DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 5041

Application
- [x] Denied
- [ ] Withdrawn

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

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

Folder No. 1:

Left Side

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

Right Side

- [x] Project summary (final)
- [ ] Work Comoleted analysis (final)

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

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [ ] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No._____: Reports
- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with transmittal, narrative and maps.

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

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

OFFICIAL FILE COPY
DMEA
RECEIVED 3 1958

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
1605 Evans Avenue
Reno, Nevada

May 28, 1958

Memorandum

To: Operating Committee, DMEA, Interior Building
Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region II

Subject: Loan Application (Mercury)
The Castella Corporation
Altoona Mine
Trinity County, California

Enclosed are three sets of MF-103, Application for Aid forms, relative to above subject. The fourth set has been retained in our files.

An examination is scheduled, before referral, for June 4, 1958 in order to hasten processing if an exploration project is recommended.

S. Ricker

Attachments

983 MILLS BUILDING
SAN FRANCISCO 4, CALIF.

AUSTIN & SMITH
MINING ENGINEERS

DOUGLAS 2-7180
B. C. AUSTIN
L. A. SMITH

May 26, 1958

REFER TO	NOTES	DATE
J Ricks		
ANSWERED		

Department of the Interior
Defense Minerals Exploration Administration
Washington, D. C.

Docket #D.M.E.A. 3724

Gentlemen:

Herewith our application for aid in an exploration project.

In this application we have omitted answering many of the questions because you already have this information.

Since we completed our original loan and submitted our final report there has been no change in the ownership of the lease.

We have increased the tonnage of positive ore reserves to some extent since our final report and have installed additional equipment. We are working on furnace installation now and expect to be in production on a 50 ton basis by September 1, 1958.

The work outlined in this application would be done over a period of time -- probably eight months.

Yours very truly,

CASTELLA CORPORATION

L. A. Smith
Vice President

Enclosure
LAS:AL

OFFICIAL FILE COPY
DMEA
RECEIVED 3 1958

DATE	INITIALS	CODE

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION II
RECEIVED

1958 MAY 27 AM 10:41

RENO, NEVADA

Form MF-103
Revised Oct. 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR

Budget Bureau No. 42-R1035.3
Approval expires June 30, 1958

DEFENSE MINERALS EXPLORATION ADMINISTRATION

APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER I, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

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

THE CASTELLA CORPORATION
983 Mills Building
San Francisco, California

RECEIVED JUN 3 D.M.E.A.

APPLICANT NOT TO USE THIS BLOCK

Docket Number: DMEA-5041
Date Received: 6-3-58
Government Participation %:
Region: II
Division Code: 400

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
B. C. Austin	983 Mills Bldg. San Francisco, Calif.	President
L. A. Smith	" " "	Vice President
Lawrence Preston	" " "	Sec. & Treas.

Mineral(s) for which you wish to explore: Mercury

Estimated Cost of Project: $ 30,000.00

LOCATION OF PROPERTY

Name	County	State
Altoona	Trinity	California

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order-I, Revised, "Government Aid in Defense Exploration Projects." 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 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. 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 2(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 Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA 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.

May 26, 1958
Dated

THE CASTELLA CORPORATION
BY (Signature) [signature]
Vice President
Title

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

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (courthouse, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

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

(b) State your interest, if any, in operations stated in 2*(a)*.

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

(d) Describe known ore reserves on the property giving quantities and grades and sampling methods used, supporting your statement with copies of assay certificates and assay maps if available.

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

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

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

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

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

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

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs *for each item of the work proposed in 4(a)* under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category *(a)* below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories *(b)* through *(g)*.

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

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

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

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired – i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

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

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

(g) Miscellaneous. For the operating equipment listed in 6*(d)*, describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6*(e)*. Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

Note – No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. *(a)* State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order–I, Revised.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

INT.-DUP. SEC., WASH., D.C. 25960

OFFICIAL FILE COPY
DMEA
RECEIVED

ESTIMATED COST OF THE PROJECT

On the 600' Level

Crosscut and drift in the Hanging Wall (southwest) of the Altoona or "A" fault in the attempt to find faulted segments of vein 1A developed by us on this 600' level northeast of the fault.

Probable footage of standard size (5'x7') drifts and crosscuts 200'.

Fixed cost $35.00 per foot for drifts and crosscuts.
Fixed cost $9.00 per foot for timbering.

On the 500' Level

Crosscut and drift in the Hanging Wall (southwest) of the Altoona "A" fault in the attempt to find faulted segments of Vein 1A developed by us on this 500' level northeast of the fault.

Probable footage of standard size (5'x7') drifts and crosscuts 200'.

Fixed cost $35.00 per foot for drifts and crosscuts.
Fixed cost $9.00 per foot for timbering.

On the 350' Level

Crosscut and drift in the Foot Wall of the northeast striking faults which presently limit the ore bodies.

Probable footage of standard size (5'x7') drifts and crosscuts 200'.

Fixed cost $35.00 per foot for drifts and crosscuts.
Fixed cost $9.00 per foot for timbering.

On and Above the 132' Level

Continue the crosscut, that now extends northeast of the main shaft, approximately 60' to intersect the long raise that reaches from the 350' level to a point about 30' above the 132' level. Continue this raise to attempt to find ore indicated on the surface and in two diamond drill holes drilled from the surface.

Probable footage of standard size (5'x7') crosscut 60'.

Probable footage of 5'x9' raise 70'.

Fixed cost $35.00 per foot for crosscut
Fixed cost $9.00 per foot for timbering
Fixed cost $35.00 per foot for raise
Fixed cost $12.00 per foot for timbering raise

The exploration program outlined above is, of course, subject to modification after further examination by D.M.E.A. engineers.

We are prepared to furnish our share of the cost of this work in accordance with regulations stated in Sec. 7 of D.M.E.A. Order 1, Revised.

THE CASTELLA CORPORATION

By _____
Vice President

NA

ROOM

		RUN
		STOP
	RUN	RUN
	STOP	STOP
	RUN	RUN
	STOP	STOP
	RUN	RUN
	STOP	STOP
	RUN	RUN
	STOP	STOP
	RUN	RUN
	STOP	STOP
	RUN	RUN
	STOP	STOP
	RUN	RUN
	STOP	STOP
	RUN	RUN
	STOP	STOP
	RUN	RUN
	STOP	STOP
	RUN	RUN
	STOP	STOP

Use other side first

☆ U. S. GOVERNMENT PRINTING OFFICE : 1951 16—88949a-2

U. S. Government Messenger Envelope

Standard Form No. 65 (Rev. 1/46)

1. Use blocks consecutively, one at a time
2. Void previous block.
3. Write clearly.

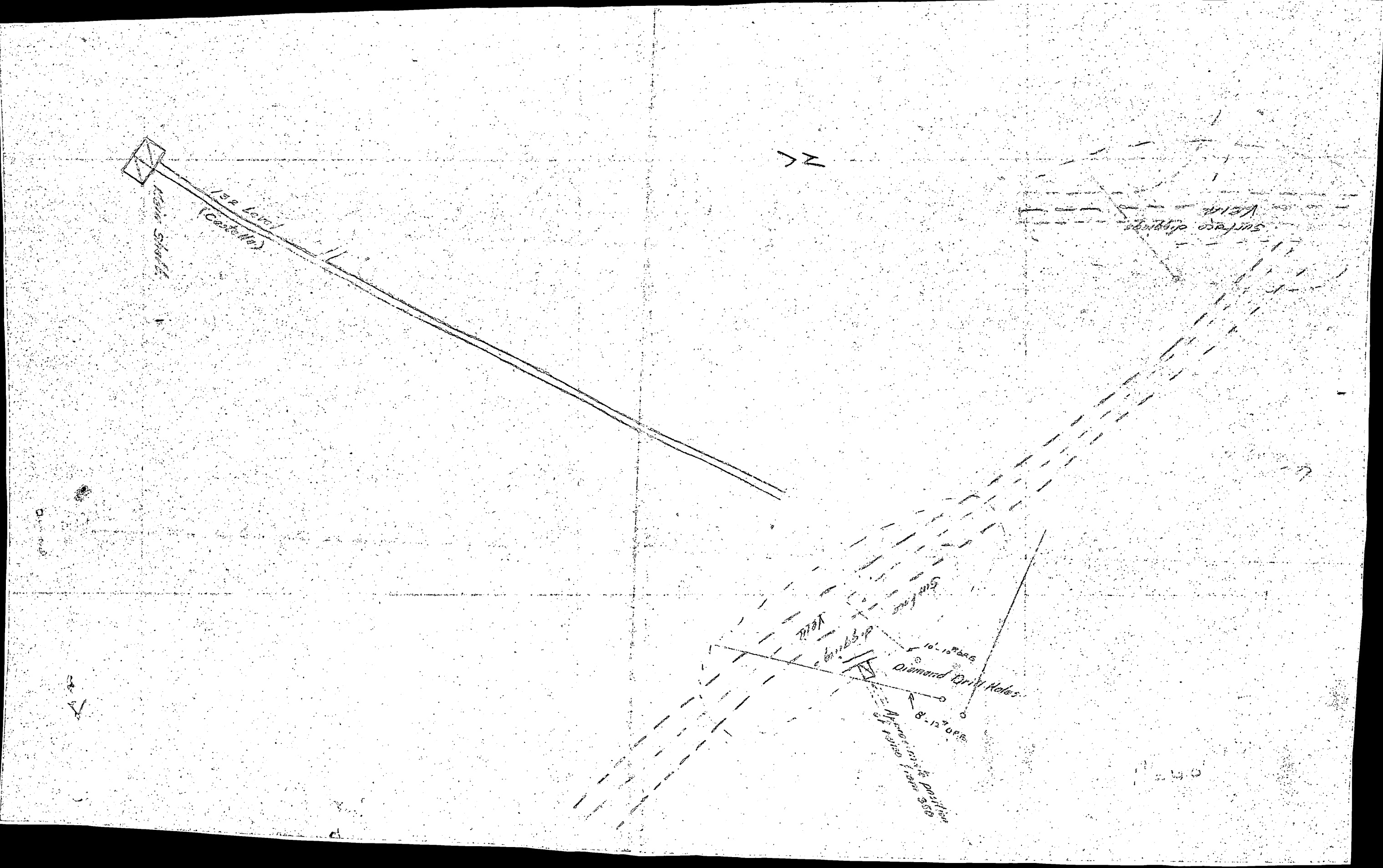
NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM		NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM	
[redacted]	RUN / STOP	[redacted]	RUN / STOP
[redacted]	RUN / STOP	~~BUDGET & FINANCE BRANCH~~ ~~Miss Richardson~~	RUN / STOP
~~22~~	RUN / STOP	~~MR. PAUL C. RUSBY~~ ~~MINERAL DEPOSITS BR.~~ ~~RM. 4206.~~	RUN / STOP
~~8~~ ~~83~~	RUN / STOP	~~Mr Larrabee~~ ~~J 218 Int~~	RUN / STOP
[redacted]	RUN / STOP	Mr. Martin Room 3538, Interior	RUN / STOP
~~88~~	RUN / STOP		RUN / STOP
[redacted]	RUN / STOP		RUN / STOP
~~12~~	RUN / STOP		RUN / STOP
Russ[redacted]son O. [redacted] Room 5815	RUN / STOP		RUN / STOP
Geol Survey Geol Rec Records	RUN / STOP 79-A		RUN / STOP

Send surplus envelopes to supply room for reissue.

Use other side

16—38949a-1

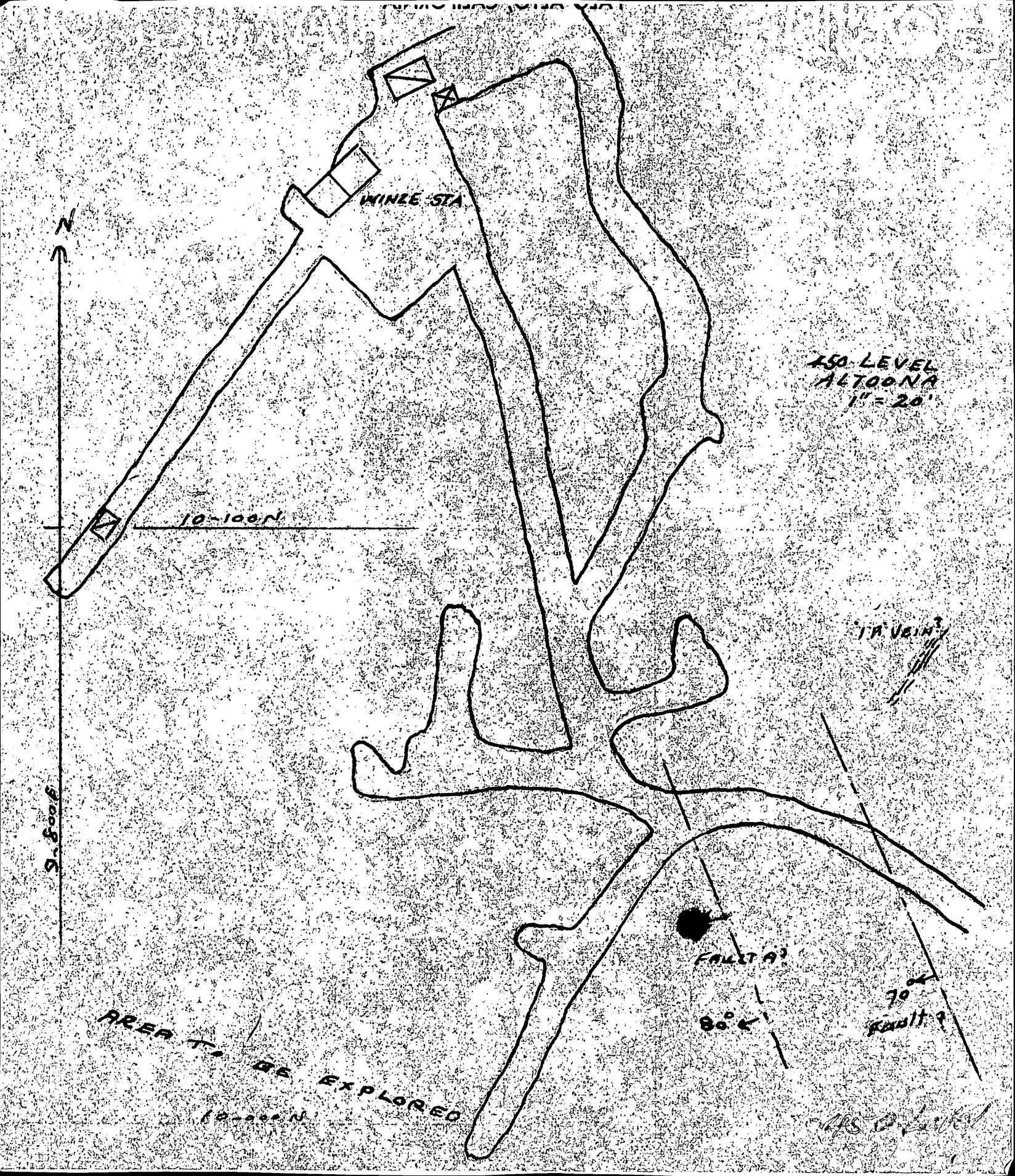
Use RUN and STOP only when messenger service between Government buildings in Washington is required. Your mail room has RUN and STOP information.


N
Surface outlines
Veins
Gulch
Diamond Drill Holes
10'-10" BRS
8'-12" DRS
Approximate position of porphyry dyke
Main Shaft
1st Level
(Cookella)

OFFICIAL
DMEA
RECEIVED JUN 13 1958

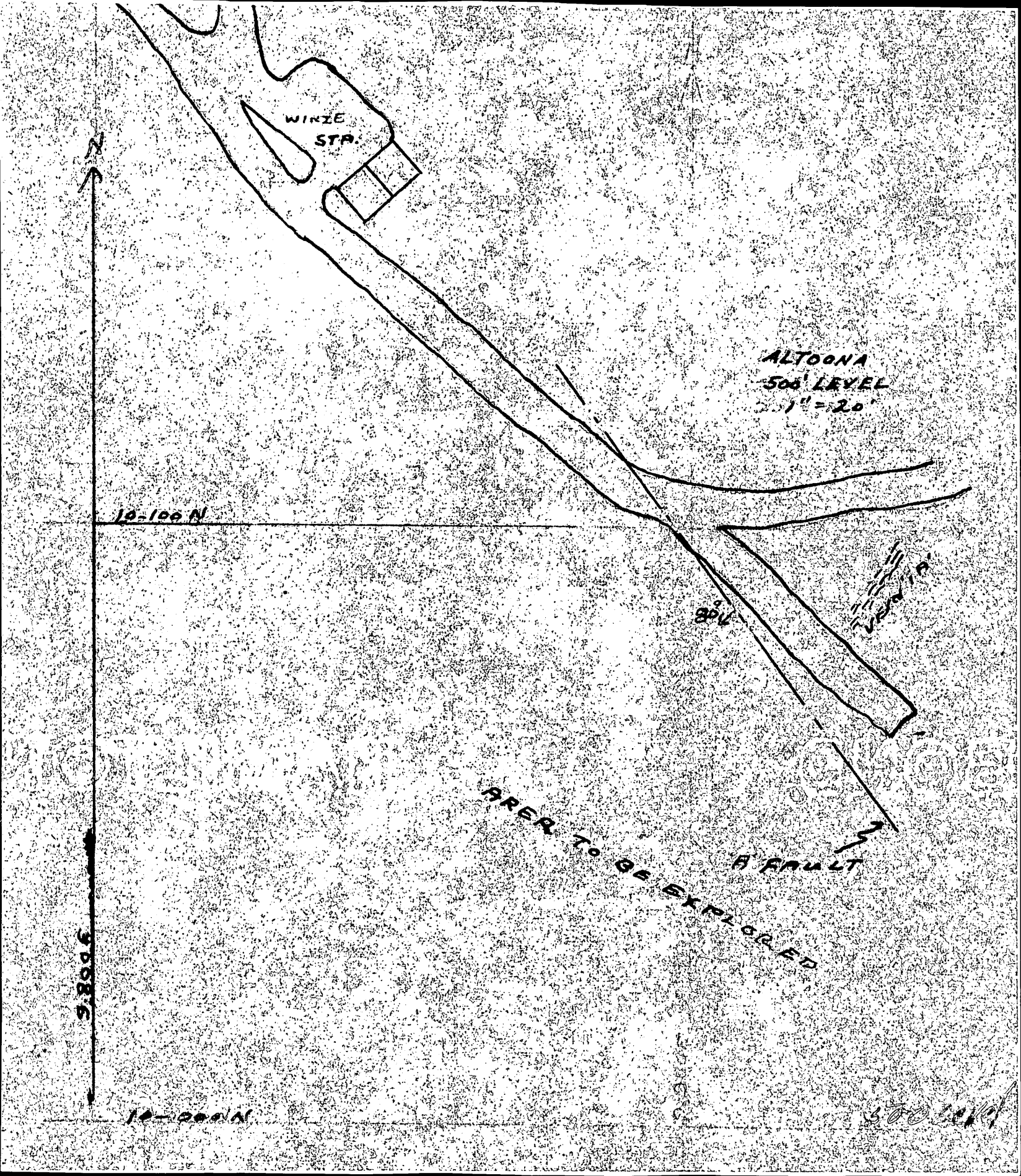
DATE	INITIA	CODE

132 Level


WINZE STA.
N
150 LEVEL
ALTOONA
1" = 20'
10-100N
'A' VEIN?
9-800E
FAULT A?
80°
70°
FAULT?
AREA TO BE EXPLORED
10-200N

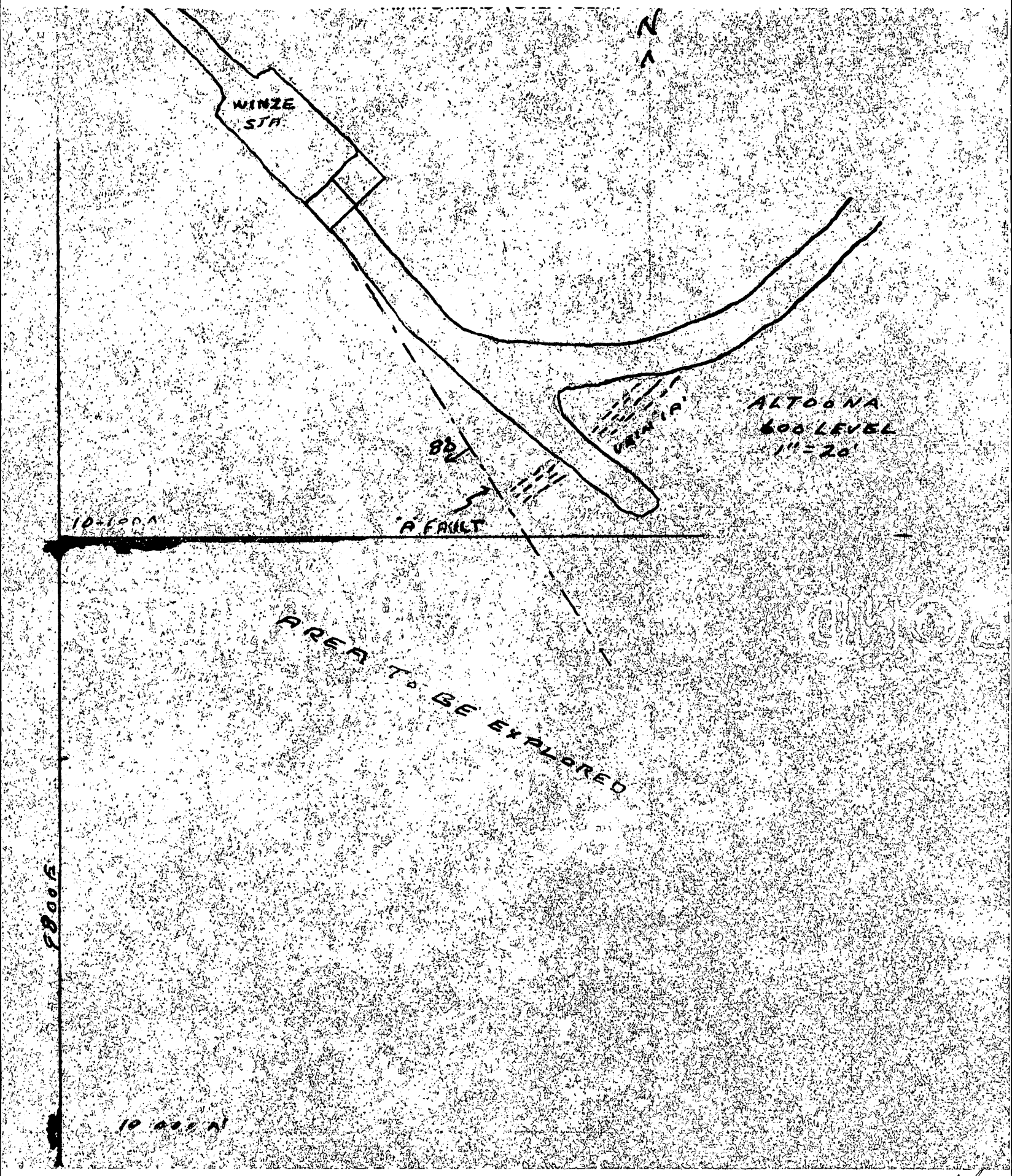
OFFICIAL FILE COPY
DMEA
RECEIVED JUN 3 1958

DATE	INITIAL	CODE


WINZE
STA.
N
ALTOONA
500' LEVEL
1" = 20'
10-100 N
80'
AREA TO BE EXPLORED
A FAULT
9,800 E
10-000 N

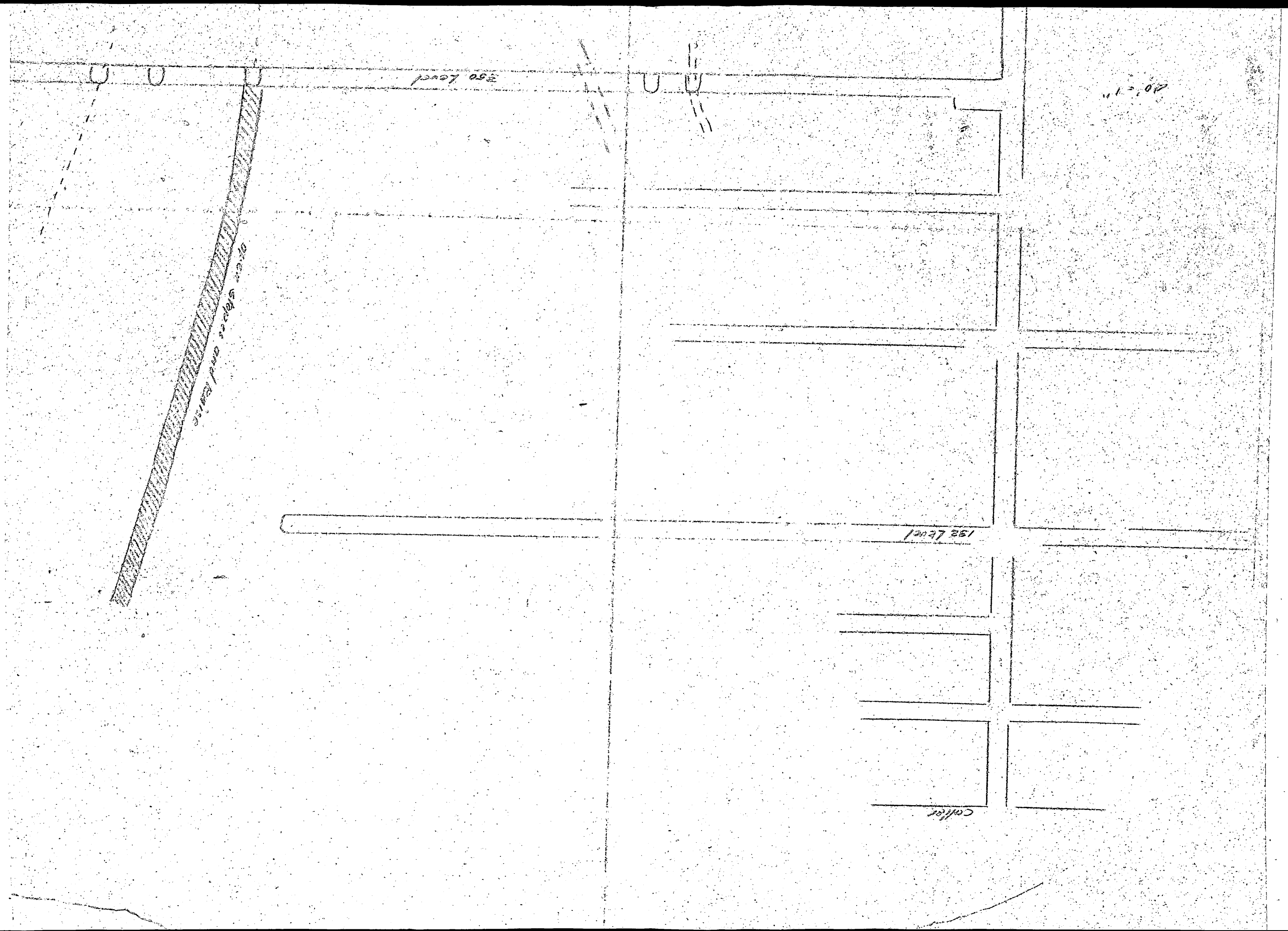
ORIGINAL FILE COPY
DMEA
RECEIVED JUN 3 1958

DATE	INITIALS	TIME


N
WINZE
STA.
ALTOONA
600 LEVEL
1" = 20'
VEIN 'P'
80
'P' FAULT
10+100 A
AREA TO BE EXPLORED
10 000 N'
600 Level

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 13 1958

DATE	INITIALS	CODE


Collier
132 Level
Level 350
Level 350
Level 350

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 18 1958

DATE	INITIALS	CODE

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 18 1958

DATE	INITIALS	CODE

Cross Section
Upper Levels

Library
JUN 2 1958
DATE | CODE
7/2 C 220
225

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

July 1, 1958
Re: DMEA 5041
The Castella Corporation
Altoona Mine
Trinity County, Calif.
$30,000 Appl. Est.
$32,490 Rec'd Est.
Mercury

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team Report

The applicant requested assistance in searching by drifting and crosscutting on 2 levels (500 and 600) for the possible faulted parts of one vein and crosscutting to and raising on a second vein. The first vein, now 1-E, was found by assisted work under contract Idm-E826, DMEA 3724. The existence of the second vein, No. 3, is less certain at the elevation of the proposed work and the proposed work is not recommended by the examiners.

The examiners do recommend a 2-stage work program consisting of 1250 feet of diamond drilling on 3 levels as Stage I and drifting and crosscutting as Stage II. Drilling on the 350 or Trinity level would look for the upward extension of the 1-E vein (1-A of the application) and a possible lateral extension northeast of the Altoona fault of No. 2 W vein, formerly the No. 2 vein, which was taken to swing into alignment with the Altoona fault. The fault vein, No. 2, has produced much ore from the 600 to above the 500 level but probably is not well mineralized at the 350 level. Drilling on the 500 and 600 levels would look for the same extension whose existence is largely inferred, unless a vein was cut in diamond drill hole 60-10 drilled by Rare Metals Company on the 600 level.

The drill holes on the 500 and 600 levels would search for possible extensions in the hanging wall of the Altoona fault of the 1 E and 2 E veins. No near complete geologic map has been afforded us but from piecemeal information noted on several maps, it appears likely the holes will be in serpentine and the projections of 1 E and 2 E veins probably are not there. A surface geologic map and notes on the rock found in the faces of the many short southwesterly headed drifts should tend to answer the question.

As noted by the Executive Officer, the proposed project does not conform to current Government requirements but the exploration project recommended by the examiners is warranted. I concur with the recommendations.

N. E. Nelson

N. E. Nelson

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/13	Chapman	400
6/13		400
		110
		100
		220

June 13, 1958

MEMORANDUM

To: Administrator, DMEA

From: Division of Iron and Ferro-Alloys, DMEA

Subject: Study of new work requested on Altoona Mine
Docket No. DMEA 5041 - Mercury
Castella Corporation
Altoona Mine
Trinity County, California

Contract No. Idm-E826 (Docket No. DMEA 3724). The contract was terminated on November 1, 1957 at a cost of $92,688.00, Government participation 75 percent, $69,501.00. The Operator purchased Government share in equipment for $8,685.00 and $734.17 royalty has been paid, leaving a balance due the Government of $60,081.83. The project was certified on May 1, 1958.

The Final Report of the Field Team estimates the ore reserves as a result of the DMEA work as follows:

Class	Tons	Grade % Hg
Measured	19,000	1.0
Indicated	15,000	1.0
Inferred	21,000	1.0
Total	55,000	1.0

The new application, Docket No. DMEA 5041 requests exploration assistance for the following work at an estimated cost of $30,000.00:

600 foot level, 200 feet of drifting and crosscutting

500 foot level, 200 feet of drifting and crosscutting

350 foot level, 200 feet of drifting and crosscutting

132 foot level, 60 feet of crosscut to intersect long raise from 350 foot level. Continue raise from a point about 30 feet above 132 foot level to intersect ore showing on surface.

Unit cost $35.00/foot for untimbered drifts and cross-cuts and $9.00 per foot for timber where necessary. Raises to cost $35.00/foot, plus $12.00 per foot for timbering.

Contract No. Idm-E826 has shown ore bodies containing an estimated 55,000 tons of 20 pound mercury ore, measured, indicated and inferred. As the exploration found a substantial tonnage of good grade ore, this Division does not believe further exploration assistance is warranted.

W. S. Martin, Director
Division of Iron and Ferro-Alloys

TLChapman/foc
6-13-58
cc to: Docket
Code 400
Oper. Comm.
Admr.'s Read. File

OFFICIAL FILE COPY
DMEA
OPENED JUN 27 1958

DATE	INITIALS	CODE
6/27	C	220
6/30	[illegible]	130
6/30	C	220
	WSM	400
		225

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
1605 Evans Avenue
Reno, Nevada

June 24, 1958

Memorandum

To: Operating Committee, DMEA, Interior Building
Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region II

Subject: Docket No. DMEA-5041 (Mercury)
The Castella Corporation
Altoona Mine
Trinity County, California

Enclosed are three copies of a report by J. D. Warne, Bureau of Mines, and H. K. Stager, Geological Survey.

I agree with the report that under our recent program an exploration project is warranted but that under our new policy announced on June 6, 1958 it does not conform to Government requirements.

The report will, however, complete your files on the subject.

S. Ricker

Attachments

Reviewed by
DMEA OPERATING COMMITTEE
6-30-58
(date)

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 27 1958
DATE | INITIALS | CODE
6/30 | | 130
220

On-Site Exam. Rpt.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION II

APPLICATION REPORT

DMEA-5041 (Mercury)
The Castella Corporation
Altoona mine
Trinity County, California

by

J. D. Warne
U. S. Bureau of Mines

H. K. Stager
R. M. Smith
U.S. Geological Survey

June 20, 1958

Reviewed by
DMEA OPERATING COMMITTEE
6-30-58
(date)

CONTENTS

	Page
Introduction	1
Summary	2
Recommendations	2
Location, Accessibility, and Local Facilities	3
The Property	3
History and Production	3
Ownership	6
Development	6
Geology	7
Geologic Setting	7
Ore Deposits	9
Sampling	11
Ore Reserves	12
Exploration	13
Applicant's Proposal	13
Examiners' Proposal	14
Exploration Costs	16
Summary of Estimated Unit Costs	19

ILLUSTRATIONS

Figure 1 . . . . . Index map
2 . . . . . Claim map
3 . . . . . Geologic map of 350-foot level
4 . . . . . Geologic map of 500-foot level
5 . . . . . Geologic map of 600-foot level

APPENDIX I . . . . . Drill log for hole 60-10
APPENDIX II . . . . . Assignment Agreement

INTRODUCTION

The Castella Corporation, 983 Mills Building, San Francisco 4, California, applied on May 26, 1958 for additional Government assistance in a $32,490 program under the Defense Minerals Exploration Administration, docket DMEA-5041, to explore for mercury at the Altoona mine, Trinity County, California. The applicant wishes to explore for faulted continuations of known ore bodies and ore-bearing structures. All of the exploration work will be done underground.

Parts of the mine were explored under contract Idm-E826 dated June 27, 1955, docket DMEA-3724, and a discovery was certified.

A field examination was made by H. K. Stager and R. M. Smith, U. S. Geological Survey, and J. D. Warne, U.S. Bureau of Mines, on June 4-6, 1958, accompanied by Mr. C. J. Ayers, mine superintendent. The geology of all accessible mine workings was mapped in detail and several samples were taken to check the accuracy of the applicant's assay maps. New 40-scale mine maps were compiled from USGS and company maps for the 10 levels of the mine.

Much of the information contained in this report is taken from the DMEA Final Report by Stager and Warne dated April 22, 1958.

SUMMARY

The Altoona mine contains ore shoots along three northeast-striking veins and one ore shoot along a north-striking fault which cuts the veins. Ore bodies have been mined from the veins as deep as the 600-foot level, but only on the west side of the fault in the upper levels and only along and east of the fault on the lower levels. About 150,000 tons has been produced, which yielded 34,000 flasks of mercury.

Inferred reserves in the unexplored segments of the veins to a depth of 700 feet are estimated to be 50,000 tons containing 15 pounds of quicksilver per ton. Measured, indicated, and inferred reserves in the segments of the veins already explored, partly by DMEA and partly by the Rare Metals Corporation of America, are estimated to be 42,000 tons averaging 15 pounds of mercury per ton.

RECOMMENDATIONS

We recommend that DMEA participate in the exploration of the untested segments of veins 1 and 2 by a two-stage program. Stage I should consist of 1,250 feet of diamond drilling; Stage II should consist of 500 feet of crosscutting and drifting to delineate the ore bodies discovered in Stage I.

LOCATION, ACCESSIBILITY, AND LOCAL FACILITIES

The Altoona mine is in sec. 22, T. 38 N., R. 6 W., M.D.B.&M., Trinity County, California (fig. 1). It is on the east fork of the Trinity River in the Trinity Mountains at an altitude of 4,500 feet.

From Castella, California, the mine is reached by traveling 0.1 mile north on U.S. Highway 99 to the Trinity Center road turnoff, turn left (west) and stay on the main traveled road for 21.6 miles to the mine. Highway 99 is an all-weather road and the Trinity Center road is a graded dirt road that is passable by ordinary passenger car during dry weather but closed by heavy snows to all travel, except snow-cats, during the winter months.

Mine labor, supplies, and equipment are obtainable in Redding. Mine timber is obtained from nearby sawmills. Electric power is purchased from a nearby California-Oregon Power Co. transmission line and there is radio-telephone service to the mine from Redding, California. Mail, truck, and railroad services are available in Castella. The operators do their own assaying at the mine. Water for domestic use is piped from springs on the mine property and ample water is available in the mine for mine and reduction plant use.

THE PROPERTY

History and Production:

Cinnabar was first discovered on the property in 1871 near the site of the present shaft. Early mining consisted of placer workings,

shallow open-cuts and short adits. The Altoona Quicksilver Mining Company acquired the property in 1875 and is the present owner. The mine was operated until 1880 when litigation among the stockholders resulted in a shutdown of the mine. It was reopened in 1894 and was active until 1901. During this period it was developed to the 600-foot level. The mine was closed until 1929 although a little mercury was produced during this period by lessees who worked the old dumps. The workings above the 132-foot level were reopened in 1929 and intermittent mining was done by the Marsman Company of San Francisco (lessee) until 1945 when the mine was again shut down. An attempt was made to reopen the mine in 1951 but legal difficulties prevented the operation. The property was leased by Austin and Smith in 1955 and the DMEA contract was started. The lease was assigned to the Castella Corporation on August 8, 1957, without changing the managment of the project. The lease was optioned to the Rare Metals Corporation of America on November 1, 1957 but after some additional exploration work, sampling, and surveying, the Rare Metals Corporation decided not to exercise the option to purchase the lease and it reverted to the Castella Corporation.

Total production for the property is about 34,000 flasks of mercury. About 7,000 flasks was produced during the period 1871-1880. A production of about 240 flasks in 1890 was probably obtained from placer workings and mine dumps. A total of 19,673 flasks was produced during the period 1895-1901 and about 7,000 flasks during the period 1929-1945.

During the DMEA contract period about 32 flasks of mercury was produced from surface workings by Mr. Philip Munko of Castella, California, who had a verbal agreement with the operators. The Government was paid royalty on this production and also on 26 flasks of mercury produced from ore mined on the 500-foot level and retorted at the property. A total of $734.17 in royalties was paid to the Government on the sale of 58.25 flasks of mercury that had a sale value of $14,683.55.

During the DMEA project the Castella Corporation mined from exploratory drifts, and stockpiled on the surface, about 1,500 tons of ore that is estimated to average about 10 pounds of mercury per ton. During the period that the mine was under option to the Rare Metals Corporation an additional 500 tons of ore of about the same average grade was recovered from drifting and raising operations and was added to the stockpile.

As a result of the ore discovered by DMEA work the property was certified on May 1, 1958 and all production from the property is

subject to royalty until June 27, 1967, or until the amount of Government participation is repaid, whichever occurs first.

Ownership:

The property consists of the patented Altoona (Lot 42) and Trinity (Lot 41) claims, totaling 40 acres, and the unpatented Blockade fractional claim, containing 14 acres (fig. 2). All of the previous DMEA work was done on the Trinity claim and all of the proposed new work will be confined to the Trinity claim although the entire property is included in the contract.

The property is owned by the Altoona Quicksilver Mining Company and is leased by the Castella Corporation. Consent-to-Lien forms were signed by the owner previous to the date of the DMEA contract. Documents in evidence of Castella's present interest in the land are attached.

Development:

The mine is developed by a 450-foot vertical two-compartment shaft with levels at 50-, 90-, 132-, 235-, 290-, 350-, 410-, and 450 feet. From the 450-foot level a vertical winze extends down to the 600-foot level with an intermediate level at 500 feet. Over two miles of drifts and crosscuts were driven in developing the mine but many of the old upper levels are partly caved and inaccessible. The most extensive stoping was done in the southwest part of the mine above the

600-foot level. Only a small amount of additional exploration, consisting of 350 feet of drifting on the 410-foot level, 90 feet of raising between the 500- and 410-foot levels, and 1,775 feet of diamond drilling in 12 holes from the 600-foot level, was done by the Rare Metals Corporation since November 1957 when the DMEA project was terminated.

GEOLOGY

Geologic Setting:

The Altoona mine is in an area of moderate relief on the east fork of the Trinity River in the Trinity Mountains, a part of the Klamath Mountains of northern California.

The rocks exposed in the mine area and in the underground workings are chiefly porphyritic diorite and serpentinized peridotite of probable Upper Jurassic age that have been sheared and intensely altered.

The serpentinized peridotite is exposed underground and locally crops out at the surface but is not abundant. It is a massive, light-gray-green to dark-green rock and is locally veined with a white carbonate, probably ankerite, and contains scattered grains of magnetite. The serpentine exposed underground is in small blocks and wedges from a few feet to several tens of feet across. It is probably older than the diorite, with which it is in fault contact.

The diorite is of two varieties; a porphyritic hornblende variety and a porphyritic feldspathic variety. Texturally and mineralogically the two varieties are closely related and they differ chiefly in that one has phenocrysts of green hornblende, whereas the other has prominent phenocrysts of feldspar with minor hornblende.

Both varieties of diorite and the serpentine are locally intensely altered and replaced by quartz and carbonates. The resulting rock is a dense, fine-grained, gray-green rock that somewhat resembles the silica-carbonate rock of the Coast Range mercury deposits. Where the alteration is less intense it is possible to distinguish one rock type from the others but in most of the workings the alteration is so intense that they cannot be distinguished megascopically.

The rocks are cut by three major steeply-dipping shear zones that strike about N. 50° E. Two of these dip northwest and the third dips southeast. These zones are from a few feet to as much as 30 feet wide. They in turn are cut by a major northwest-striking fault, herein called the "Altoona fault", that dips 40°-60° SW (figs. 3, 4, and 5). Displacement along the Altoona fault and the major shear zones has not been determined but along the fault the gouge is commonly several feet thick, indicative of considerable movement.

The Altoona fault and the shear zones are all premineral although there has been some movement along the fault since the ore bodies were emplaced.

Ore Deposits:

The ore bodies are carbonate-quartz veins along shear zones and along the Altoona fault.

The principal ore mineral is cinnabar which, in a few places, contains drops of native quicksilver. It occurs disseminated and in thin veinlets in fractures in the carbonate-quartz veins and also in fractures in altered wall rock adjoining the veins. Almost all of the carbonate-quartz contains at least a little cinnabar.

The ore shoots, in general, coincide with the carbonate-quartz veins and cinnabar is found most abundantly both in the veins and in the wall rock where the veins are widest. The ore shoots are from 50 to 200 feet long, attain a maximum width of 30 feet but average about 6 feet in width, and have been mined down the dip for as much as 500 feet. They average about 15 pounds of mercury per ton. In the upper levels the carbonate has been largely leached from the veins and the resulting openings have been closed by shifting of the wall rock. On the lower levels a few open cavities in places along the otherwise tightly cemented veins suggest partial leaching, and on the bottom level water emerging from the floor of the drift contains H_2S and CO_2 gasses

which suggest that leaching is still in progress below the mine workings. On some of the middle and lower workings solution cavities filled with silt and mud contain specks of cinnabar and in places are high grade. This suggests mechanical enrichment of cinnabar in veins which have been leached but there is no data available on the difference in grade of the leached veins and the unleached ones.

The veins along the shear zones have been named "Veins 1, 2, and 3" (figs. 3, 4, and 5). In the upper levels these veins have been mined west of the Altoona fault and on the lower levels they have been explored east of the fault. The ore shoot along the Altoona fault was formerly called "Vein 2" and was mined only in the lower levels, along a segment of the fault which has a flatter than average dip. Here the ore shoot appears to rake down to the north. Ore shoots along the veins appear to rake down to the northeast on the hanging-wall side of the fault but their rake on the footwall side of the fault is not evident. Near the intersection of the veins with the Altoona fault the veins commonly dissipate in shattered rock for distances up to a few tens of feet, although in a few places short, flat veins link the major veins with the fault in the intersection area. In some places, notably on the 410-foot level, the veins encounter the fault at an acute angle and follow along it for distances up to 100 feet.

Sampling:

Most of the samples of the No. 1 vein on the 500- and 600-foot levels by the Castella Corporation were grab samples taken from mine cars as the DMEA drifts progressed. The locations and weighted assays of these car samples are shown on figure 4 in the Final Report of the project, dated April 22, 1958. The No. 1 vein was again completely sampled by the Rare Metals Corporation of America by channel samples taken across the vein at five-foot intervals along the 500- and 600-foot levels. Analyses of seven check samples taken by the DMEA engineer are listed below. These samples were taken from vein 1-E to check some of the higher grade assays obtained by the Rare Metals Corporation and in general are in agreement with, or show higher values than, the earlier assays.

Sample No.	Grade, Lbs.Hg/ton	Description
1a	69.4	1.5-ft. channel, 600-foot level.
2b	32.4	5.0-ft. channel, 600-foot level.
3b	24.0	0.9-ft. channel, 600-foot level.
4b	39.7	1.0-ft. chip sample across cinnabar mineralized zone, 500-foot level.
5b	28.3	4.0-ft. channel across soft gouge, ore zone, 500-foot level.
6b	34.5	2.5-ft. channel across soft gouge ore zone, 500-foot level.
7b	12.8	2.0-ft. specimen sample of a portion of mineralized zone exposed above supports.

Ore Reserves:

About 2,000 tons of ore that averages about 10 pounds of mercury per ton is stockpiled at the mine. Reserves of ore-in-the-ground are summarized as follows:

Class	Tons	Grade (lbs. Hg/ton)
Measured	19,000	15
Indicated	10,000	15
Inferred	63,000	15
Total:	92,000	15

Some revisions have been made in the tonnage and grade of reserves estimated at the close of the DMEA contract, based on additional exploratory drifting, raising, and diamond-drilling done by the Rare Metals Corporation of America and as a result of the better picture of the ore bodies obtained as a result of detailed mapping.

Estimates of tonnages for ore reserve blocks made by the Rare Metals Corporation are in close agreement with estimates for the same blocks made at the close of the DMEA project. The average grade is somewhat lower (15 pounds per ton instead of 20 pounds per ton) as a result of a much greater number and closer spacing of sample points.

The measured and indicated reserves are along veins 1e, 3w, and the Altoona fault between the 450-foot level and 100 feet below the 600-foot level. Of the 63,000 tons of inferred ore 13,000 tons is in vein 1e and the Altoona fault from 100 to 150 feet below the 600-foot level. New inferred reserves that are the target of the proposed exploration total 50,000 tons of ore of which 25,000 tons is in vein 2e between the 400- and 700-foot depths, 5,000 tons is in vein 1e between the 300- and 400-foot depths, 10,000 tons is in vein 1w, and 10,000 tons is in vein 2w between the 500- and 700-foot depths.

In addition, we infer that reserves as large as those already mined may ultimately be discovered below the 600-foot level.

EXPLORATION

Applicant's Proposal:

The applicant proposed to explore by crosscutting and raising on the 132-foot level, and by crosscutting and drifting on the 350-, 500-, and 600-foot levels.

The proposed exploration on the 132-foot level does not appear to be warranted because the crosscut would intersect No. 3 vein which has already been stoped above this level. There is no indication of vein No. 3 on the surface except by inference at the Washington shaft which is on the adjoining property, and ore that is reported on the surface is not on No. 3 vein.

Examiners' Proposal:

Exploration on the 350-, 500-, and 600-foot levels is warranted but we suggest that crosscutting and drifting be preceeded by diamond drilling. Because the veins are somewhat irregular on their dip and because the pitch of the ore shoots may not be uniform, the projections should first be tested. After the exact location and character of the veins are determined by drilling, crosscuts and drifts can be planned more effectively.

Although the drilling done under the former DMEA contract was completely unsatisfactory more recent drilling by Boyles Bros. Drilling Company for Rare Metals Corporation of America was highly successful. An average of about 90 percent core recovery was obtained for 12 holes. This success is attributed to three factors: the use of NX core barrels only, the experience of the driller, and the system of payment by the day rather than by the foot. Because of the proven success of this combination, and because the diamond drill is still stored at the property, we recommend that the contract specify the same combination of drill size, method of payment, and if possible the same driller, in lieu of the customary procedure of requesting three bids. The justification for this procedure is that any other bids should be rejected in favor of the one from the company with the only successful experience in this particular mine. It is clearly in the

Boyle Bros.
NX drilling
for Rare Metals -

National interest to obtain satisfactory results even at a slight increase in cost, and it is unlikely that other bids will be more than a few cents per foot less.

The applicant concurs in the following two-stage program:

STAGE I

350-foot level:

One 100-foot hole to explore for vein 1e.

One 150-foot hole to explore for vein 2e.

500-foot level:

One 150-foot hole to explore for vein 1w.

One 150-foot hole to explore for vein 2w.

One 200-foot hole to explore for vein 2e.

600-foot level:

One 150-foot hole to explore for vein 2w.

One 200-foot hole to explore for vein 1w.

One 150-foot hole to explore for vein 2e.

STAGE II

500 feet of crosscutting and drifting in unspecified locations, to be approved by the Government in advance, to delineate any ore bodies discovered in Stage I.

EXPLORATION COSTS

Stage I--Diamond drilling 1,250 feet:

Estimated costs are for drilling NX size holes. This size of drilling was recently done in the Altoona mine by the Boyles Bros. Drilling Company for Rare Metals Corporation of America under an arrangement where the drilling company charged rental of their drill with two operators at $115 per day, plus diamond costs, resulting in an overall cost of about $8.00 per foot. Entirely satisfactory results were accomplished by this method, and over 90 percent of the core was recovered. Therefore, a similar method of drilling is recommended; especially as the Boyles Bros. Drilling Company's drilling equipment is still at the Altoona mine, and the estimated cost for drilling of this large size (NX) is less than has been charged for smaller size holes under a standard type contract by other drilling companies at other DMEA projects in this area. A similar arrangment will preclude payment of mobilization charges to move equipment into this isolated mine area, and will allow drilling operations to begin during this summer season while the mine is accessible. Estimated costs for drilling NX size holes (contract cost, including extras) are listed below:

1. Independent Contracts

1,250 ft. of NX size drilling @ $8.00/ft.	$10,000.00

2. Labor and Supervision

Engineer-supervisor, part-time, 4 mos. @ $250.00/mo.	1,000.00

3. Operating Materials and Supplies

125 core boxes @ $1.00/ea.	125.00

4. Operating Equipment

Mine operating equipment and power to be furnished by operator	0.00

5. Miscellaneous

Assaying 40 check samples for Hg @ $3.00/ea., other analyses to be made by operator	120.00
Total estimated cost of Stage I	$11,245.00
Cost per foot (rounded figure) of diamond drilling . .	$9.00

Stage II -- Drifting and/or crosscutting 500 feet:

Drifts and crosscuts to be 5 feet by 7 feet inside of timber. Allow 125 shifts, 375 man shifts, 6 months (part-time) supervisory time.

1. Independent Contracts

None	$ 0.00

2. Labor and Supervision

1 Supervisor, part-time, 6 mos. @ $300.00/mo.	$1,800.00	
3 Miners, including lead man and part-time hoistman @ $18.00/shift, 125 shifts @ $54.00/shift	6,750.00	
Total labor and supervision		$8,550.00

3. Operating Materials and Supplies

500 ft. of 2-inch and 1-inch pipe @ $1.00/ft.	$ 500.00	
Explosives, 500 ft. @ $3.60/ft.	1,800.00	
Fuel, 500 ft. @ $0.70/ft.	350.00	
Drill steel and bits 500 ft. @ $1.00/ft.	500.00	
Rail and ties 500 ft. @ $1.25/ft.	625.00	
Vent pipe 500 ft. @ $1.25/ft.	625.00	
Msc. hand tools and supplies	250.00	
Total operating materials and supplies.		4,650.00

4. Operating Equipment

To be furnished by the operator on a rental basis, 6 mos. @ $212.00/mo.		1,272.00

5. Miscellaneous

40 samples to be analyzed for Hg @ $3.00/ea.	$ 120.00	
Electric power, 6 mos. @ $300.00/mo.	1,800.00	
Payroll taxes, insurance, etc. 12.5 percent of $6,750.00	843.75	

Timbering drifts and crosscuts, as required, 500 ft. @ $8.00/ft.	$4,000.00	
Total misc. costs		$6,763.75
Total estimated cost of Stage II		$21,235.75
Cost per foot (rounded figure) of drifting and/or crosscutting		$ 42.50

Summary of Estimated Unit Costs (rounded)

Stage I -- Underground diamond drilling:	
1,250 ft. diamond drilling @ $8.90/ft.	$11,125.00
40 samples to be analyzed for Hg @ $3.00/ea.	120.00
Total, Stage I	$11,245.00
Stage II -- Drifting and crosscutting:	
500 ft. drifting and crosscutting @ $34.25/ft.	$17,125.00
500 ft. timbering drifts and crosscuts, as required, @ $8.00/ft.	4,000.00
40 samples to be analyzed for Hg @ $3.00/ea.	120.00
Total, Stage II	$21,245.00
Total estimated cost of the project	$32,490.00
Government participation at 50 percent.	$16,245.00

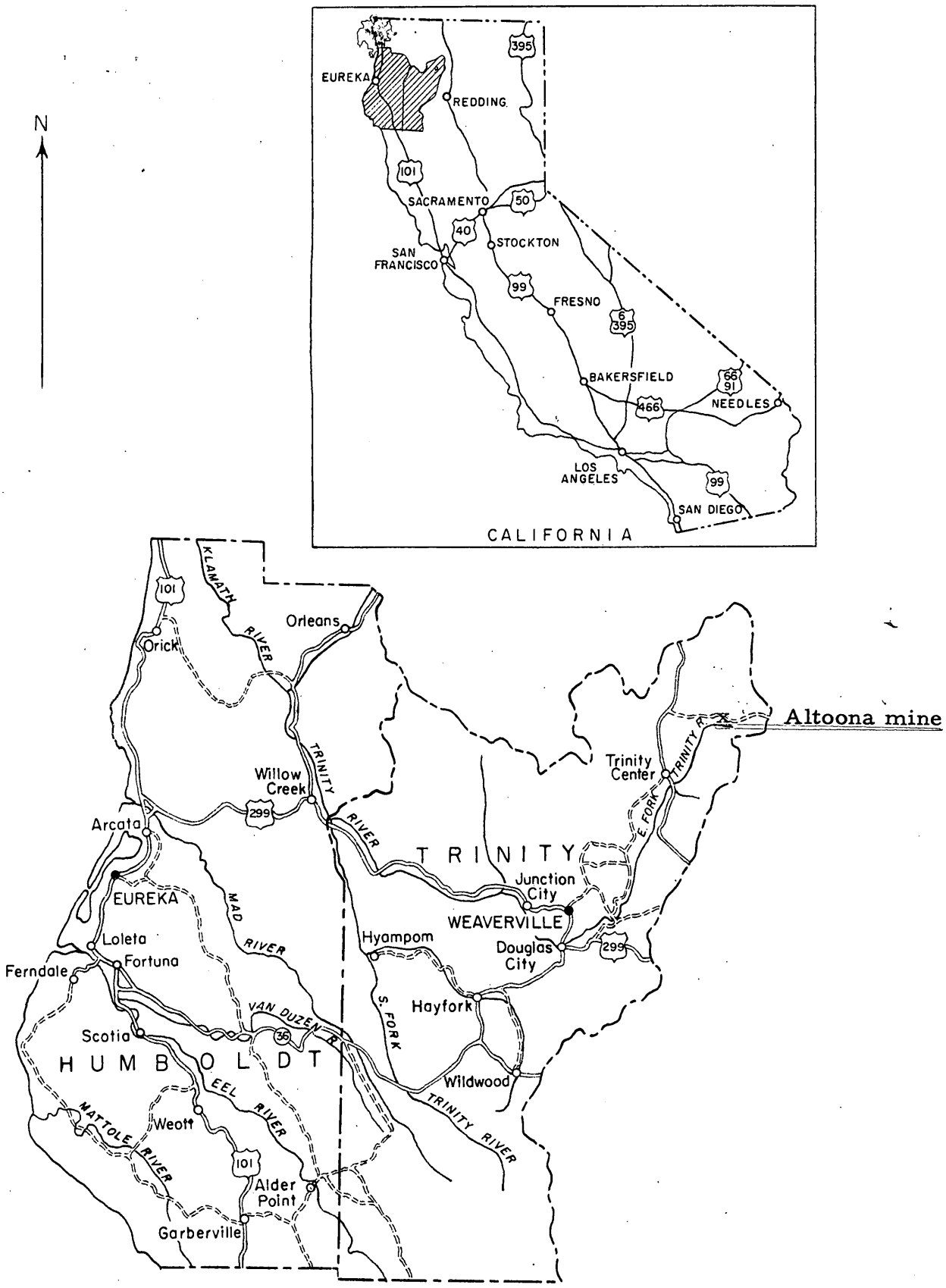


Figure 1. INDEX MAP OF HUMBOLDT AND TRINITY COUNTIES, CALIFORNIA

0 20 40 60 Miles

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 27 1958

DATE	INITIALS	CODE

Return to Docket 5041
On site Eval

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMEA - 5041
~~XXXXXXXX~~
(MERCURY)

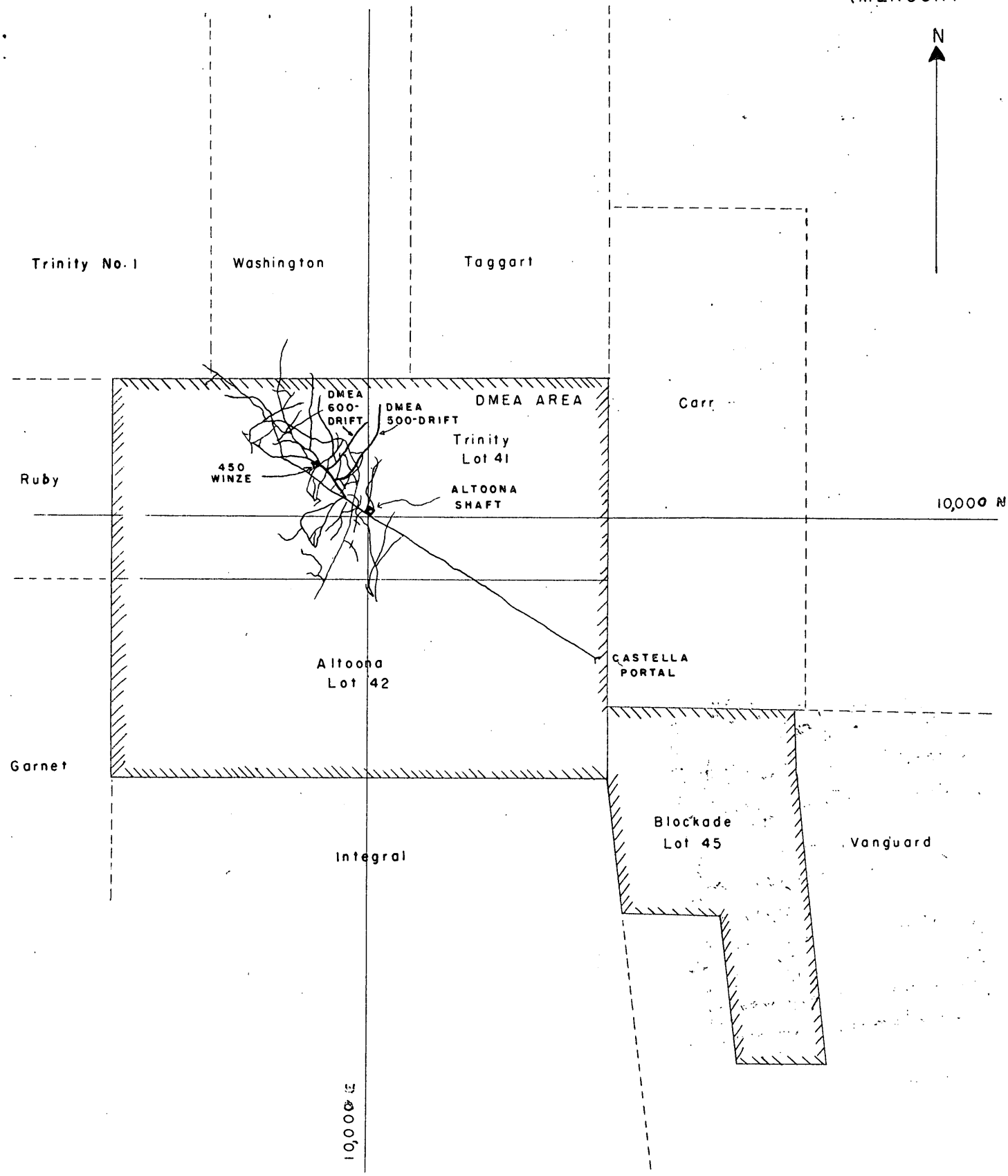


FIGURE 2. CLAIM MAP, ALTOONA MINE, TRINITY COUNTY, CALIFORNIA

0 400 800 1200 1600 feet

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 27 1958

DATE	INITIALS	CODE

Return to
Pocket [illegible]
Onsite [illegible]

APPENDIX I

RARE METALS CORPORATION OF AMERICA

DIAMOND DRILL HOLE LOG

Hole 60-10 Started 3/16/58 Finished 3/29/58 Inclination -3°

From	To	Feet drilled	Feet core	Percent core	Remarks
0.0	8.5	8.5	8.5	100	Diorite, medium to dark gray, silicified in part with abundant calcite stringers throughout. Small quartz veins also prominent. Pyrite abundant, 6" ankerite vein at 2 ft. with good cinnabar mineralization.
8.5	20.5	12.5	12.5	100	Diorite, dark gray, brecciated and highly altered. Much chlorite and some serpentine. A bright green clay(?) mineral scattered throughout. Some pyrite, several quartz stringers present, also some calcite.
20.5	29.5	9.0	9.0	100	Diorite, medium gray- to gray, mostly silicified. Some brecciation and alteration. Quartz and calcite veinlets abundant. Some chlorite and serpentine also present. Pyrite abundant.
29.5	46.5	17.0	17.0	100	Diorite, dark gray and light gray mottled, badly brecciated and altered. Chlorite and serpentine abundant. Many quartz and calcite veinlets throughout.
46.5	69.0	22.5	22.5	100	Diorite, light gray, silicified, massive and hard. Some calcite stringers. Bright green clay( ) mineral scattered throughout.
69.0	75.0	? 8.0 ? 6.0	? 8.0 6.0?	100	Diorite, dark gray, badly altered, somewhat soft, pyrite abundant, 3" ankerite vein at 70 ft. with small cinnabar veinlets abundant. Quartz and calcite stringers present throughout zone. Gouge from 74 ft. to 75 ft. (Fault)

(Hole No. 60-10, continued)

From	To	Feet drilled	Feet core	Percent core	Remarks
75	92	17.0	17.0	100	Diorite, medium gray, hard and massive, partly silicified, some chlorite. Quartz and calcite veinlets abundant. Bright green clay(?) mineral scattered throughout.
92	102.7	10.7	10.7	100	Diorite, dark gray, badly altered and somewhat brecciated. Abundant chlorite and pyrite. Quartz and calcite veinlets prominent.
102.7	160	57.3	57.3	100	Diorite, medium to light gray, massive and hard, mottled with green in part. Some brecciation, some chlorite and serpentine, silicified throughout. Small ankerite veinlet at 104.4 and 107 ft. Some spotty cinnabar mineralization. Numerous quartz and calcite veinlets. Bright green clay(?) mineral present in varying amounts. Some pyrite.
160	182	22.0	22.0	100	Diorite, dark gray to gray, brecciated and badly altered, gougey in part. Some calcite and quartz stringers. Bright green clay mineral scattered throughout (Fault zone) - at 10°-15°.
182	199.5	17.5	17.5	100	Diorite, as from 102 to 160.

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 27 1958
DATE | INITIALS | CODE

APPENDIX II

ASSIGNMENT AGREEMENT

THIS AGREEMENT, made and entered into this 27 day of May, 1958, by and between RARE METALS ~~CORPORATION~~ OF AMERICA, a corporation, (hereinafter referred to as "Rare Metals") and THE CASTELLA CORPORATION, a corporation, (hereinafter referred to as "Castella");

W I T N E S S E T H :

WHEREAS, on the 17th day of September, 1957 the parties hereto entered into that certain Purchase Agreement providing for the assignment by Castella to Rare Metals of the hereinafter mentioned lease covering certain mining properties; and

WHEREAS, the parties hereto entered into that certain Assignment Agreement of October 31, 1957, with Altoona Quicksilver Mining Company, a corporation, (hereinafter referred to as "Altoona"); and

WHEREAS, pursuant to the provisions of the foregoing Purchase Agreement and Assignment Agreement and also that certain Agreement between the parties hereto dated May 7, 1958, Rare Metals desires to reassign and Castella desires to accept such reassignment of the aforesaid lease,

NOW, THEREFORE, in consideration of the premises Rare Metals hereby assigns to Castella all of its right, title and interest in and to that certain mining lease agreement dated February 10, 1955 executed by Altoona as Lessor to L. A. Smith and B. C. Austin as Lessees, assigned by said Smith and Austin to Castella and assigned by Castella to Rare Metals pursuant to the foregoing Assignment Agreement of October 31, 1957 covering the patented mining claims known as the Trinity and Altoona claims and the unpatented claim known as the Blockade

claim, all located in Sections 22 and 23, Township 38 North, Range 6 West, Mount Diablo Base and Meridian, Trinity County, California, together with all of the right, title and interest of Rare Metals in and to the above described mining claims; subject however, to the terms and provisions of said mining lease, as amended by the Assignment Agreement of October 31, 1957, and subject also to a contract with and the obligation to repay advances not exceeding $95,000.00 to Defense Minerals Exploration Administration, payable out of 5% of ore and minerals produced from said mining claims.

IN WITNESS WHEREOF, Rare Metals has executed this Agreement the day and year first above written.

RARE METALS CORPORATION OF AMERICA

By _____
President

_____
Assistant Secretary

The foregoing accepted this

29 day of May, 1958.

THE CASTELLA CORPORATION

By _____
President

_____
Secretary
Vice President

STATE OF TEXAS)
SS.
COUNTY OF EL PASO)

On this 27th day of May, 1958, personally appeared before me, a Notary Public in and for said County and State, C L Perkins and L C Martch, known to me to be the Vice President and Assistant Secretary, respectively of RARE METALS CORPORATION OF AMERICA, the corporation that executed the annexed Assignment Agreement, and upon oath, did depose that they are the officers of said corporation as above designated; that they are acquainted with the seal of said corporation and that the seal affixed to said instrument is the corporate seal of said corporation; that the signatures of said instrument were made by the officers of said corporation as indicated after said signatures; and that the said corporation executed the said instrument freely and voluntarily and for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at my office in the County and State aforesaid, the day and year in this Certificate first above written.

Virginia O. Jameson
Notary Public

VIRGINIA O. JAMESON
Notary Public in and for El Paso County, Texas
My Commission Expires June 1, 1959

My Commission expires: June 1, 1959

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/16	Chapman	400
	Martin	400
6/16	Selfridge	130
6/16	Lynch	130
6/16	Kilgoar	130
"	Johnson	110
"	Mittendorf	100
		220

JUN 16 1958

The Castella Corporation
983 Mills Building
San Francisco, California

Re: Docket No. DMEA 5041 - Mercury
Altoona Mine
Trinity County, California

Gentlemen:

Reference is made to your application dated May 26, 1958, requesting additional exploration assistance at the above-noted mine. The proposed work would be an extension of the exploration accomplished under Contract No. Idm-E826 Docket No. DMEA 3724. This earlier project was terminated on December 4, 1957, and a Certification of Discovery or Development was issued on May 1, 1958.

Under the new policy announced on June 6, 1958, copy enclosed, we are unable to increase the Government's financial commitment in any existing contract where results to date have progressed to a point at which a certification of discovery or development can be issued.

Since a Certification of Discovery or Development has been issued on Contract No. Idm-E826, it seems to us that within the intent of the newly announced policy your case must be included in the restricted category; therefore, I regret to advise you that additional funds cannot be approved.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

TLCHAPMAN/dlm 6-13-58
cc to: Code 400
Admr. R. File
Oper. Comm.
FT. REG. II
Messrs. J. W. Pennington, USBM
T. H. Kiilsgaard, USGS

8623

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 10 1958
DATE | INITIALS | CODE
6/10 | J.G. | 225
WSM | 400

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

June 9, 1958

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: Assistant Chief, Branch of Base Metals

Subject: Review of application, Docket No. DMEA-5041 (Mercury), The Costella Corp., Altoona Mine, Trinity County, California, $30,000.00.

The applicant proposes to explore for mercury mineralization by drifting, crosscutting, and raising at an estimated total cost of $30,000.

According to published reports, the Altoona mine has been taken over by the Rare Metals Corp. of America. Perhaps, the area to be explored is excluded from Rare Metals part of the mine.

Otherwise, I recommend that the application be referred to the Field Team for appropiate action.

The application is returned herewith.

J. W. Pennington

Attachment

Copy to: Division of Minerals
Branch of Base Metals (2)
Files
Thor Kiilsgaard, U.S.G.S.
F. D. Lamb

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 5 1958

DATE	INITIALS	CODE
6/5	C	220
	WSM	400

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

June 4, 1958
Re: DMEA 5041
The Castella Corporation
Altoona Mine
Trinity County, California
$30,000 - Mercury

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of application

The applicant now requests assistance in searching on three levels for the faulted parts of a vein, and completing a crosscut and a raise. The vein, 1-A, is the vein found and developed on the lower levels by DMEA assisted work under contract Idm-E826, DMEA 3724.

In the Final Report the ore reserves of the mine are estimated as:-

Class	Tons	Grade Lbs Hg/Ton
Measured	19,000	20
Indicated	15,000	20
Inferred	21,000	20
Total	55,000	20

Of the reserves 39,000 tons are estimated to be in the No. 1 vein, called 1-A in the present application.

The work under contract Idm-E826 cost $92,668.00, of which the Government contributed $69,501.00. By payments for machinery $8,685.00 and $734.17 as royalty, the accrued royalty has been reduced to $60,081.83 as of the date of the Final Report April 22, 1958.

The No. 1 (or 1-A vein) on the 600 level occurs in altered porphyritic hornblende diorite which, at that level, has fault contacts with serpentine. The vein ends against the faults and does not enter the serpentine. On the 500 level, the vein appears to fray out at both ends. A map of the 450 level, with the application, shows the 1-A vein with a question mark. The

application says 200 feet of the proposed work would be done on the 350 level so it is not known on which level the work would be done.

The maps in the application do not show where the work is to be done except in a general way. As the veins are confined to the diorite and the limit of the diorite on the southwest, though irregular due to faulting appears to be fairly defined by work already done, it seems unlikely large new segments of the No. 1-A vein will be found, in that direction. To the northeast the limit of the diorite appears to be less defined.

Unless wholly unsatisfactory, drilling would appear preferable to drifting and crosscutting because of the cost.

Referral of the application to the Field Team is recommended.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

June 3, 1958

The Castella Corporation
983 Mills Building
San Francisco, California

Subject: DMEA-5041

Gentlemen:

Your application for exploration assistance, dated May 26, 1958 submitted to our office at Reno, Nevada has been assigned Docket Number DMEA-5041 and referred to the Iron and Ferro-Alloys Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to: Region II.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OMB-6056
(MERCURY)

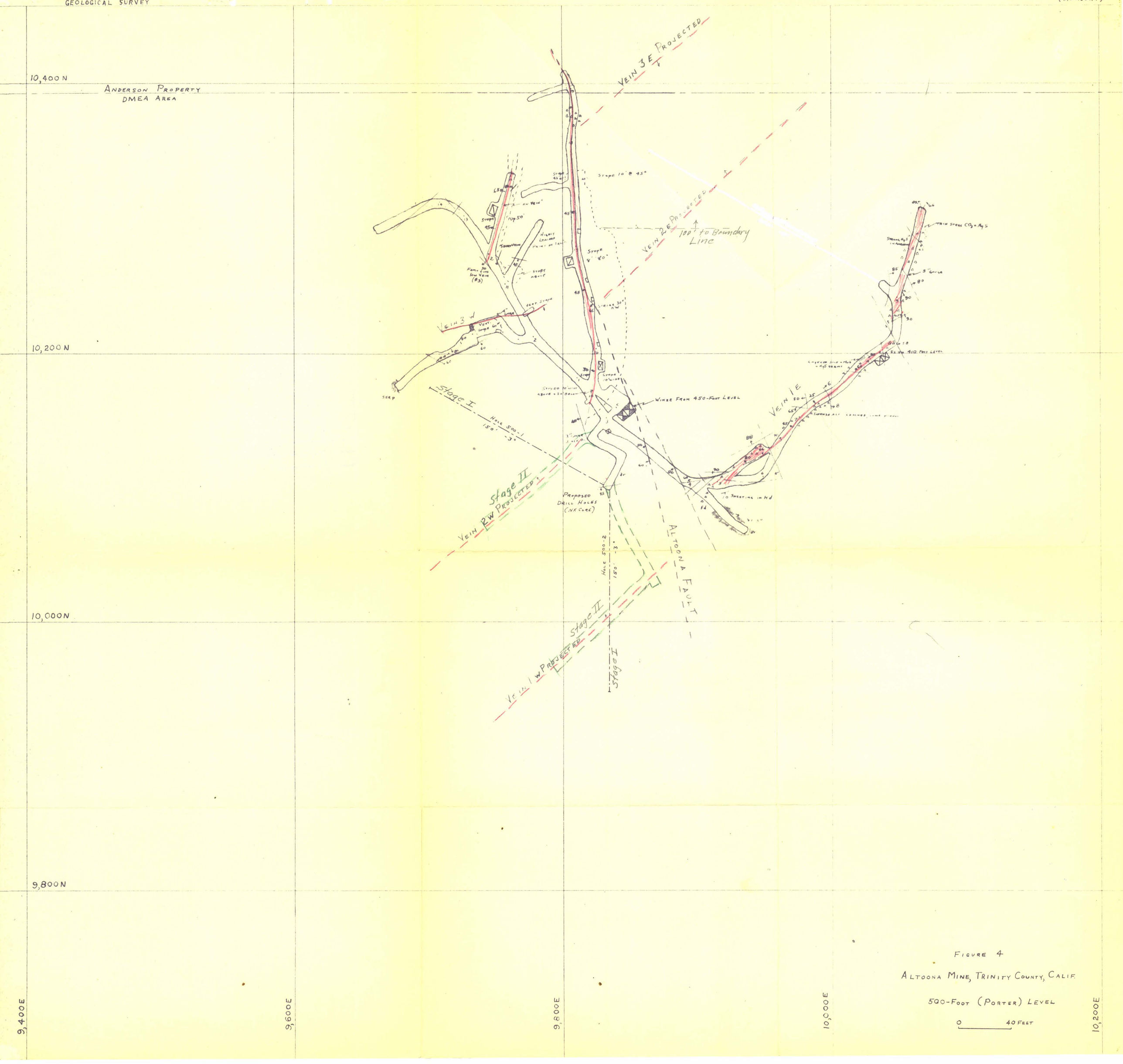


FIGURE 4

ALTOONA MINE, TRINITY COUNTY, CALIF.

500-FOOT (PORTER) LEVEL

0 40 FEET

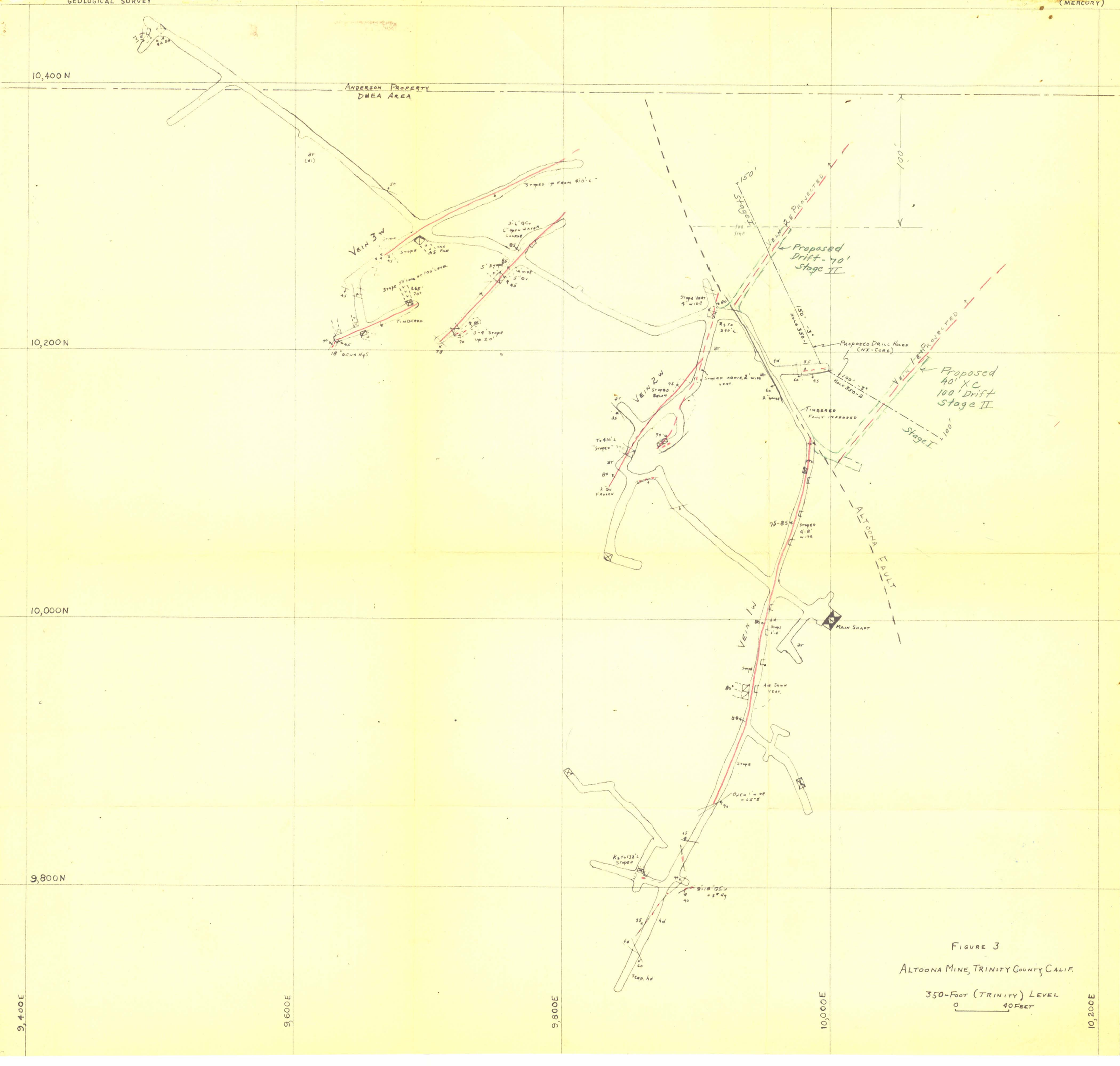


FIGURE 3

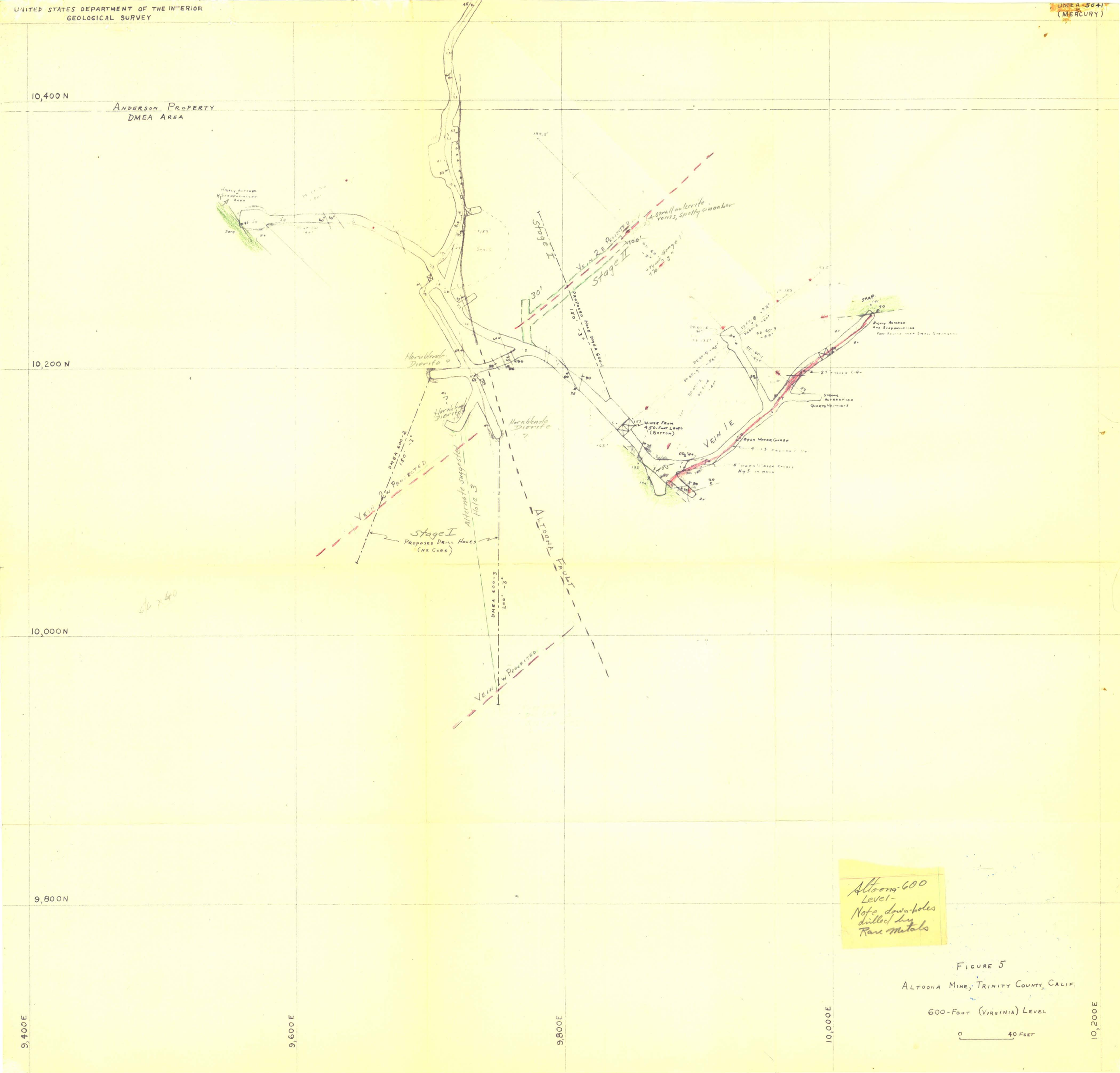
ALTOONA MINE, TRINITY COUNTY, CALIF.

350-FOOT (TRINITY) LEVEL

0 40 FEET

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMEA 5041
(MERCURY)



Altoona 600 Level - Note down-holes drilled by Rare Metals

FIGURE 5

ALTOONA MINE, TRINITY COUNTY, CALIF.

600-FOOT (VIRGINIA) LEVEL

0 40 FEET