ 144 County of Shasta/Trinity 611 Official Records, page /378, and after the fulfillment of the conditions specified in said deed of trust authorizing this conveyance as follows:

(a) Default was made in the obligations for which such transfer in trust was given as security and notice of default was recorded in the office of the County Recorder of each county in which the property described in said deed of trust, or any part thereof, is situated, the nature of such default being the failure to pay principal and interest when due

Such default still existed at the time of sale.

(b) Not less than three months elapsed between the recordation of said notice of default and the posting and first publication of the notice of sale of said property.

(c) The beneficiary made due and proper demand upon the said trustee to sell said property pursuant to the terms of said deed of trust.

(d) Said trustee gave notice of the time and place of the sale of said property in accordance with the laws of the State of California and the terms of said deed of trust.

(e) All requirements of law regarding the mailing, publication and personal delivery of copies of the notice of default, and of all other notices have been complied with.

EXHIBIT "A"

PARCEL ONE: Centennial Gold Quarts Lode Mining Claim, described in the United States Patent dated May 5, 1887 and recorded in Book 3 of Patents at Page 40, Shasta County Records.

PARCEL TWO: Honey Comb Gold Quartz Lode Mining Claim, described in the United States Patent dated February 2, 1888 and recorded in Book 3 of Patents at Page 152, Shasta County Records.

PARCEL THREE: Shea Gold Quartz Lode Mining Claim, described in the United States Patent dated October 22, 1887 and recorded in Book 3 of Patents at Page 114, Shasta County Records.

PARCEL FOUR: Victory Gold Quartz Lode Mining Claim, described in the United States Patent dated October 22, 1887 and recorded in Book 3 of Patents at Page 109, Shasta County Records.

PARCEL FIVE: Shea Placer Gold Mining Claim described in the United States Patent dated April 19, 1887 and recorded in Book 3 of Patents at Page 54, Shasta County Records.

PARCEL SIX: Jumbo Gold Quartz Lode Mining Claim, described in the United States Patent dated November 5, 1887 and recorded in Book 3 of Patents at Page 126, Shasta County Records.

PARCEL SEVEN: Chinn Consolidated Quartz Mine, consisting of Chinn Gold, Wm. T., Polaris and Eastern Extension Lode Claims, described in the United States Patent dated October 8, 1908, recorded in Book 11 of Patents at Page 271, Shasta County Records.

PARCEL EIGHT: Locke Gold Quartz Lode Mining Claim, described in the United States Patent dated May 3, 1888 and recorded in Book 3 of Patents at Page 302, Shasta County Records.

PARCEL NINE: Yosemite Gold Quartz Lode Mining Claim, described in the United States Patent dated October 15, 1884 and recorded in Book 2 of Patents at Page 146, Shasta County Records.

PARCEL TEN: Coleman Gold Quartz Lode Mining Claim, described in the United States Patent dated October 15, 1884 and recorded in Book 2 of Patents at Page 150, Shasta County Records.

PARCEL ELEVEN: Combination Gold Quartz Lode Mining Claim, described in the United States Patent dated October 2, 1887 and recorded in Book 3 of Patents at Page 99, Shasta County Records.
EXCEPTING THEREFROM that portion described in the Deed to Ike Wertz, etal, recorded in the office of the County Recorder January 21, 1959 in Book 588 of Official Records at Page 558, Shasta County Records.

PARCEL TWELVE: Bell Gold Quartz Lode Mining Claim, described in the United States Patent dated November 5, 1887, recorded in Book 3 of Patents at Page 121, Shasta County Records.

BOOK 1112 PAGE 158

BOOK 153 PAGE 656

PARCEL THIRTEEN: Brown Gold Quartz Lode Mining Claim, described in the United States Patent dated May 5, 1887 and recorded in Book 3 of Patents at Page 43, Shasta County Records.

PARCEL FOURTEEN: Comet Gold Quartz Lode Mining Claim, described in the United States Patent dated April 19, 1887 and recorded in Book 3 of Patents at Page 49, Shasta County Records.

PARCEL FIFTEEN: North Star Gold Quartz Lode Mining Claim, described in the United States Patent dated June 26, 1884 and recorded in Book 2 of Patents at Page 154, Shasta County Records.

PARCEL SIXTEEN: Western Extension Gold Quartz Lode Mining Claim, described in the United States Patent dated May 1, 1885 and recorded in Book 2 of Patents at Page 201, Shasta County Records.

PARCEL SEVENTEEN: Summit Gold Quartz Lode Mining Claim, described in the United States Patent dated September 24, 1887 and recorded in Book 3 of Patents at Page 135, Shasta County Records.

PARCEL EIGHTEEN: Spring Gold Quartz Lode Mining Claim, described in the United States Patent dated October 22, 1887 and recorded in Book 3 of Patents at Page 104, Shasta County Records.

PARCEL NINETEEN: Montezuma Gold Quartz Lode Mining Claim, described in the United States Patent dated August 31, 1880 and recorded in Book 11 of Patents at Page 454, Shasta County Records.

PARCEL TWENTY: Cold Spring Gold Quartz Lode Mining Claim, described in the United States Patent dated May 17, 1894 and recorded in Book 11 of Patents at Page 447, Shasta County Records.

PARCEL TWENTY-ONE: All that portion of Scorpion Gold Quartz Lode Mining Claim described in the United States Patent dated February 21, 1896 and recorded in Book 11 of Patents at Page 449, Shasta County Records, lying West of the East end of the Harney Dump.

ALL THAT REAL PROPERTY SITUATE IN THE COUNTY OF TRINITY, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL ONE: Montezuma Gold Quartz Mine, being Lot No. 43 of Township 33 North, Range 7 West, M.D.B.&M. and Lot 42 in Township 33 North, Range 8 West, M.D.B.&M. and further described as being Lot 41 in the United States Patent, dated August 31, 1880 and recorded February 26, 1881 in Book 1 of Patents at Page 376, Trinity County Records.

PARCEL TWO: Summit Gold Quartz Lode Mining Claim, designated by the Surveyor General as LotsNos. 46 and 62 embracing a portion of Section 13 in Township 33 North, Range 8 West, M.D.B.&M. and of Section 18 in Township 33 North, Range 7 West, M.D.B.&M. according to the United States Patent, dated September 24, 1887 and recorded March 12, 1962 in Book 95 of Official Records at Page 457, Trinity County Records.

EXPRESSLY EXCEPTING AND EXCLUDING all that portion of the ground embraced in Lot No. 4 as excepted in the United States Patent recorded in Book 95 of Official Records at Pag 457, Trinity County Records.

The West half of the West half of the Southeast quarter (~~the West half of the East hal of the Southeast quarter; and the East half of the East half of the Southeast quarter~~) Section 36, Township 34 North, Range 8 West, M.D.M.

... default being the failure to ... pay principal and interest when due

LEASE AND OPTION

THIS AGREEMENT, made and entered into as of the 1st day of November, 1973, by and between PAUL F. DeBAUGE, LAURENT C. DeBAUGE, BARBARA SUNDAHL, PHILLIP AKIN and WILLIAM P. GORSKI, hereinafter referred to as the Owners, and AMERICAN PRIMARY RESOURCES, INC., hereinafter referred to as the Operator,

W I T N E S S E T H:

WHEREAS, the Owners desire and intend to give Operator a lease for six (6) months with an option to purchase certain mining properties in Shasta and Trinity Counties, State of California, together with all dips, spurs, angles, tailings, dumps, water rights, decreed or undecreed, privileges and franchises incident, appendant and appurtenant thereto, together with all rights of ingress and egress thereto and therefrom, and personal property thereon, which mining claims are more particularly described in Exhibit "A" attached hereto and incorporated herein by this reference.

AND WHEREAS, the Owners desire to give the Operator a period of six (6) months in which to sample and core test the above described mining property,

NOW THEREFORE for and in consideration of ONE DOLLAR ($1.00) paid by the Operator to the Owners, receipt of which is hereby acknowledged by the Owners, and in consideration of the mutual covenants and agreements on the parts of the respective parties hereto, IT IS COVENANTED AND AGREED AS FOLLOWS:

1. The Owners hereby lease, let and demise unto the Operator for the term of six (6) months from November 1, 1973 to May 1, 1974, all of the mining property described in Exhibit "A" attached hereto, for the purpose of sampling and core testing during said period, and

the Operator hereby leases from the Owners the above described mining property for the said term for the specific purpose herein set forth.

2. This lease shall automatically terminate and become of no further force and effect whatsoever on May 1, 1974, unless prior to said time the Operator exercises an option herein granted to purchase all of the above described mining property from the Owners for the cash sum of $165,000.00, which sum shall be tendered to the Owners prior to May 1, 1974.

3. That no rent shall be paid by the operator to Owners for the six (6) month period covered by this lease, unless the Operator takes in gold from the premises over $2,500.00 in value, in which event everything above the first $2,500.00 taken shall be paid to the Owners.

4. Operator shall give to Owners a copy of reports of all testing undertaken and done by Opeartor during the term of this lease.

5. Any and all payments herein provided to be made by the Operator to the Owners shall be made by the Operator to such bank or banks as the Operator and the Owners may agree upon. Such payments are to be made for the account of the Owners.

6. Unless the Operator tenders to the Owners prior to May 1, 1974, the sum of $165,000.00 in cash, this lease shall be deemed terminated and of no further force or effect whatsoever after May 1, 1974, without the necessity of either party to instigate further action to terminate said lease.

7. This agreement shall inure to the benefit of and be binding upon the heirs, executors, administrators, successors and assigns of the respective parties hereto, save and except that no agreement made by the Operator shall be valid unless it shall first be approved in writing by the Owners hereto.

IN WITNESS WHEREOF, the Owners have hereunto set their hands and seals and the Operator, pursuant to resolution of its Board of Directors, has caused its corporate signature and seal to be affixed hereto, all being done as of the day and year first above written.

THE OWNERS:

_____
PAUL F. DeBAUGE

_____
LAURENT C. DeBAUGE

_____
BARBARA SUNDAHL

_____
PHILLIP AKIN

_____
WILLIAM P. GORSKI

THE OPERATOR:

AMERICAN PRIMARY RESOURCES, INC.

By: _____
D. J. HOARE, President

Parcel One: Centennial Gold Quartz Lode Mining Claim, described in the United States Patent dated May 5, 1887 and recorded in Book 3 of Patents at Page 40, Shasta County Records.

Parcel Two: Honey Comb Gold Quartz Lode Mining Claim, described in the United States Patent dated February 2, 1888 and recorded in Book 3 of Patents at Page 152, Shasta County Records.

Parcel Three: Shea Gold Quartz Lode Mining Claim, described in the United States Patent dated October 22, 1887 and recorded in Book 3 of Patents at page 114, Shasta County Records.

Parcel Four: Victory Gold Quartz Lode Mining Claim, described in the United States Patent dated October 22, 1887 and recorded in Book 3 of Patents at Page 109, Shasta County Records.

Parcel Five: Shea Placer Gold Mining Claim described in the United States Patent dated April 19, 1887 and recorded in Book 3 of Patents at Page 54, Shasta County Records.

Parcel Six: Jumbo Gold Quartz Lode Mining Claim, described in the United States Patent dated November 5, 1887 and recorded in Book 3 of Patents at Page 136, Shasta County Records.

Parcel Seven: Chinn Consolidated Quartz Mine, consisting of Chinn Gold, Wm. T., Polaris and Eastern Extension Lode Claims, described in the United States Patent dated October 8, 1908, recorded in Book 11 of Patents at Page 271, Shasta County Records.

Parcel Eight: Locke Gold Quartz Mining Claim, described in the United States Patent dated May 3, 1888 and recorded in Book 3 of Patents at Page 302, Shasta County Records.

Parcel Nine: Yosemite Gold Quartz Lode Mining Claim, described in the United States Patent dated October 15, 1884 and recorded in Book 2 of Patents at Page 150, Shasta County Records.

Parcel Ten: Coleman Gold Quartz Lode Mining Claim, described in the United States Patent dated October 15, 1884 and recorded in Book 2 of Patents at Page 150, Shasta County Records.

Parcel Eleven: Combination Gold Quartz Lode Mining Claim, described in Book 3 of Patents at Page 99, Shasta County Records.
EXCEPTING THEREFROM that portion described in the Deed to Ike Wertz, et al., recorded in the office of the County Recorder January 21, 1959 in Book 588 of Official Records at Page 558, Shasta County Records.

Parcel Twelve: Bell Gold Quartz Lode Mining Claim, described in the United States Patent dated November 5, 1887, recorded in Book 3 of Patents at Page 121, Shasta County Records.

Parcel Thirteen: Brown Gold Quartz Lode Mining Claim, described in the United States Patent dated May 5, 1887 and recorded in Book 3 of Patents at Page 43, Shasta County Records.

Parcel Fourteen: Comet Gold Quartz Lode Mining Claim described in the United States Patent dated April 19, 1887 and recorded in Book 3 of Patents at Page 49, Shasta County Records.

Parcel Fifteen: North Star Gold Quartz Lode Mining Claim, described in the United States Patent dated June 26, 1884 and recorded in Book 2 of Patents at Page 154, Shasta County Records.

Parcel Sixteen: Western Extension Gold Quartz Lode Mining Claim, described in the United States Patent dated May 1, 1885 and recorded in Book 2 of Patents at Page 201, Shasta County Records.

Parcel Seventeen: Summit Gold Quartz Lode Mining Claim, described in the United States Patent dated September 24, 1887 and recorded in Book 3 of Patents at Page 135, Shasta County Records.

Parcel Eighteen: Spring Gold Quartz Lode Mining Claim, described in the United States Patent dated October 22, 1887 and recorded in Book 3 of Patents at Page 104, Shasta County Records.

EXHIBIT "A"

Parcel Nineteen: Montezuma Gold Quartz Lode Mining Claim, described in the United States Patent dated August 31, 1880 and recorded in Book 11 of Patents at Page 454, Shasta County Records

Parcel Twenty: Cold Spring Gold Quartz Lode Mining Claim, described in the United States Patent dated May 17, 1894 and recorded in Book 11 of Patents at Page 447, Shasta County Records

Parcel Twenty-one: All that portion of Scorpion Gold Quartz Lode Mining Claim described in the United States Patent dated February 21, 1896 and recorded in Book 11 of Patents at Page 449, Shasta County Records, lying West of the East end of the Harney Dump.

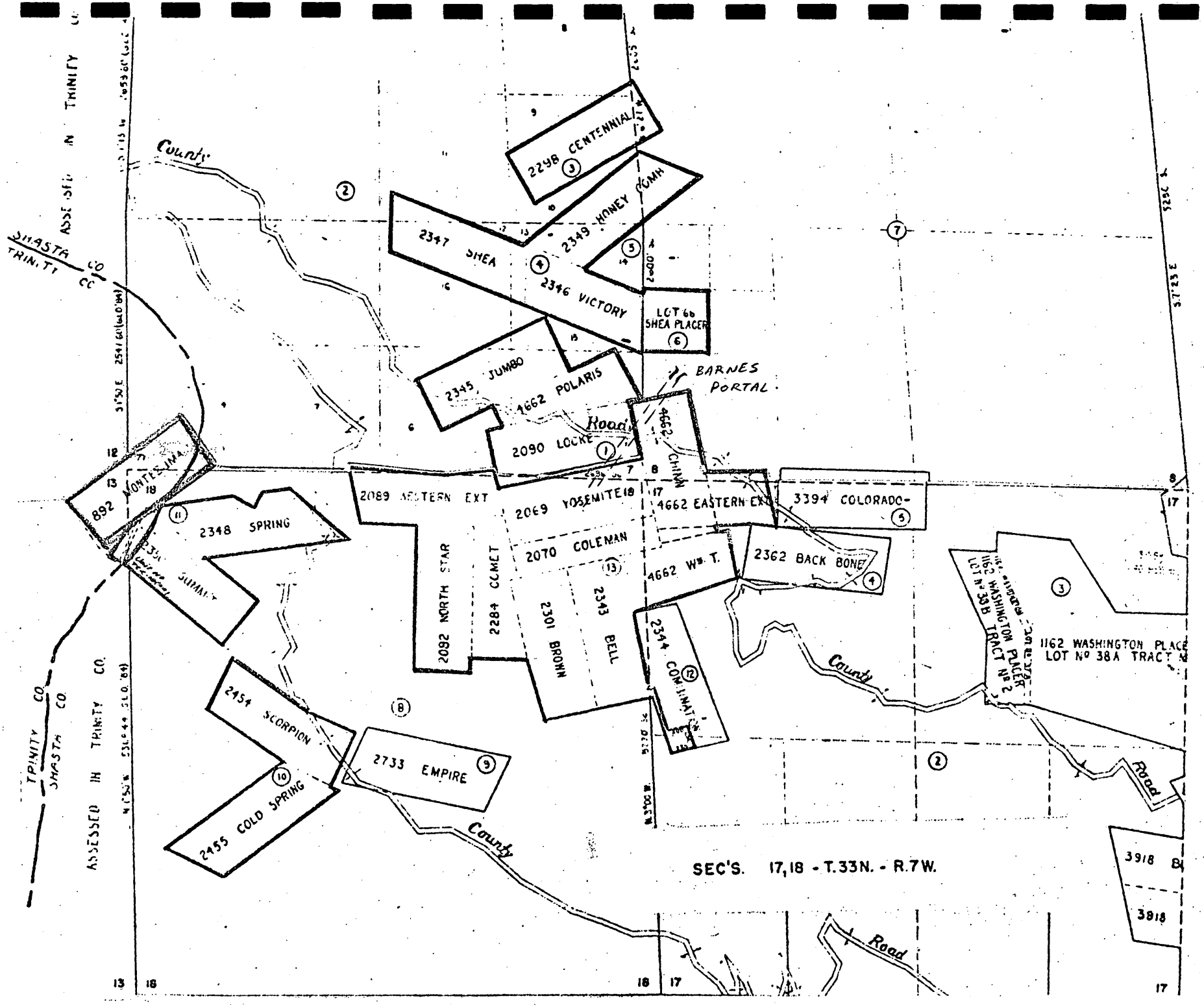
Parcel Twenty-Two: J. J. Moran unpatented mining claim located in French Gulch Mining District, County of Shasta, State of California, at the Portal of the Barnes Tunnel, containing approximately 17 acres, more or less.

ALL THAT REAL PROPERTY SITUATE IN THE COUNTY OF TRINITY, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

Parcel One: Montezuma Gold Quartz Mine, being Lot No. 43 of Township 33 North, Range 7 West, M.D.B.&M. and Lot 42 in Township 33 North, Range 8 West, M.D.B&M. and further described as being Lot 41 in the United States Patnet dated August 31, 1880 and recorded February 26, 1881 in Book 1 of Patents at Page 376, Trinity County Records.

Parcel Two: Summit Gold Quartz Lode mining claim, designated by the Surveyor General as Lots Nos. 46 and 62 embracing a portion of Section 13 in Township 33 North, Range 8 West MDB&M and of Section 18 in Township 33 North, Range 7 West MDB&M, according to the United States Patent dated September 24, 1887 and recorded March 12, 1962 in Book 95 of Official Records at Page 457, Trinity County Records.

EXPRESSLY EXCEPTING AND EXCLUDING all that portion of the ground embraced in Lot No. 41 as excepted in the United States Patent recorded in Book 95 of Official Records at Page 457, Trinity County Records.


2298 CENTENNIAL
2349 HONEY COMB
2347 SHEA
2346 VICTORY
LOT 66 SHEA PLACER
2345 JUMBO
4662 POLARIS
2090 LOCKE
BARNES PORTAL
4662 CHINA
892 MONTEZUMA
2348 SPRING
2089 WESTERN EXT
2069 YOSEMITE
4662 EASTERN EXT
3394 COLORADO
2070 COLEMAN
4662 Wm. T.
2362 BACK BONE
2082 NORTH STAR
2284 COMET
2301 BROWN
2343 BELL
2344 CONTINENTAL
1162 WASHINGTON PLACER LOT No 38B TRACT No 2
1162 WASHINGTON PLACE LOT No 38A TRACT
2454 SCORPION
2455 COLD SPRING
2733 EMPIRE
3918
3818
County Road
SHASTA CO
TRIN. CO
TRINITY CO
SHASTA CO
ASSESSED IN TRINITY CO.
SEC'S. 17,18 - T.33N. - R.7W.

Physical Descrip

3. Physical description.

(a) There is a description of the Niagara Mine on pages 27 and 28 of Special Report 85 - "French Gulch Quadrangle" by J. P. Albers, California Division of Mines and Geology. The report has a plan of the underground workings (Plate 4). Map 2, attached, is a tracing of part of Plate 4 from Special Report 85.

At this time, the upper workings are not accessible, due to caving. The Barnes Tunnel is open, and only minor caves in it will have to be cleaned out. Some track work will have to be done, consisting mostly of replacing rotted ties. Mechanical ventilation will have to be used, as there is no connection with the upper levels to provide natural air movement. A mechanical fan has been obtained for this purpose.

Most of the drifting on the Barnes tunnel has been investigated by American Primary Resources, Inc., and some sampling of veins has been accomplished. See Map 2.

3(b) American Primary Resources, Inc. had no interest in previous exploration or development described in (a) above, except for initially visiting the Barnes tunnel and taking some samples.

3(c) Production from the Niagara Mine has been estimated by J. P. Albers (Special Report 85) as 50,000 ounces of gold. No production is currently being done.

3(d) There are no known ore reserves.

3(e) Mining in the past was doneon the Niagara Vein, which strikes N. 70° E. and dips 70° to 75° S.E. The southwestern extension of the vein has been downfaulted about 100 feet by the French Gulch fault (see Plate 4, Special Report 85).

The oldest rock is the Copely Greenstone, of lower Devonian in age. It

is the rock through which the first part of the Barnes level was driven. The Bragdon formation of Mississippian age has been intruded by "birdseye" porphyry of upper Jurassic or lower Cretaceous age.

All of these rocks have been faulted by East-West trending fractures, some of which have been mineralized by quartz and sulfides. Map 2 and Plate 4 (Special Report 85) show the geology of the Barnes level. Map 2 also shows possible vein intersections where the chances of mineralization should be greater.

The mineralization is found in veins, with the mineralization being introduced along fault planes by hydrothermal solutions. Economic mineralization was localized into an ore-shoot plunging to the Southwest.

Vein minerals consist of quartz and some calcite with accessory pyrite, galena, sphalerite and arsenopyrite. The gold occurs as free gold and as an intimate mixture with the sulfides.

3(f) The only sampling to date by the applicant is shown on Map 2. These samples were taken across exposed vein faces.

There are two main targets for exploration. One is the projection of the NIagara ore-shoot at the Barnes level, as projected by Albers (Special Report 85) on Map 2. The other target consists of three possible vein intersections, as shown on Map 2.

Ore was mined on the downfaulted side of the French Gulch fault from the O'Neal level, demonstrating that the ore-shoot does exist west of the fault. The mined length east of the fault, measured on the plunge, is about 600 feet over a vertical distance of 300 feet. It is expected that mineralization will continue at the same plunge to the Barnes level. A series of diamond dr drill holes should be able to determine if the vein is located where it is projected, and if economic mineralization exists. Some drifting is proposed to further test the vein.

Sampling so far shows gold mineralization on two veins. The intersection

of these veins might create favorable conditions for ore-shoots, as is the case in the Brown Bear Mine, demonstrated by the successful work of E. E. Erich in the 1930s. Diamond drilling is proposed to test these intersections.

3(g) There is no need to return copies of any accompanying data.

NIAGARA MINING PROPERTY, SHASTA COUNTY, CALIFORNIA

The Niagara Mine property is located about five miles west of French Gulch on the county road to Lewiston. It is in the Deadwood-French Gulch Mining District and comprises parts of Sections 7, 7, 17 and 18, Range 7 West, Township 33 North and Sections 12 and 13, Range 8 West, Township 33 North.

The property is a consolidation of three mining properties, the largest being the Niagara Mine with 50,000 ounces of gold produced. The Scorpion Mine and the Montezuma-Vermont Mine were much smaller, with 7,140 and 7,150 ounces of gold produced respectively.

All of the mines have been developed by underground tunnels, raises and shafts. With the exception of the Barnes level at the Niagara Mine, all of the workings are inaccessible due to caving of the tunnel portals.

The greater part of the Niagara production came from the east side of the French Gulch Fault. The O'Neal tunnel was driven to intersect ore on the west side of the fault where the ore was displaced downwards. Some ore was mined from this level.

Another level was driven 543 feet below the O'Neal tunnel, called the Barnes tunnel, shown in the accompanying map. Several veins were intersected, but little development work was done on them. Some vein projections suggest the possibility of at least three vein intersections where the probability of finding ore is higher. One vein assayed 0.12 oz. gold of 0.2 feet and another assayed 1.3 oz gold over 0.25 feet. The Niagara vein has been projected to the Barnes level as shown on the map. A drilling program has been suggested to explore for values on the Niagara vein and also to test for values at the projected vein intersection.

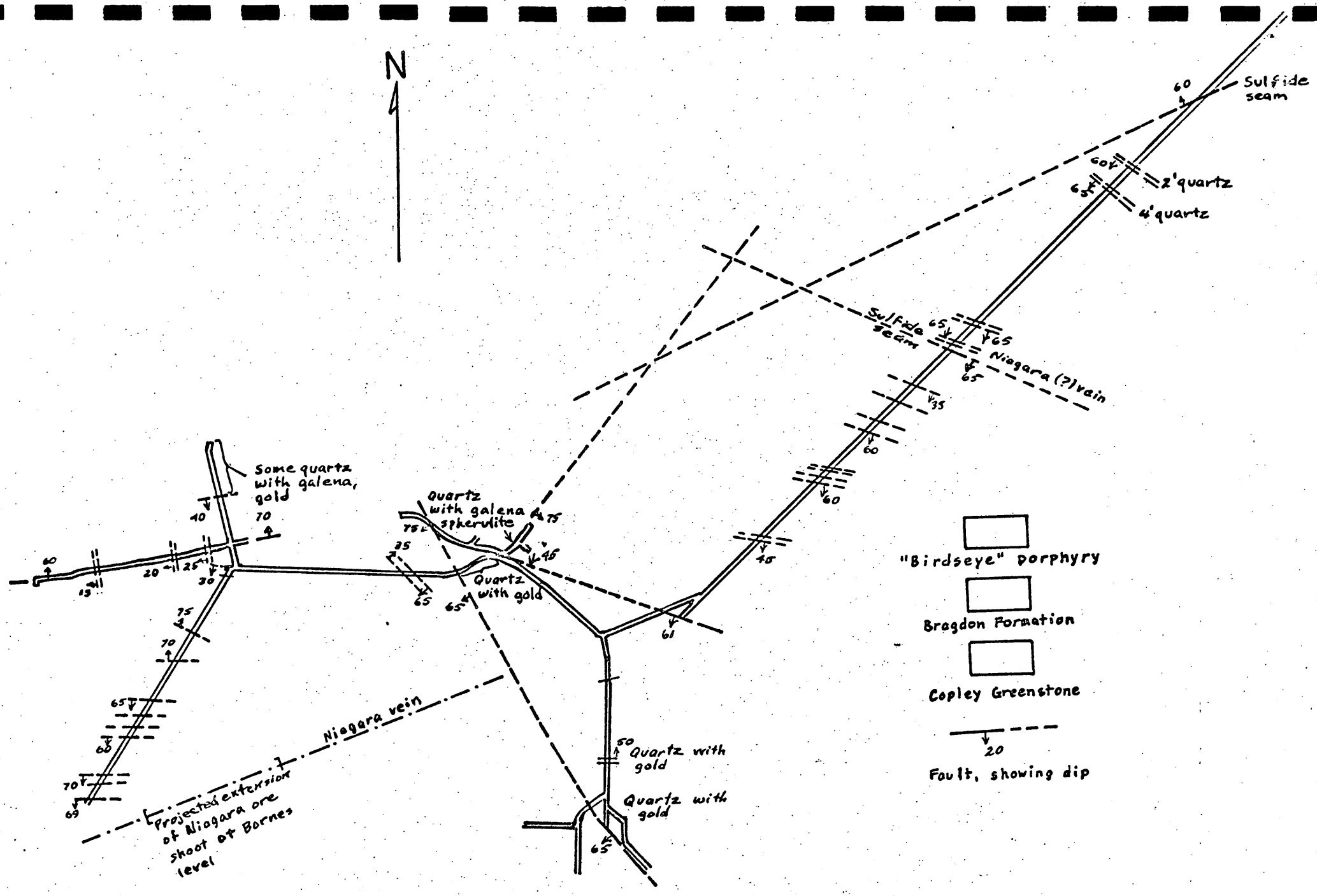
It is significant that the 543 feet of vertical distance between the Barnes and O'Neal levels is virgin, unexplored ground. Any ore found above the Barnes level could develop into a large ore-body. The presence of several mineralized veins on the Barnes level increases the chance of finding ore-shoots, particularly at areas where veins intersect.

The Niagara Mine does have a good potential for the discovery of ore. The closeness of the Washington Mill also enhances the value of the mine, since no great expenditure will be needed to build a mill should ore be found.

Dated: November 17, 1973.

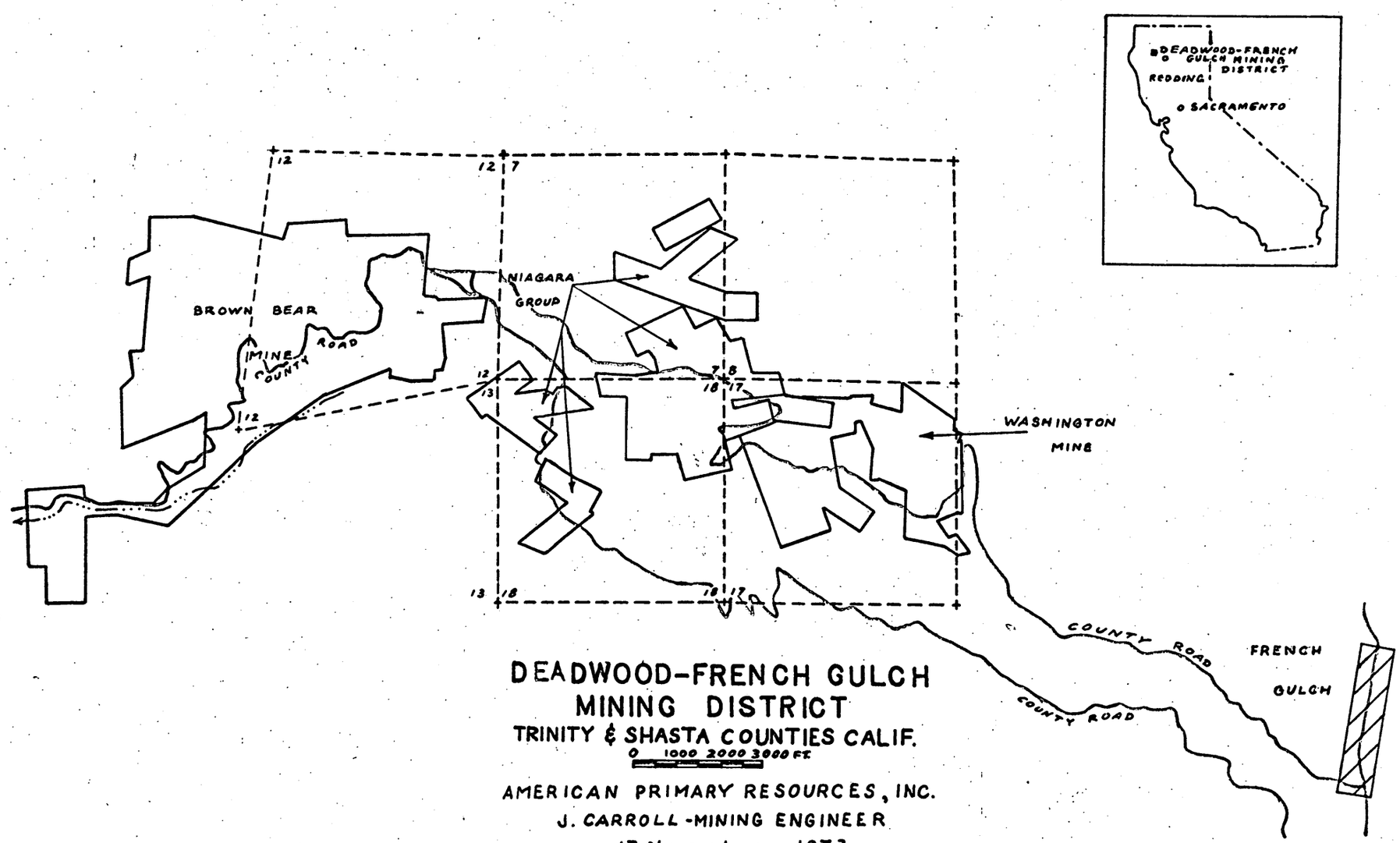
James C. Carroll

James C. Carroll



NIAGARA MINE - BARNES LEVEL
AMERICAN PRIMARY RESOURCES, INC.

0 200 400 FT.



DEADWOOD-FRENCH GULCH MINING DISTRICT

TRINITY & SHASTA COUNTIES CALIF.

0 1000 2000 3000 FT.

AMERICAN PRIMARY RESOURCES, INC.

J. CARROLL - MINING ENGINEER

17 November, 1973

MONTEZUMA MINE

The Montezuma mine is situated at an altitude of about 4000 ft. across the summit of Trinity Mountain, and hence extending into Trinity County. In consequence the danger of reaching the metaandesite basement is practically nil. The history, briefly stated, seems to be that a Mr. Shafter worked it for some years. At first he had a hand arrastre, then a horse arrastre and finally hauled ore down to the little stamp mill on the Shea Placer. Mr. Johnston says he has heard the mine produced up to $250,000. Mr. Wm.T. Coleman thought well enough of the property to pay $25,000. for it and added it to his Niagara holdings. Mr. Wm.Blagraves, a mine superintendent, has told Mr. Johnston there is good ore remaining in the bottom of the Montezuma tunnel. The mine was never equipped in the early days to pump water, and that seems to have been the chief cause that it was closed down. A power line now crosses the Summit and Montezuma claims.

Mr. Kruse says that he found in the Shafter property an ore body 3 ft. wide that has been stoped out by leasers 95 ft. in one direction from a cross-cut and up pretty well to the surface. The leasers told him the ore averaged $35. per ton, the last 100 tons giving a net return of $28. per ton. He says the vein remained standing on the other side of the cross-cut and will undoubtedly yield as good results as the ground stoped. He expected that the mine could be made to yield a large tonnage of values upward of $15. per ton.

We found all the tunnels closed by caving at the mouths. It is evident to me that the principal vein begins on the Summit claim in slates and runs about N.70 deg.W. Near the mouth of the Summit No.1 tunnel it reached a dacite porphyry dike and an orebody began. The longitudinal section dated May,1890, shows that the ore-shoot extended a large part of the distance through the mountain, more than 350 ft. Below the No.2 tunnel level the shoot split into two sections, one about 90 ft. long and the other about 180 ft. long. They seem to have raked westward about 50 deg. On my first reconnaissance I did not like this feature because it seemed to me that the ore must pass out of the property into the Vermont claim, owned by other parties.

Upon further study I found a vein on the summit of the mountain striking S. 80 deg.W. and meeting the main vein. Down on the Trinity slope there is evidence of several veins branching from the main vein. They all terminate at a rather large dacite porphyry dike whose course of outcrop is a little north of east. It seems to have a vein on its south contact, that dips southward about 45 deg. where seen at the top of a raise to the surface. This vein was developed in the Klein and Simonds tunnels and the longitudinal section shows a stope on it that had lengthened to nearly 120 ft. at the lower level. The maps fail to show any deeper work on this shoot and it may remain intact below the Simonds level. This vein may be called the Montezuma vein. My impression is that the main Summit vein and branches end against the Montezuma vein and the latter may terminate the Summit ore-shoots on their westward rake. That, however, is no reason for terminating the Montezuma ore-shoot downward. Furthermore, other ore-shoots may come in with depth in the Summit vein. Another vein with a southeast course lies along the contact of slate and the fine-grained intrusive. The Paddleford and a series of lower tunnels have been driven to develop it and it appears to have yielded some ore.

It seems to me that there is an excellent chance for ore-shoots on the Montezuma vein where the other veins reach it. I can see no good reason why ore should not extend deep in that vein. Just how to go about deeper development of this group of veins is a matter that will require further study. There are deeper tunnels on the Trinity side and if the Vermont and Davidson claims could be secured cheaply, it might be practicable to utilize the lowest tunnel, which goes in near the Mrs. Wiley house and Recoss mill site. Certainly there are possibilities in this group, but I would not at the present stage entertain the idea of driving the Barnes tunnel to it though it would give a depth of about 1600 ft. below the Montezuma tunnel.

SCORPION MINE

This small mine, situated about 800 ft. higher than the Barnes tunnel, has the reputation of affording a chance for some high grade ore. I made a reconnaissance of it on the first day of my study and did not visit it again and do detailed mapping because the tunnels are closed and

the geology simple. An ordinary dacite porphyry dike traverses the slates in a northwest direction. On the southwest side there is a zone of gougy slate with quartz seams and bunches. The vein is partly at this contact and partly in the porphyry. The longitudinal section made in 1890 shows various blocks of ore stoped, of an aggregate length of 90 to 140 ft. and depth to No.3 level of about 150 ft. The Black Tom Mines Company that had a lease on the Niagara-Summit property about 1910 wanted to get some quick money and sunk a winze from the No.3 tunnel level to a depth of 105 ft. Mr. Kruse says it encountered an orebody which he sampled across a width of 10 ft. 10 inches without either wall being in sight and secured an average assay of $63. At another point, 8 ft. 8 inches gave him $81. per ton, while 2 ft. 6 inches in the center of the shaft ran up to $289.per ton. Mr. Nelson Wheeler now working for Mr. Johnston, told me that he did the last work in the Scorpion shaft 105 ft. deep. He said that at the bottom there is an 18 to 20 inch streak very rich in galena, with gold particles as large as wheat grains. This is in the porphyry. In a short cross-cut, about 10 ft. in the hanging-wall from the main vein he took out seven ore sacks so heavy in galena and gold that it required two men to lift one. This was also in the porphyry. Evidently the Scorpion workings have penetrated a rich pocket or chimney of ore. The Black Tom Mines Company was unable to take it out because a judgment had been rendered against the company and the personal property of the company having been levied on, it was compelled to suspend all operations. The winze has never been unwatered since. Enough water is running out of the No.3 tunnel to have made trouble in the early days, but with electric power it could easily be handled today. Krouse's idea was that the Barnes tunnel should be extended to this mine at a cost of $60,000., but I would not advise so ambitious a program in the early stages. It may be possible to re-open No.3 tunnel and unwater the shaft. Mr. Johnston suggests that a slightly deeper tunnel on an adjoining property might be extended to the shaft. This is worth further study. At any rate, the Scorpion promises to be an important side issue to the operation on the Niagara vein.

CENTENNIAL MINE

In 1876 an outcrop of iron-stained honey-combed quartz was discovered in Honeycomb Gulch, a northerly branch of the North Fork of French Gulch, and a cut was dug on it 140 ft. long and 6 ft. wide. The owner ran tunnels and stoped the ore down 120 ft. to No.3 tunnel. If it averaged 3 ft. thick as Mr. Johnston thinks it may have yielded about 1300 tons. It was worked a long time in an arastre at the rate of about 25 tons per month and the ore is reputed to have averaged $80. per ton. A winze was put down near the east end of the orebody and went into low-grade quartz. Then a tunnel was begun down the creek, driven to where the vein was expected and a drift driven eastward but according to the maps it never extended under the stopes. My surface map suggests that a fault may have displaced the vein so that the miners never found it in their lower tunnel. The drift from this tunnel could be extended to where the ore is due. The Centennial vein strikes about N. 60 deg.E. in slates and mashed conglomerates that dip westward 35 to 50 deg. It is far enough from the metaandesite contact that it may carry ore to a considerable additional depth. Indeed, by raking westward the ore-shoot might go down a long distance. At any rate, the Centennial deserves some work later.

Mr. Johnston says a 500 lb. boulder was found in Honeycomb Gulch above where the Centennial vein should cross the creek. One half was worthless, the other had $600. Prospectors combed the vicinity but could not find where it came from. This was not over 20 years ago and McGuire saw some of the rock and gold.

HONEYCOMB MINE

This is on a vein that strikes northeast and dips southeast 45 deg. The upper portion cuts slates that dip northwest 40 deg. The lower portion is in the metaandesite. The stopes were largest near the contact and I am not certain that ore extended to the lower tunnel. The latter could easily be reopened and investigated.

Where not oxidized the vein consists partly of quartz, with considerable pyrite, traces of chalcopyrite and a gray mineral. The Honeycomb mine is supposed to have yielded some fair grade ore and is said to

have sulphides that assay $60. per ton. I am afraid it is a member of the system of orebodies of small size associated with the pocket contact.

SHEA MINE

In the slate near the east end of the Shea claim a cut about 140 ft. long was made by mining an ore body that raked westward at a very low angle. The ore was of very good grade. At one time $3200. was panned from rock and a lard pail held the tailing. But a tunnel was started on a steep quartz vein in the metaandesite and driven under the cut, with an unfavorable result. I am afraid this is another case of the enriching effect of the pocket contact, though it is perhaps true that the vein in the slate may not be the same as the vein in the metaandesite for there has in places been slipping along the contact. The stamp mill on the Shea Placer was built largely to crush the Honeycomb and Shea ores.

Niagara Mine

The outcrop of the Niagara vein is marked by a practically continuous cut for 400 feet east from the Niagara shaft. Although traversing an irregular body of white porphyry, the vein itself seems to have been accompanied by a narrow belt of slate. At the few remaining exposures, one may see a peculiar fine-grained rock made by vein action on the porphyry; also seams of white quartz, somewhat honey-combed and iron-stained. I do not think the vein was accompanied by a prominent fault gouge. A peculiarity of the vein that I suspect was the existence of small gouge seams and hard walls that dipped in various directions. The vein as a whole was fairly straight in strike and averaged steep in dip but it in part dipped north and in part south. In other words it was formed in an irregular steep fissure, that broke through the porphyry.

The cut east from the Niagara shaft marks the section in which the stopes came to the surface. At the shaft a north-south fault with downthrow on the west brought down the slate that overlies the porphyry and thence westward the stopes did not reach the surface. The fault is shown on the Niagara longitudinal section as dipping westward 30 degrees. Stopes occur on both sides of it and the horizontal displacement of the vein at the surface seems to be almost nothing.

At a level about 80 feet below the top of the Niagara shaft the stoped ore-shoot had a length of about 540 feet but at greater depth the length did not exceed 300 feet per the section. The rake was westward at an average inclination of about 30 degrees. The upper edge of the ore-shoot seems to have corresponded roughly to the plane along which slate overlaid the porphyry. The lower edge was less regular and in places ore seems to have extended to a fault. At the surface the large gray dacite porphyry dike mostly lies at some distance south of the vein, but it sends a broad arm northward across the ridge a short distance east of the east end of the stopes on the vein. The O'Neal tunnel cuts this gray porphyry dike for a distance exceeding 150 feet before the light-colored porphyry that contains the vein is reached. At the junction of the O'Neal tunnel and

west drift there is a black fault gouge that dips westward 45 degrees. Near the bottom of the O'Neal raise it becomes a fault breccia that dips westward 20 degrees. It is beyond question a post-mineral fault. Mr. Johnston said this black gouge has been pointed out to him as having limited the ore toward the east in the upper workings. A wedge of gray dacite porphyry underlies it nearly to the O'Neal raise. Another fault throws the ore-bearing porphyry back under the gray porphyry. Mr. Wm. W. McGuire, an old man who has been familiar with the Niagara mine in the past years says the ore was limited downward by a "porphyry floor". Putting everything together I must conclude that the eastward limitation of ore-bearing territory in the vein has been an arm of the gray dacite porphyry complicated by slipping along its upper side. I do not know whether the vein has ever been recognized under the fault. The fault dips westward about 50 degrees on the average and that was one of the structural features that controlled the rake of the ore-shoot.

The ore-shoot encountered a fault that is represented in the longitudinal section as dipping westward 72 degrees. The country west of it has been thrown down about 135 feet on the plane of the fault or 125 feet vertically. Where I saw this fault on the O'Neal tunnel level it has a strong gouge and fault breccia that dips westward 70 degrees to 80 degrees. Strong grooving indicates that the movement was straight down on the dip. Consequently it did not throw the vein very far horizontally, but it depressed the ore-shoot. The longitudinal section indicates that ore was stoped on the O'Neal tunnel level from the fault westward for about 300 feet. The upper limit is flatter than usual but may not represent the final limit of ore. The section shows a stope about 40 feet long below the level. Mr. Johnston, however, has information that this section does not have all the stoping indicated. About 30 feet beyond the fault there is a shaft known as the St. Auburn shaft. It is said that this shaft is 65 feet deep and that Mr. St. Auburn mined over 3000 tons of ore from it. He is supposed to have crossed east of the fault and to have mined back nearly to the O'Neal raise and up in places to above the O'Neal level.

The level is caved at the O'Neal raise and the vicinity of the fault in the west drift, so I did not see any stopes or even see the vein on this level and I give the above statement for what it is worth as gossip, not necessarily implying that I disbelieve it. I have been informed that good ore was found in the floor of the cross-cut at the bottom of the O'Neal raise. These statements suggest that on the O'Neal tunnel level and below, the vein was ore-bearing from the"porphyry floor" to a point about 480 feet westward. I can see nothing in the structure to indicate that that shoot may not continue to much greater depth, say at least to the Barnes tunnel level, 543 feet below the O'Neal level. At an average rake of 30 degrees the eastern end of the shoot should advance westward about 900 feet. However, on the Barnes level the ore should be found beyond the 72 degree fault or so-called header which will reduce the distance to about 700 feet.

The tunnel begins at a point about 700 feet southeast of the site of the old mill on the Shea Placer claim and runs southwestward 2100 feet on a straight course. I discovered some uncertainty as to the exact position of this tunnel and suspect that the mouth is perhaps as much as 200 feet farther northeast than the maps indicate. For this reason the tunnel should be surveyed at an early date. Not far from the mouth it cuts a small vein in the metaandesite. Mr. Kremling mines on this vein on the surface and gets rock for his arrastre, but the quartz is merely a series of small lenses along a fissure.

At 1350 feet in the tunnel Mr. Harry Thompson put up a raise on a small vein that dips northward 65 degrees. It has a small gouge seam and lenses up to 2 and 3 inches thick of quartz with some pyrite and a trace of chalcopyrite. It is said that Thompson got a $30.00 assay from it. Being in the metaandesite it is of no significance where seen. But 150 feet beyond it a 2-foot vein of bluish and white glassy quartz in a zone of crushed rock with a small fault gouge on the hanging-wall dips southwest 40 degrees and 35 feet beyond it a similar vein 3 to 4 feet thick dips southwest 70 degrees. Where the small $30.00 seam intersects these veins it may have formed an ore-shoot, a fact worth keeping in mind

After the slate appears at about 1430 feet narrow belts of slate alternate with broader belts of porphyry. The slate is usually badly contorted and crushed and more or less seamed with quartz, so that these narrow slate belts in a sense constitute veins. I assume that they assay little or nothing in the tunnel. One of these might represent the Niagara vein far east of the ore-shoot. But I am more inclined to recognize as probably the Niagara vein an irregular zone of fracture that occurs at about 1520 feet from the mouth of the tunnel. It is in a hard white rock that has some rather large obscure feldspar phenocrysts. The vein has small gouge seams that dip in different directions but the fractured zone may be steep or nearly vertical. There are traces of small black slate lenses, small quartz seams and white rock like that seen at the outcrop of the Niagara vein. Of course this was not recognized as the Niagara vein and the tunnel was driven ahead. It passes through various dikes including feldspar porphyry, ordinary dacite porphyry and gray dacite porphyry and at about 1950 feet it reaches the big gray dacite porphyry dike that lies south of the Niagara vein at the surface and on the O'Neal tunnel level. It passes through this dike for about 170 feet, and then enters a slate belt. A branch of the tunnel diverges to the right about 25 degrees. It runs 135 feet in the slate. This slate is somewhat disturbed but mostly dips at low angles toward the porphyry. That is characteristic of the slate immediately south of the big gray dacite porphyry dike near the surface. Finally at the face there is a gougy zone in the slate that dips south 45 degrees, has some quartz seams, one said to yield some coarse gold, and is unquestionably a vein, perhaps worthy of further investigation for if it cuts a porphyry it may have an ore-shoot. But if we may judge by analogy with the geological relations at the surface and on the O'Neal tunnel level, the face of this tunnel is too far sough for the Niagara vein. Assuming that the map of the Barnes tunnel level prepared by Mr. Johnston is correct, the eastern end of the Niagara ore-shoot is due about 525 feet westward from the present face of the Barnes tunnel, but on the other side of the big dike. To

"kill two birds with one stone" I would start off on the vein at the face of the tunnel and if it kept its present course would follow it to the big dike, then go obliquely through the big dike on a west-northwest course and try to pick up the Niagara vein beyond it, then follow it to the ore-shoot. As a matter of fact one would have to be guided by what was found in driving and it might be necessary to do some hunting about to pick up the ore. Even allowing that the Barnes tunnel is situated 200 feet further northeast than the map shows, I think 1000 feet of driving ought to reveal the ore-shoot. Therake of the ore-shoot may flatten and various other things may arise to increase the length of driving necessary, but I give 1000 feet as a figure from which you can judge of the probable magnitude of the work required.

O. H. HERSHEY E. M. 1927

NIAGARA MINING CO. 1927

BY HERSEY E.M.

GENERAL GEOLOGY

The basement formation of the region is the Copley metaandesite. It outcrops on the property in the deep valley of the North Fork of French Gulch creek. Here it consists largely of coarse tuff that has been altered to a green hard rock. There may be some sheets of lava in the Barnes tunnel. On the Victory, Jumbo, Polaris and Locke claims a body of alaskite was intruded into the andesite series. A long period of erosion planed this volcanic series down to a nearly level plain. This plain was submerged and on it was laid down the Bragdon sediments, a succession of shales, sandstones and conglomerates. The rocks have been extensively folded so that in traversing the main gulches in places the metaandesite may rise 1000 or 2000 feet above the streams and in other sections the shales, now largely slates, may extend below the stream levels. The plane of division between the metaandesites or so-called green-stones and the Bragdon slate series is the great gold pocket horizon of western Shasta and eastern Trinity county. Small seams of quartz with a little gold come up through the greenstone. Where they reach the contact the carbon of the slates caused the precipitation of much gold and pyrite along with some quartz and calcite. In places the deposits are so rich that a pocket of spongy gold that may carry from $500 to $50,000 may be taken out practically as a single mass. Usually no recognizable vein extends up into the slate formation. But the stronger veins of quartz cross the contact. What happens then is as follows: In the greenstone the vein has much barren-appearing quartz and little gold. What does occur is likely to be sporadically distributed in small pockets. In the slates, however, the gold becomes more generally distributed in the quartz and fairly long ore-shoots are formed. Northwestern California has been predominantly a land of gold chimneys and pockets, except for a limited number of mines. All of those mines had black slate for at least one wall or the predominant formation. Mines that were in the Bragdon slate formation were bottomed when the vein was worked down to the greenstone basement. Hence, one of the first problems that I studied in connection with the Niagara mine was the attitude of the slate-metaandesite contact.

The Barnes tunnel begins in the metaandesite. By going up the mountain on the line of the tunnel I found the metaandesite extending to a horizontal distance of about 1150 feet whereas it extends into the tunnel about 1430 feet. That gives the contact a dip of about 65 degrees which is too steep for the original contact and leads me to think that the slate has been thrown down by a fault. A little further up the creek the slates seem to rest on the metaandesite-alaskite series in normal attitude, striking about N. 20 deg. W. and dipping westward 35 to 40 degrees. That alone would soon carry the slates below the Barnes tunnel level under the old Niagara workings, but as already indicated I believe that faulting has further depressed the slates along an approximately east-west line to an unknown but considerable distance below the Barnes tunnel level. In fact, the slates in a much disturbed condition, extend to below the creek near the Washington mill and down French Gulch to the town of French Gulch. In short, the belt of principal mines seems to correspond to a marked depression in the slates, a sort of east-west trough. Thus it is beyond question that so far as the Niagara ore-shoot is concerned it cannot reach the unfavorable metaandesite basement short of the Barnes tunnel level and probably is safe to a much greater depth.

Now along the trough which I believe has been more or less broken by faults there has been intruded a magnificent system of porphyry dikes. I believe that Mr. J.S. Diller for the United States Geological Survey has studied these porphyries microscopically and has doubtless assigned to them their proper petrographic names. I do not have his report and the names I am going to use I may find it necessary to revise later. Anyhow the nomenclature is not as important as is the recognition of the role these dikes have played in the formation of the ore. One variety has a fine-grained ground mass and rather large sparse feldspar phenocrysts. This I will call feldspar porphyry. This is very strongly developed at low levels near the Milkmaid and Washington mines, but very little of it was observed on the Niagara-Summit property, chiefly on the ridge east of the Niagara mine.

A large relatively short dike of fine-grained igneous rock crosses the Trinity Mountain immediately south of the Montezuma mine. It weathers

brown, and fresh rock is difficult to find on the dumps.

All the other dikes are various varities of what I will call dacite porphyry. The Niagara ore-shoot is in a very light-colored, almost white dacite porphyry. The ordinary variety weathers a little darker. Then there is a variety that has a dark gray color and abundant feldspar phenocrysts. One large dike of this kind has feldspar phenocrysts of a great variety of sizes. I could easily recognize this dike, especially as it weathers out hard boulders and I undertook to map it to learn what cross faulting has occurred, but it proved to be so very irregular in outline, that I could not always be certain that apparent jogs represent faults.

That brings me to another feature of these dacite porphyry dikes, namely, their irregularity. They characterize an east-west belt and are more elongated in that direction than any other, but they throw out north and south arms, particularly along the bedding planes of the slates. The more acid dikes are especially prone to this irregularity and the dike or body that contains the Niagara ore-shoot has the habit of forming sheet-like masses between beds of the slate series. That is one of the explanations of the rather low westward rake of the Niagara ore-shoot. The complexity of intrusion is especially pronounced on the Yosemite claim and if I undertook to reproduce my field map it would suggest a crazy patchwork. But I believe I learned what has governed the position and rake of the Niagara ore-shoot.

Most of the orebodies in the district have formed in or in connection with these dacite porphyry dikes. Doubtless the veins represent fissures. In places these fissures are in slates in others they follow the walls of the dike, in yet others they break through the dikes. It appears that in most of the mines the ore has formed in largest quantity and best grade in the porphyry. I attribute this to the fact that the porphyry was harder and fractured better than the slates. With few exceptions the mines and prospects are where the dikes occur. I worked out the relations at the different mines, but ultimately when a better base map is available, it might be well to have the dikes mapped throughout the property as a guide to prospecting.

There has been considerable post-mineral faulting on a small scale. Few faults were clearly indicated by the surface mapping. But underground

one can see that there has been slipping along the walls of most of the dikes and some displacement by transverse faulting. Some of the apparent limitation of ore-shoots may be due to this faulting and by working out the fault system it may be possible to find more ore in the upper levels of the mines. One fault with downthrow on the west was detected near the east end line of the Shea claim. I suspect that the east contact of the alaskite is a fault and that this fault runs up the ridge on the south and that one branch of it becomes the so-called "header" that has faulted the Niagara ore-shoot.

NIAGARA.

Chicago, Ills., October 1st, 1907.

Lutellus Smith, Esq., Pres't.,
Black Tom Gold Mines Co.,
Chicago, Ills.

Dear Sir:

I herewith hand you brief report of my recent examination of the property operated by the BLACK TOM GOLD MINES' CO., located in the French Gulch Distrivt and Deadwood Mining District, Shasta and Trinity Counties, California.

The property consists of 50 mining claims, — 26 of which are patented, the balance possessory; and two patented timber claims, containing 160 acres each, making a total acreage, mining and timber claims included, of about 1,200 acres.

Between 1884 and 1889, the various mines and mining claims now constituting this property, (except those added by Mr. St. Auburn later on) were gathered together and made into one property by Mr. W. T. Coleman, of San Francisco. Upon his death, the property passed to a company [illegible]ed by Mr. R. V. Martinsen, formerly president of the M. K. & T. R. R., but owing to the latters death the mines were thrown open to leasers and worked by them up to the time Mr. St. Auburn secured the property.

Mr. St. Auburn was an english mining and civil engineer, sent to these mines for the purpose of representing certain Dutch interests, and acted as Superintendent for a period of about six years, during Mr. Martinsen's presidency. He remained in charge of the work until advised by physicians, on account of Mrs. St. Auburn's health, to accept an offer from Cecil Rhodes to take charge of certain mining interests of Mr. Rhodes in South Africa. After Mr. Martinsen's death, Mr. St. Auburn returned to this country and finally succeeded in purchasing the property which he intended making his life's work. After laying plans for the development of the property on a large scale, Mr. St. Auburn met with an accident requiring a minor operation, from which he died from blood-poisoning in less than a week. The property was again thrown into the hands of leasers and operated by them until secured by the BLACK TOM GOLD MINES' COMPANY.

It was not until after the present company took possession of the property that machinery for sinking was used. All the ore mined heretofore, was mined through the different tunnels, and a few shallow winze shafts, which were worked by windlass and bucket.

The total underground workings on the property consist of about 15,000 feet in the different mines, mainly in tunnels, cross-cuts, upraises, drifts and shallow winze shafts.

SCORPION:-

The SCORPION shaft is now down 70 feet from the breast of the SCORPION tunnel; is well timbered, and is equipped with an 8 H. P. gasoline hoist and pump, which has a capacity to sink 150 feet.

At the 33 foot level, which was the bottom of the shaft when I was on the ground last, the vein matter is five feet wide, and averages about $30.00 per ton in gold. The shaft will be sunk to the 150 foot level, and we will then drift 100 feet each way in the vein from the shaft also cross-cut back under the tunnel to open the other veins which are cut by the tunnel between the portal and collar of the winze shaft. This will give sufficient stoping ground to keep ten stamps continuously. It is reasonable to figure on these ore bodies continuing to great depth, for the reason that there is a perfect foot and hanging wall at the depth of

33 feet in the winze shaft, and this shaft is started from a depth of 250 to 300 feet from the outcrop of the vein. Likewise, the adjoining mines are down from 800 to 1,300 feet deeper in this same formation.

There are occasional bunches of very high grade ore coming into the SCORPION shaft, which will run a great deal more than $50.00 per ton.

There are also three other veins cut by the SCORPION tunnel between the portal and the winze shaft, besides the vein opened up in the winze shaft, viz., a three, six and eight foot vein. These are the three veins which will be opened by the cross-cut from the bottom of the winze shaft, later on. Those three veins are free milling gold ore and average about $6.00 free on the plates, as shown by thorough sampling I have made on several occasions while on the property.

The high grade ores are mostly sylvanite, and will be shipped, as they run very high in values, and too large a percentage of the values contained therein would be lost in the mill.

O'NEAL:-

The O'NEAL tunnel is in about 1,600 feet and is in fair condition. With a little timbering and some new ties, this tunnel can be put in first-class condition. The station at winze shaft #1, in the O'NEAL, will be re-timbered before work is resumed there. There is a 15 H.P. hoist now in place there, and as soon as we have completed the work on the SCORPION, and have that in good working order, that is to say, opened up to the 150 foot level, we will resume on the O'NEAL shaft #1, which is now about 65 feet deep. From the field notes, and records made by Mr. St. Auburn, regarding the vein in this winze shaft, and from daily records kept, I know the ore averages about $10.00 per ton in gold, and the vein is about 4 feet wide in the bottom of the shaft.

There is a tram track from the O'NEAL down to the mill-site, about 800 feet distant, and as soon as the mill is up and in complete operation, ores from both the SCORPION and O'NEAL will be run through the mill.

By the time the mill is up and in operation, we will have a sufficient amount of ore blocked out in the SCORPION and O'NEAL, to keep a larger number of stamps going continuously. We have abundant water for all mining and milling purposes to accomodate a 30 stamp mill. However, we should start with the initial capacity of 10 stamps, and these stamps would easily earn the money with which to purchase the additional 20 stamps, as rapidly as the development of the ore bodies would require them, which should be in the neighborhood of six months after the first 10 stamps began dropping.

SHAFTER:

The SHAFTER is another important mine in the BLACK TOM group, and lies to the South and West, adjoining the O'Neal and Scorpion. The old workings in this mine are in bad condition, and the tunnels are not available for working purposes. My advice would be, after the SCORPION and O'NEAL mines have been put in complete operation, to begin a new tunnel, below the old one on the SHAFTER, and take out the ore through the new.

From my investigations, I judge the vein on the SHAFTER to be about four feet wide and to average about $20.00 in gold per ton, although the vein was much wider than that in the old works, and averaged at times as high as several hundred dollars per ton.

IN GENERAL:

There is sufficient timber on this property, including the two timber claims, to last for many years.

#3.....

The O'NEAL vein; which crosses the entire property; is known as the strongest vein in this region. This is the same vein that the BROWN BEAR mine, on the West, is working over 800 feet below the present workings in the O'NEAL; and the WASHINGTON mine, on the East, is also working on the same vein about 1,200 feet below, which proves the continuity and depth of the vein.

The WASHINGTON mine at the present time is milling ore, which I am told by the owners, averages about $40.00 per ton in gold. They mill everything up to as high as $80.00 per ton, and from that up, the ore, some of which runs as high as $140.00 per ton, is sorted and shipped to the smelter, 26 miles distant only.

The remainder of the claims, with the exception of the HONEYCOMB and CENTENNIAL; (which I did not have time to examine closely,) are still only partially developed, and these will come in for attention and be put on an operating basis later on.

The BLACK TOM property, when it is thoroughly opened up and equipped, will be oneof the largest gold mines in Northern California, and will be a producer for a great many years.

IN CONCLUSION:

After the O'NEAL, SCORPION and SHAFTER mines have been thoroughly developed, which can be done within six months, that being a sufficient time to put these three properties on a producing basis, the company can mine, at the least calculation, 150 tons of ore per day that will go better than $10.00 per ton. This would be classed as the milling ore. <u>This does not include the high grade shipping ore</u>.

The cost of mining and milling should not exceed $3.50 per ton, leaving a net profit of $6.50 per ton, or, $975.00 per day.

The reason I mention this is, that the property should be equipped at once with a 10 stamp mill and increased to 30 stamps as the development required them.

(Signed)

K. H. Seibel E. M.

EXCERPTS FROM REPORT OF WM. T. ST. AUBURN, M. E C. E., OF LONDON, ON THE MINING PROPERTY NOW KNOWN AS THE BLACK TOM GOLD MINES' COMPANY.

HISTORY:

"Situated on the property are the following mines: The Niagara (also known as the O'Neal); the Montezuma, (also known as the Shafter); the Scorpion, the Centennial and the Honeycomb. All of these mines have been extensively worked and have been proved to be payable mines.

THE KNOWN ORE BODIES:

These occur in the main channel of the mineralization, some 300 feet wide, which runs East and West through the property, and they consist of shoots of ore from 200 to 400 feet in length. They also occur in veins parallel to the main channel, and in North and South spurs running therefrom. Of the former class are the O'Neal and the Shafter; and of the latter class are the Scorpion, Honeycomb and Centennial. The gangue of these ore bodies is quartz. The width of the pay ore varies from one to ten feet and even more. The value of the ore runs from $10.00 to $12.00 up to $300.00 or more, with an AVERAGE VALUE OF $18.00 PER TON FOR THE WHOLE AMOUNT OF ORE EXTRACTED FROM THE COMMENCEMENT OF THE MINING UP TO THE PRESENT DAY.

THE UNDEVELOPED ORE BODIES:

Besides the five mines mentioned, the property includes many patented claims that have not been developed beyond the initial stage necessary to obtain a patent from the U. S. Government. Between the O'Neal mine and the Shafter mine, are upwards of 3,000 feet of such ground, and on it are very promising showings of ore, which only need deeper development to rival the known ore bodies of the O'Neal and Shafter in production.

On the Shea, the Victory, the Locke and the Jumbo patented claims, and on the Eastern Extension and the Polaris mining claims, (these two claims are among those which have since been patented) are other undeveloped ore bodies on veins parallel to the main channel of mineralization; and on the Brown, the North Star, the Comet, the Em. T., and the Combination, patented claims, ore has been found of high value on North and South spurs.

THE UNKNOWN ORE BODIES:

During recent work by tributers (english for leasers) it was discovered that some of the ore which failed to show gold, or to show only very small values by the ordinary "horning" test, nevertheless had an astonishingly high gold contents; assays of this ore running from $50.00 to $60.00 up to $1,000 and more per ton. This ore has so far been found only in a vein in the O'Neal mine and in a vein on the Polaris ground, but no systematic assaying of the other ores found on the property has yet been made. It is certain that an exhaustive assay plan will show valuable ore bodies, of the existence of which no idea has been conceived.

ESTIMATE OF ORE:

IT IS ESTIMATED THAT WHEN THE LOWER LEVELS ARE OPENED UP TO A DEPTH OF 300 FEET IN THE O'NEAL MINE, AND THE OTHER MINES, (SCORPION AND SHAFTER) OPENED IN A PROPORTIONATE MANNER, THE AMOUNT OF ORE OF A VALUE OF $10.00, THAT WILL BE AVAILABLE IS BETWEEN 150,000 and 200,000 TONS.

#2.....

This is not an estimate of the total amount of ore on the property; such an estimate would run into millions of tons. It is an estimate of the amount of ore than can be reasonably expected in opening up the lower levels to a depth of 300 feet only, and in taking out the low grade ore that has been left in the upper levels. Many mines in California have been worked successfully 2,000 feet lower than the depth named above, and there is no reason why this property should not be workable to that depth.

Then follows the last paragraph of Mr. St. Auburn's report, in which he states that he will conduct the operations of the mine in person, and concludes with the following reference to his former connection with this property and others:

"Who was formerly the consulting engineer to the property, and who then acquired a most intimate knowledge of its mines. Subsequently to this employment, at the recommendation of Mr. John Hays Hammond, this gentleman (St.Auburn) was selected to act at different times as consulting engineer to various English syndicates and companies in South Africa, New Zealand, Russia and other countries. During this time, covering a period of several years, he was, however, so much impressed by the great possibilities of this property, that after Mr. Martinsons' death, he endeavored to acquire control of it, and after protracted negotiations he at last succeeded in securing the property."

NOTE:

Mr. St. Auburn died under the surgeons knife a short time after this report was compiled. He left no heirs other than Mrs. St. Auburn, who died in April 1907, without children.

BY; W. L. M. (BING) CLARK

Opinion and notes, facts on agreements, such being the Patents of the Niagara Mining Property consisting of (23) Twenty three patented mining Claims.

This property was Leased to Myself and Walter K, Jansen in 1938, D.B.A. as Lincoln Gold Dredging Co., later purchased in 1944, We had set up a 5 X 5 ball mill, 26" Bendilary jig battery of Five Denver Sub A JigsCells, this Mill was erected on property ajacent to Niagara , owned by ~~Lon~~ Lional Von Krusze former Lessee,s, Krusze and a Mr. Westlake were hired as Mill man and Miner. The old Mine dumps were Quoted by them to have a value of $10.00 plus per ton.

Some 1400 Tons were milled, our gross recovery was some $44,400.00 loss in tailings .35¢ per ton.
War was on and winter so we closed the works down, made a rental agreement with Krusze of ~~100~~ $ 100.00 per year on Mill, in 1947 Krusze raised my rental to $ 200.00 per Month, I then moved all equipments his property.

In 1952 I tried Mining and Milling Chrome in Eldorado County and lost, sold most all equipments. In 1954 came back to Shasta County, most of my work was with a D6 catbuilding roads and cuts on the Niagara, opened up the Barnes tunnel, did not have moneys to do anything more than clean up work. Open pit upper Scorpion some $ 2500.00, Lincoln unpatent $ 1500.00.

Production data supplied by E. E. Erich indicate that about 24,300 ounces of gold were mined from 1907 to 1925. Production since 1925 is not known.

The ore deposits are associated with a sill of quartz porphyry between the Copley Greenstone and the Bragdon Formation, the deposits lying chiefly along the east-dipping contact between the porphyry and shale of the Bragdon Formation. The porphyry probably was intruded along the Spring Creek thrust between the Copley and Bragdon formations. The mineralized contact zone strikes nearly north and has been traced for about 4,000 feet. If projected westward updip across French Gulch, this contact would coincide with the contact between shale and the underlying porphyry and greenstone at the Washington mine. The outcrop of the mineralized zone, at an altitude of about 2,100 feet, is marked by numerous pits and trenches. According to information supplied by E. E. Erich, the gold occurs in lenticular bodies of quartz, the largest of which is about 500 feet long, 4 to 10 feet thick, and extends downdip about 200 feet. The average gold content of these lenses was reportedly about 2 ounces per ton. The ore bodies of this type include, from south to north (fig. 7), Wheeler, Milkmaid, Thomson, and Upper Franklin. A cross section supplied by E. E. Erich and believed to be typical of these ore bodies is also shown on figure 7. Gold was also found along the margins of these bodies in small quartz stringers as much as 10 feet long and 1 foot thick; these stringers strike nearly east at right angles to the strike of the contact and of the main ore bodies. In places the stringers were closely spaced and high enough in grade to make mining of as much as 10 feet of the wall rock profitable. Ferguson (1914, p. 63) reports that the ore shoots are irregular in shape and rake steeply to the south. This is not obvious from existing maps and sections, which suggest a nearly horizontal rake or at most a very gentle rake to the south (fig. 7).

The vein material is predominantly quartz containing subordinate calcite, and free gold, pyrite, galena, and sphalerite. A small amount of silver in the ore and, rarely, gold telluride, is reported by E. E. Erich. The silver probably was contained in galena. Telluride has not been recognized elsewhere in the district. Outcrops of the vein are commonly partly oxidized and leached to depths of 10 or 20 feet, but in a few places along cracks the oxidation extends to as much as 100 feet. Erich reports that some of the ore in upper parts of ore bodies along the contact between shale and porphyry was residually enriched by the oxidation and leaching of some of the minerals. However, except for a few feet below the outcrop, most ore was unoxidized and unenriched by supergene processes.

In addition to the ore bodies along the contact between shale and quartz porphyry, a vein in the porphyry, striking about N. 70° E. and dipping 70° N., was worked in the Franklin mine. The ore body, known as the Musser, yielded about 2,000 ounces of gold, according to data supplied by E. E. Erich. The vein reportedly extended upward to the overlying shale contact. The intersection of this vein with the contact between porphyry and shale should be a favorable area for additional prospecting as this contact has been so productive elsewhere in the Franklin-Milkmaid area. As may be seen on plate 2, the Musser vein has the same attitude and is directly along strike of the most prominent vein in the Washington mine. The two veins probably connect but they could not be traced across the intervening gulch.

Ferguson's (1914, p. 63) description of the ore in the Franklin mine indicates that arsenopyrite was also present in addition to the other sulfides mentioned above. It occurs as scattered crystals in altered porphyry along vein walls and in small quartz stringers, but apparently does not occur in the main vein. According to Ferguson (1914, p. 63), sulfides accounted for about 0.75 percent of the weight of the ore and carried about 7 ounces in gold per ton. Visible gold was also fairly prominent in this ore and is most commonly found in close association with galena.

The mineralized zone along the contact between shale and prophyry probably continues in depth, flattening eastward towards the Three Sisters mine. This area is therefore considered favorable for further prospecting under favorable economic conditions.

Niagara mine

The Niagara mine is in the western part of a prominent ridge between French and Scorpion Gulches. The mine was discovered in 1857 (Ferguson, 1914, p. 66), and total production is estimated at about 50,000 ounces of gold. Mr. E. M. Clark, owner of the property, has kindly furnished maps and other information collected by O. H. Hershey, J. A. Kruse, and A. W. Johnson during a period when the mine was accessible.

The principal vein, called the Niagara, strikes N. 70° E. and dips at average angles of 70° to 75° SE. It is developed through a vertical distance of 500 feet by several thousand feet of workings at 10 levels, the lowest of which is the O'Neal tunnel at an altitude of 2,943 feet (pl. 4). In addition to these levels, the Barnes level starting just above French Gulch at an altitude of 2,400 feet, extends beneath the entire mine area. The vein consists of quartz with minor calcite (Ferguson, 1914, p. 66). It rakes at an angle of about 40° SW. Old maps indicate that it cuts "birdseye" porphyry or quartz porphyry in some places, shale in places, and in still others is along the contact between porphyry and shale. Ferguson (1914, p. 66-67) states that pyrite, galena, sphalerite, and arsenopyrite are present in small amounts. Pyrite is the most widely distributed, being found in the vein quartz, in small stringers in shale, and disseminated in porphyry. It is also closely associated with galena and in places surrounds grains of galena. Arsenopyrite is most commonly disseminated in the altered porphyry wall rock,

and galena and sphalerite are most abundant near the shale wall rock and near shale fragments in the vein.

As shown on the longitudinal projection, the Niagara ore shoot was about 1,100 feet westward down the rake from the outcrop. At about 800 feet from the outcrop it was displaced downward about 100 feet by a fault striking N. 35° W. and dipping about 70° SW. This fault was also mapped by A. W. Johnson on the Barnes level about 540 feet lower, and it probably coincides with the French Gulch fault mapped on the surface (pl. 2). Unpublished data supplied by E. M. Clark indicate that the Barnes tunnel was driven in an attempt to intersect and exploit the downfaulted segment of the Niagara vein at a lower level. Assuming that the vein continues below the O'Neal level, that its dip remains constant at about 75° SE., and that the rake of the ore shoot remains southwestward at an average angle of 35° to 40°, the projected extension of the vein at the altitude of the Barnes level should be about 100 to 125 feet east of the extreme southwestern end of the Barnes level workings as shown on figure 11. The projected vein should extend about 220 feet eastward from there where the ore shoot would rise at the angle of rake above the Barnes level. However, if the rake becomes more gentle, as is vaguely suggested by the stope outline west of the French Gulch fault on the O'Neal level, the projected extension of the ore shoot at the Barnes level would obviously be farther west, the distance depending on the angle of rake.

Available data suggest that favorable prospecting ground still remains in the southwestern part of the Niagara mine below the O'Neal level. The vein system may extend southwestward and intersect the Scorpion-Montezuma vein system in the vicinty of the Niagara Summit portal, but exposures are too poor in the intervening area to be certain.

Niagara Summit mine

This mine is just east of the main divide between Shasta and Trinity Counties. It is in the lower unit of the Bragdon Formation, on the same fracture system as the Vermont and Montezuma mines, and probably on the same system as the Scorpion. As may be seen on plate 9, the main adit of the Niagara Summit extends nearly to the Montezuma workings. The workings were inaccessible during 1956-1957, and no detailed information on the geology of the deposit is available.

Philadelphia mine

This mine, south of the Niagara and on the north side of Scorpion Gulch, is a shallow deposit in an oxide zone. Averill (1933, p. 43) reports that lenses of high-grade oxidized ore were contained in soft decomposed diorite ("birdseye") prophyry. The lenses ranged from a few inches to about 4 feet thick and each lens yielded 15 to 30 tons of ore that reportedly contained about 6 ounces per ton in gold. The ore is described by Averill (1933, p. 44) as soft, yellowish and reddish brown, with some black probably due to manganese. The prophyry in which the ore occurs is underlain by gently dipping shale.

Scorpion mine

The Scorpion mine, near the head of Scorpion Gulch, was discovered prior to 1890 and the last work of which there is any record was done around 1910. Production is reportedly about 7,140 ounces of gold. A brief description of the mine made in 1927 by O. H. Hershey has been furnished by E. M. Clark, the owner. The vein on which the mine was developed is along a fault in highly sheared and mashed black shale of the Bragdon Formation. The fault, which strikes N. 50° W. and dips about 70° SW., probably continues for nearly a mile northwest to the Montezuma mine. At least three lenticular masses of quartz porphyry occur along the footwall of the fault (pl. 2). The vein is discontinuous and is mainly in the sheared shale but partly in the porphyry. Hershey's data indicate that various blocks of ore having an aggregate length of 90 to 140 feet and a depth of 150 feet to the No. 3 tunnel (fig. 8) were stoped. In 1910 a winze was sunk to a depth of 105 feet below the

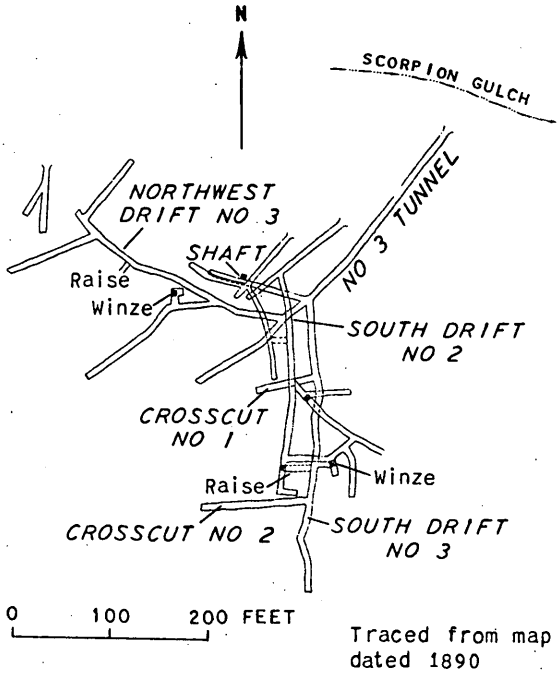
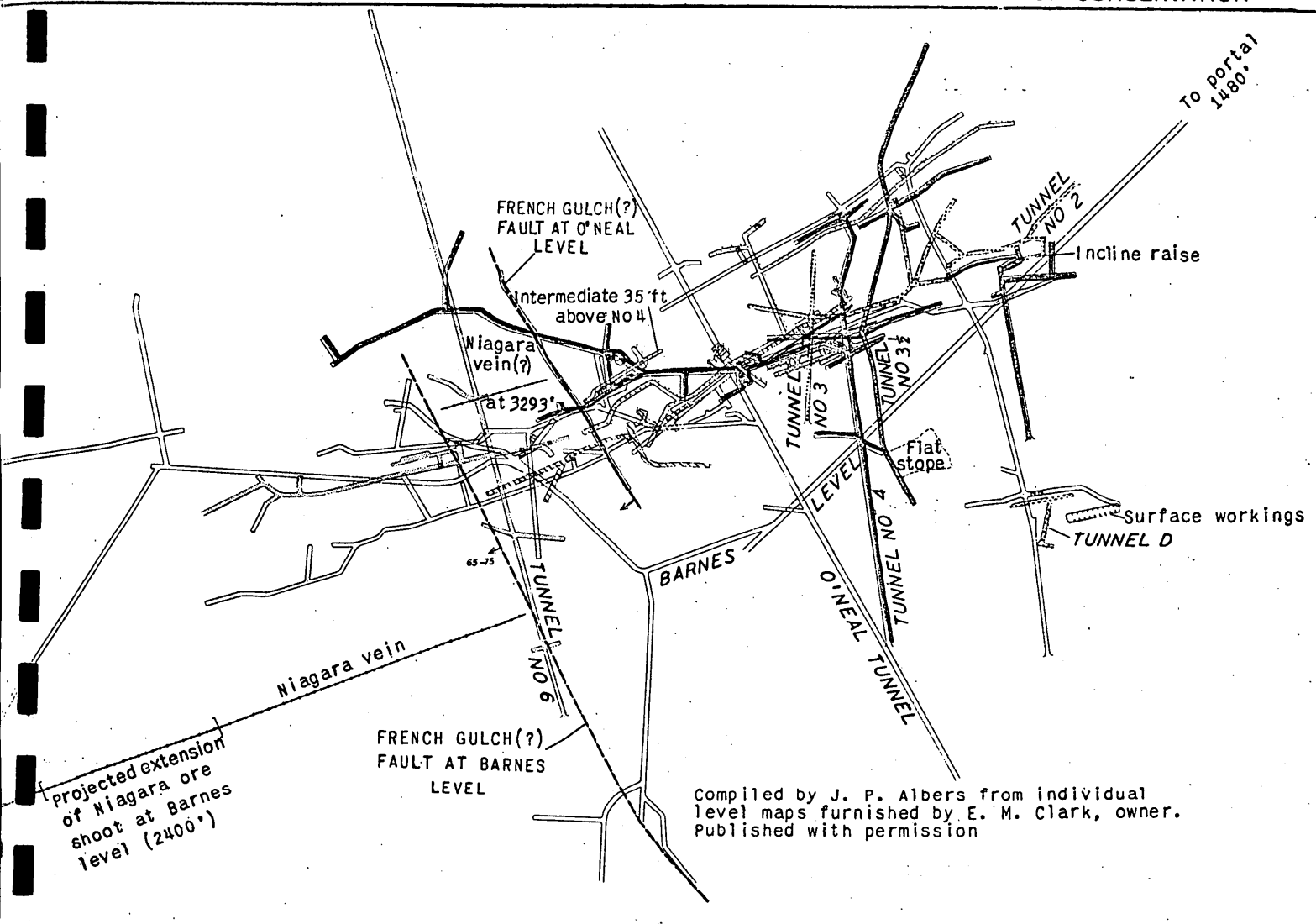
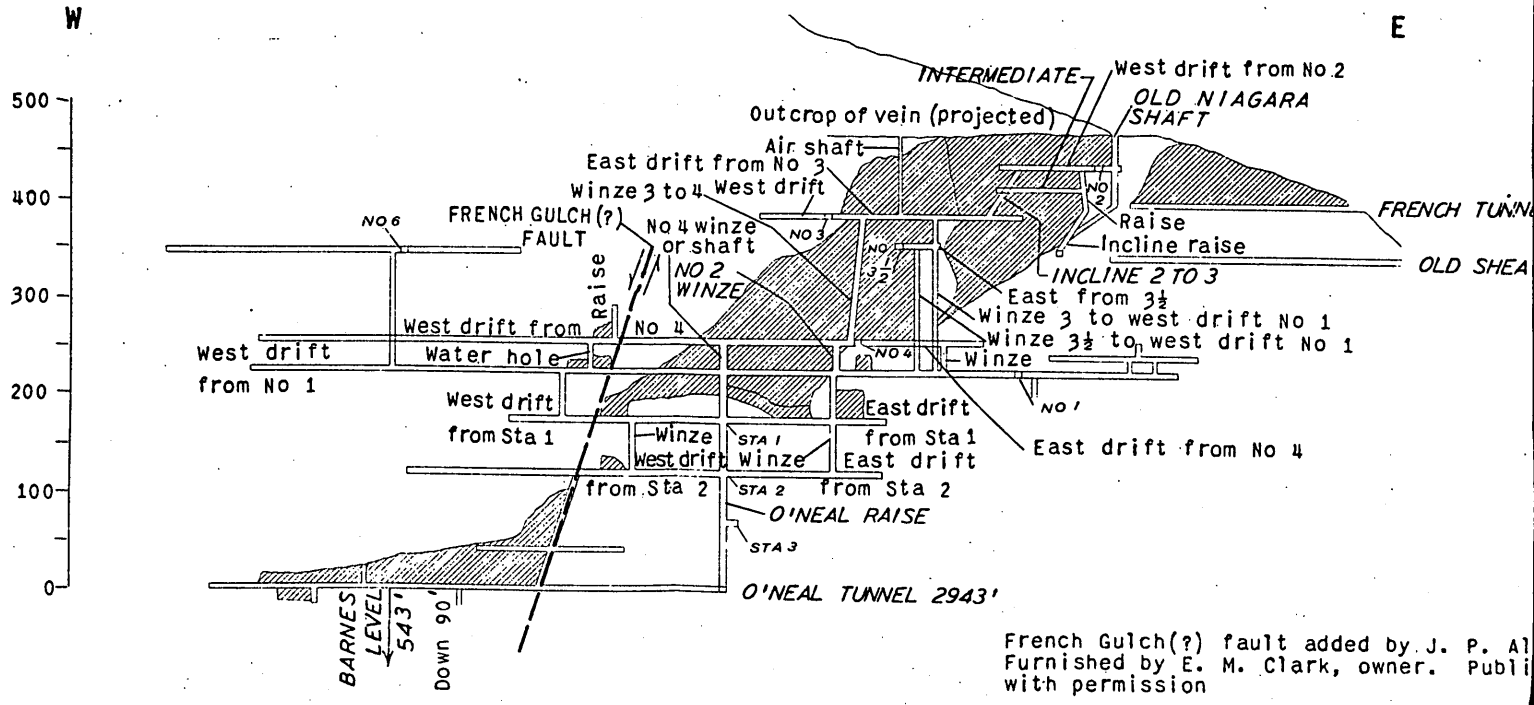


Figure 8. Map of the Scorpion mine, Shasta County, California.

No. 3 level and reportedly encountered an 18- to 20-inch-thick vein of very rich galena containing gold particles as large as wheat grains. The vein was in porphyry, and Hershey's interpretation was that a rich pocket or chimney of ore had been located. Legal complications apparently caused the mine to be closed before this pocket could be mined and the winze was subsequently flooded. Hershey's description indicates that the ore found in the winze was not mined up



COMPOSITE PLAN OF THE NIAGARA MINE



French Gulch(?) fault added by J. P. Al
Furnished by E. M. Clark, owner. Publi
with permission

Expl

4. Accessibility of Property

(a) Mr. David J. Hoare, President
or
Mr. James C. Carroll, V.P.
P. O. Box 433
Redding, California 96001

Residing at Brown Bear Mine, Deadwood Road, Lewiston, California
Telephone (916) 778-3801

The Barnes portal can be reached by taking the French Gulch road west from French Gulch a distance of about 2.25 miles, then proceeding by road up the Right Fork of French Gulch a distance of about one mile. The Barnes portal is shown on the French Gulch Quadrangle (1:62500, 1944) as the Long Tom Mine.

The Barnes level is open and accessible, except for two areas as shown on Map 2.

4(b) Redding, the county seat of Shasta County, is the closest large city and is 21 miles away by road.

5. Exploration Work

(a) Diamond drilling

The proposed drilling project consists of 9 drill holes totalling 3,160 feet. The holes are shown on Map 2 with the following footages and inclinations:

DDH #	dip (degrees)	footage
1	plus 30	310
2	minus 30	290
3	plus 30	345
4	plus 30	345
5	minus 30	290
6	plus 30	345
7	plus 30	345
8	plus 30	460
9	plus 30	430
		3,160

6. Experience of Operator

James C. Carroll, V. P. & Mining Engineer, B.S. in Geological Engineering - Michigan Tech. University 1960; M.S. in Mining Engineering, University of Nevada, 1971. Ten years experience in exploration and development, mine geology and mining engineering. Companies worked for included:

Hudson Bay Mining & Smelting, Ltd.
Eagle-Picher Industries, Inc.
Hecla Mining Co.
Consolidation Coal Co.

Registered engineer in Ohio, Oklahoma and Nevada.

7. Proposed Exploration at Niagara Mine

9 diamond drill holes from Barnes level to soutward to intersect projection of the Niagara vein

DDH #1 plus 30°	310	feet
#2 minus 30°	290	"
#3 plus 30°	345	"
#4 plus 30°	345	"
#5 minus 30°	290	"
#6 plus 30°	345	"

DDH 7, 8 &9 = 1235	1,945	
	1,235	
	3,160 x $10 per foot =	$31,650

After drilling project, phase 2 is drifting on vein

600 ft @ $75/ft.		45,000
Raising 250 ft x $50/ft.		12,500
Raising	2.0 mo.	
Drilling project	4.6 mo.	
Drifting project	2.3 mo.	
Engineering	8.9 mo. x $1200 / mo.	10,680
		99,830
Preparation of tunnel for work		6,973
		$106,803

Jim Carroll
4 Nov. 1973

Rehabilitation Work Necessary at Niagara Mine

1. Install 800' of track & ties (material)	$ 1,735
(labor)	832
2. Replace 50% of ties over 2600 ft. (material)	220
(labor)	832
3. Clear rock falls	166
4. Timbering (labor)	416
5. Re-install & repair ventilation (tubing, labor)	250
6. Install compressed air line 3200' 2" (labor)	250
(materials)	2,272
	$ 6,973

Raising

The location of the raise is shown on Map 2. The proposed work is to raise 250 feet on a quartz vein with galena which assayed 1.3 ounces gold and 1.3 ounces silver. The raise will be 5'x 10', two compartments for manway and chute.

Drifting

As a follow up to the drilling program, we propose to drift 600 feet along the vein to sample the vein and check for ore-shoots not intersected by drilling.

5(b) Access roads are in existence.

5(c) Work can start immediately after the contract is executed.

CALIFORNIA DIAMOND BIT DRILLING

• EXPLORATORY DRILLING • GROUTING • MINING

P. O. BOX 145 YUBA CITY, CALIFORNIA 95991 TELEPHONE (916) 673-2243

THOMAS L. CONDREY
(916) 755-0957

ROBERT S. INGLEROCK
(916) 673-9320

November 13, 1973

Mr. David J. Hoare
American Primary Resources Inc.
Box 433
Redding California 96001

Dear Sir:

The following is in regards to the Niagara Mine property:

Bid Item # 1

Mobilization and De-Mobilization Flat Rate $600.00, or hourly if in conjunction with the Brown Bear Mine.

Bid Item # 2

AX core drilling @ $10.00 per foot. Approx. 2000 feet

Bid Item # 3

Move-Set-up-Standby time @ $21.00 per hour

Bid Item # 4

Core boxes-cardboard @ $100 each

Bid Item # 5

Materials-cement-drilling mud if needed, cost plus 15%

Bid Item # 6

Reaming casing as required $3.00 per. foot

Special Conditions

American Primary Resources Inc. to furnish Air and Water to drill sites.

Sincerely,

Tom L. Condrey

Tom L. Condrey

P C Exploration, Inc.

692 BOOTH ROAD
ROSEVILLE, CALIF. 95678
PHONE 916 / 783-9733

November 18, 1973

American Primary Resources, Inc.
P. O. Box 433
Redding, Ca. 96001

Gentlemen:

We submit the following proposal for underground core drilling AX size holes to approximate depths of 300 feet, total 2000 feet, at your mine near French Gulch, California.

1 -	Mobilization & demobilization of drilling equipment to portal.	500.00
2 -	Moving & setting up, includes moving drilling equipment from portal to first drill station, between drill stations & back to portal when all work completed, with crew of 2 men. Per hour	20.00
3 -	Core drilling AX size holes, 0 to 300 foot depth, Per l. f. Includes cardboard core baxes & bits.	8.20

You supply the following without cost to PC Exploration, Inc.:

Reasonable access to work areas.

Means of transporting drilling equipment from portal to first drill station, between drill stations & back to portal when all work completed.

An adequate supply of compressed air at drill stations.

Adequate ventilation & a source of water at drill stations.

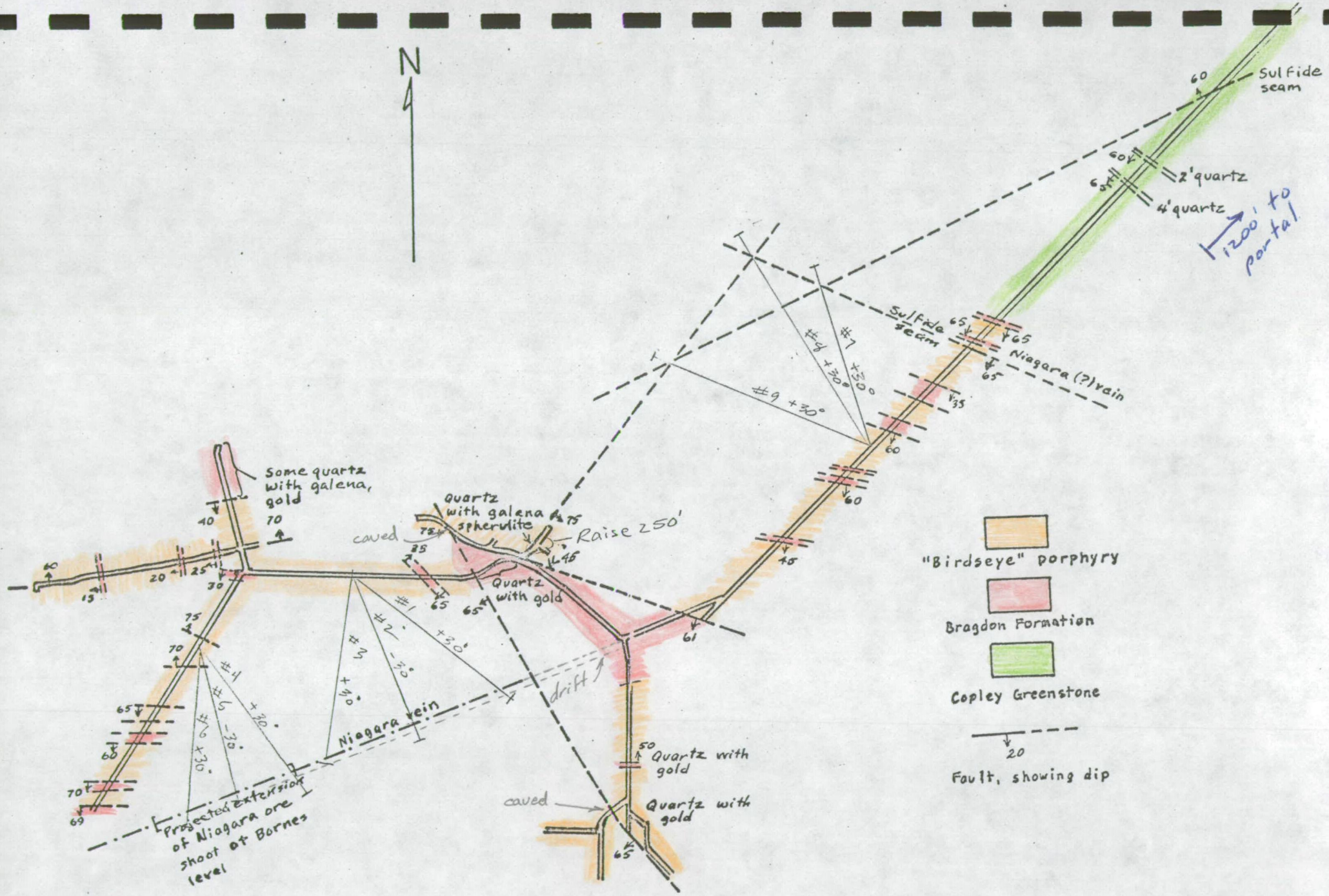
Drill stations to have 17 feet of clearance in line with holes to be drilled.

Very truly yours

PC Exploration, Inc.

Peter Chesler

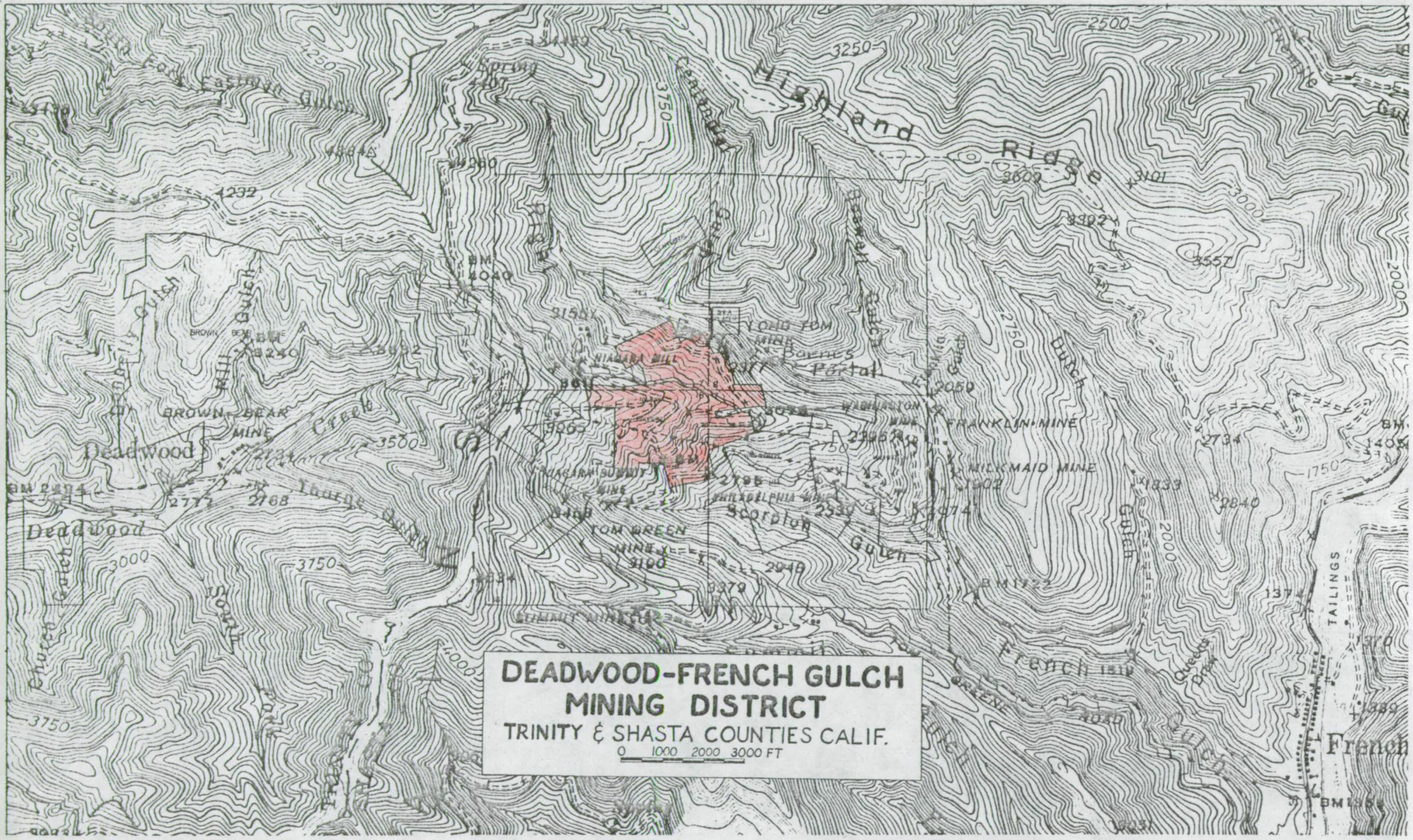
Peter Chesler



NIAGARA MINE - BARNES LEVEL
AMERICAN PRIMARY RESOURCES, INC.

0 200 400 FT.

MAP 2



Map 1
American Primary Resources, Inc.