DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4838

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- [ ] Withdrawn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

- [ ] 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

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

OFFICIAL FILE COPY DMEA RECEIVED SEP 26 1957		
DATE	INITIALS	CODE

September 24, 1957

Memorandum

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

From: Executive Officer, DMEA Field Team, Region II

Subject: Loan Application (Mercury)
Castle Peak Mining Company
Castle Peak Mine
Storey County, Nevada

Enclosed are three sets of MF-103, Application for Aid forms, relative to above subject. The fourth set has been retained in our files. This is supplementary to previous Docket No. DMEA-4459.

S. Ricker

Attachments

Form MF-103
Revised Feb. 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

This Application refers to and succeeds File No. DMEA 4459

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)

Castle Peak Mining Company
2501 South State Street,
Salt Lake City, Utah.

RECEIVED SEP 26 '57 D.M.E.A.

APPLICANT NOT TO USE THIS BLOCK

Docket Number: DMEA-4838
Date Received: 9/26/57
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
E.L. Wolsey	565 West 3rd. South, Provo, Utah	Pres.
J. W. McEntire, M. D.	459 Washington Bldg. Ogden, Utah,	Secy-Treas.
Jos. N. Revill	7425 Butler Hill Dr. Salt Lake	Director
Jas. L. Stinnett	361 Main St. El Segundo, Calif.	" "

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

Estimated Cost of Project: $ 27,070.00

LOCATION OF PROPERTY

Name	County	State
Castle Peak Mine	Storey	Nevada

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order-I, Amended, "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.

CASTLE PEAK MINING COMPANY

September 20, 1957
Dated

E L Wolsey
BY (Signature)

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, Amended.

(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. 15539

Attached to Form MF-103-Revised February, 1957

This application refers to and succeeds File No. DMEA 4459, September 4, 1956.

1. APPLICANT'S PROPERTY RIGHTS (a) Castle Peak property comprises 11-unpatented mineral claims in Section 20, T 18 N; R 21 E: MDM, Nevada described as follows in Storey County Records, Virginia City, Nevada.

Claims	Filing Location date	File No.	Page No.	Book No
Juniper No. 1	Sept. 21, 1951	20245	241	H
Juniper No. 2	" " "	20246	241-242	H
Juniper No. 3	" " "	20247	242	H
Juniper No. 4	" " "	20248	243	H
Artel No. 1	June 20, 1956	23149	327	H
Artel No. 2	" " "	23150	328	H
Artel No. 3	" " "	23151	329	H
Artel No. 4	" " "	23152	329	H
Artel No. 5	" " "	23153	330	H
Artel No. 6	" " "	23154	331	H
Little Joe	" " "	23155	331	H

Wish to explore Juniper No. 1 and No. 4 claims as per Maps 1 & 2

(b) The property is known as "Castle Peak Mercury Mine".

(c) Castle Peak Mining Co. owner by purchase.

(d) There are no liens of encumbrances on the property.

2. PHYSICAL DESCRIPTION (Refer to accompanying Maps No. 1 & No. 2)

(1) The old Castle Peak mine has been opened 400-feet depth by about 3400-lineal feet, divided into 1500-feet crosscuts, 1130-feet drifts, 350-feet raises, and 450-feet winzes.

(2) "New show" prospect opened 70-feet long by cut and shallow tur.

(3) "North show" prospect opened by 30-foot shaft in mercury beari streak traced about 150-feet length at surface.

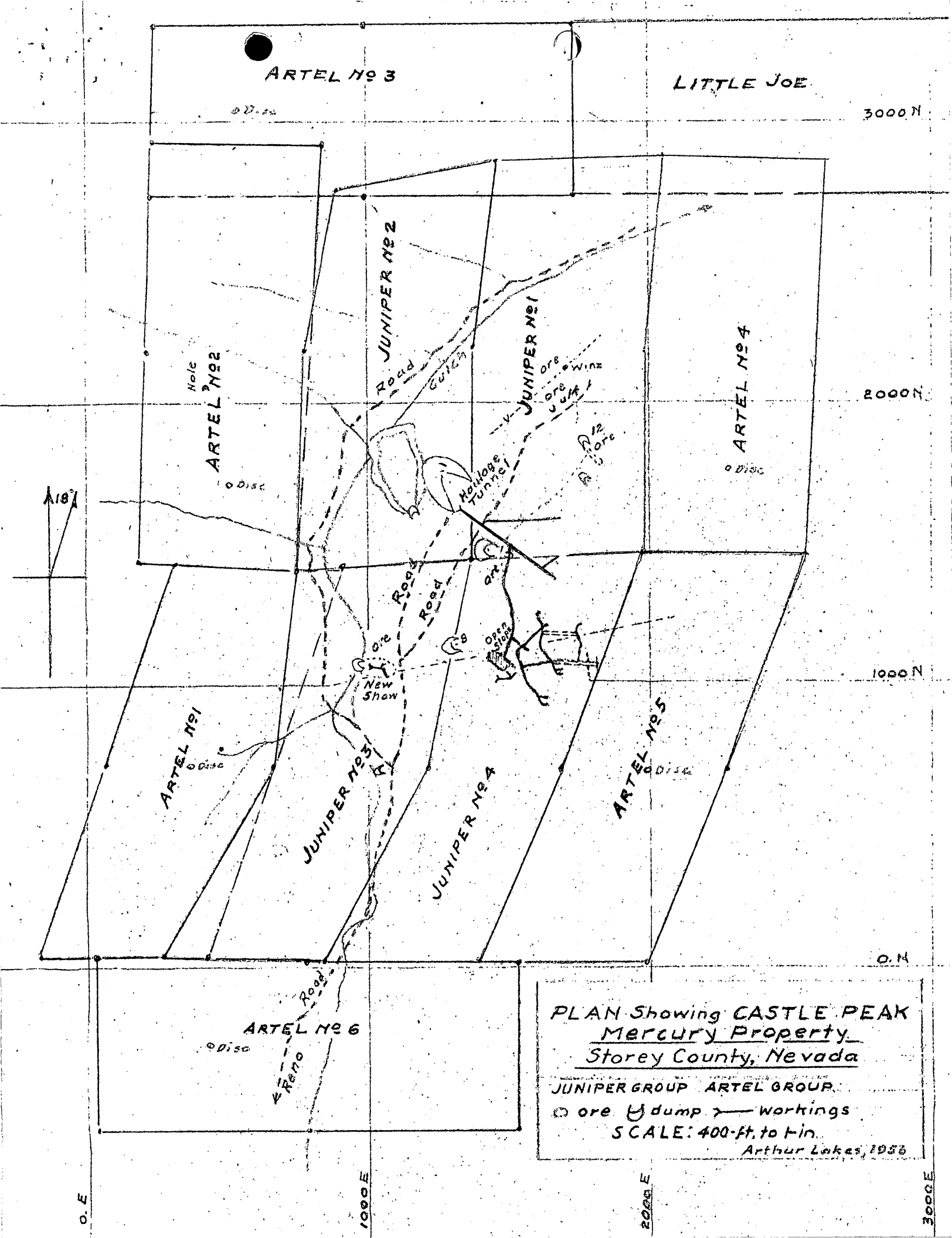
(4) "Stinnett show" presently disclosed at surface about 105-feet long by from 4 to 9-feet thickness. Exploration of undergrour extensions of this ore showing is major objective of this project.

(5) "Station 12 show" comprising 4-foot streak of good ore trending toward ore favorable contact belt described below.

(6) "Geologic bet" comprising an area of silicified agglomerate south of the old mine as shown on Map No. 1.

Detailed description Castle Peak Mine (Localities marked in red on Map

The mine is entered by a southwesterly adit 460-feet to caved face. Three tunnels branch off at points #1, #2, and #4 and at #3 a


ARTEL No 3
LITTLE JOE
3000 N
JUNIPER No 2
JUNIPER No 1
ARTEL No 2
ARTEL No 4
Hole
Road
Gulch
ore
Winz
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Vulk
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ore
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Disc
18
Road
Road
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ore
8
Open Stope
New Show
1000 N
ARTEL No 1
Disc
JUNIPER No 3
JUNIPER No 4
ARTEL No 5
Disc
0 N
Road
ARTEL No 6
Disc
Reno
0 E
1000 E
2000 E
3000 E
PLAN Showing CASTLE PEAK
Mercury Property
Storey County, Nevada
JUNIPER GROUP ARTEL GROUP
ore dump workings
SCALE: 400-ft. to 1-in.
Arthur Lakes, 1956

2-compartment raise extends 100-feet to surface at Stinnett show. Tunnel #1 starts 60-feet from portal and extends 300-feet east through andesite and basalt to caved face beyond which old maps show 250-feet northerly extension, presently inaccessible. Tunnel #4 is 330-feet from portal and extends 100-feet NE along thin pyrite-cinnabar streak to cave in highly argillized material. Tunnel #2 is 180-feet from portal and extends southerly as Main Haulage Level to mill hole #6 up into Open stope. At point #5, 330-feet from its branching, the tunnel turns 90-feet SE to #7 upraise into Dome stope. From #7 a drift extends 120-feet NE along vertical fissure to juncture with North-south, 55° east dipping orebearing fault near contact of andesite with overlying andesitic porphyry. The southerly extension of this fault contains (a) large Chickenladder stope mined down 80-feet below Haulage tunnel and (b) farther south is "Winz" stope mined down 180-feet below Haulage tunnel as shown on accompanying Sections. Also branching from #7 the tunnel continues 150-feet south and east to Main Winz sunk into and beneath the southerly extension of the orebearing fault. The southerly branch from #7 continues 220-feet to easterly crosscuts into andesite porphyry.

The above described workings are accessible to caved points marked on Map No. 1 .

Main Winz is a 2-compartment shaft in excellent condition. It extends down 180-feet @ 60° slope to east in, and under the North-south 55° easterly dipping orebearing fault. Levels have been driven off from this winz at 80-feet, 130-feet, and 180-feet as shown on Maps No. 1 & 2 and Section C. (1) The 80-foot level extends northerly 190-feet in andesite underneath fault and contact zone. At 80-foot point a 90-foot easterly crosscut penetrates fault and contact zone into Chickenladder raise and stope that extends up to Haulage level. At 100-feet a crosscut extends 120-feet SW in andesite, thence turns north 30-feet to contact with a basalt dike. The 80-foot level also extends 40-feet SE from Main Winz into "Winz stope" which was mined up to Haulage Level and down to 180-Winz level. (2) The 130-level is a crosscut extending 25-feet to the north from Main Winz into the ore productive fault where the tunnel is presently inaccessible due to caved faces. The old maps show a 120-foot north drift extending into downward extension of "Chickenladder" ore zone and a 25-foot SE drift extending into "Winz stope". The 180-level is a northerly crosscut run 40-feet from Main Winz to the ore-productive North-south fault, thence drift 40-feet north which would have to be extended 40 or 50-feet farther to encounter downward extension of the "Chickenladder" zone. A drift also extends 130-feet southerly through "Winz stope" to 40-foot westerly turn. Most of this southerly drift in in bad repair.

Surface Showings are the most important consideration of present project. They comprise several shallow shafts aggregating about 100-feet depth and bulldozer trenches aggregating 1820-feet length as shown on Map No. 1. The most important of these disclosures have been made since Castle Peak filed DMEA loan application No. 4459, September 4, 1956. They constitute 1270-lineal feet of bulldozer trenching along hangingwall of highly altered andesite contacting overlying andesitic porphyry shown on Map No. 1. This altered belt and contact locality contains the newly disclosed "Stinnett show" and "Station 12 show" dscribed below:

(1) "Stinnett show" is the most important surface exposure and the one mostly concerned in this ammended application. It is presently exposed from 2 to 9-feet thick for 105-feet length in upper (hangingwall) pert of the 40-foot ore favorable bed that enclosed the mine's most important ore stopes which are 250-feet south along the same contact from Stinnett show. A lower bulldozer cut exposes footwall part of the 40-foot bed, the area between hangingwall and footwall cuts not yet explored but deserving exploration in view of the productivity across the full 40-foot thickness at the mine's Open stope, Dome stope, and Chichenladder stope.

The hangingwall section of Stinnett show contains disseminations, streaks, and bunches of cinnabar running from 1# to 190# mercury per ore ton with indicated average over 4-feet width of 11.9# inclusive of high grade or 6.6# mercury per ore ton excluding higher grade. The ore favorable contact zone strikes northerly and dips locally 20° to the east and is intersected by 2-compartment raise #3 extending 100-feet up from the Main Haulage tunnel.

(2) "Station 12 show" is located 400-feet NE from Stinnet show. It comprises a 4-foot soft streak striking NE toward contact in near vicinity of small early day production. A general sample assayed 17.7# mercury per ore ton.

(3) "New show" disclosed prior to present company's acquisition of this property, is 300-feet SW from Open stope and comprises orebearing weathered rock opened 70-feet easterly by cut and shallow tunnel into surface area about 50-feet by 100-feet. Large samples from cut and tunnel returned 8# mercury per ore ton and average of various surface samples returned 5# mercury per ton. The showing is near andesite contact with limestone and is believed to form along SW extension of "feeder fault" joint zone shown on Map No. 1. This structure apparently controlled deposition and position of the old mine's largest and most important ore deposits.

(4) "North show" comprises 190-feet length of narrow NE striking cinnabar streak in silicified agglomerate opened to 30-feet depth by shaft near its southerly end. The enclosing rock apparently softens and the vein widens as shaft progresed downward. General sample from small ore dump near the shaft returned 7.1# mercury per ore ton.

(5) "Geologic bet" comprises an area of silicified agglomerate with some bleached zones that may provide mercury by further investigation. It is in southerly extension of the old mine's Open stope area as shown on Map No. 1.

(b) Castle Peak Mining Company has exclusive interest in the above.

(c) There is no current production. Nevada University Bulletin No. 41 "Quicksilver Deposits in Nevada" by E. H. Bailey and David A Phoenix, USGS Geologists, reports Castle Peak mine production from 1929 through 1936 at 23,500-tons returning 2,576-flasks of mercury averaging 8.7# mercury per ore ton. However, addition of the report's listing of annual production totals 3,279-flasks (pages 184-185) which is here taken as the mine's output for around 25,000-tons or more.

(d) Ore Reserves. Aside from New Show's production possibilities of around 3000-tons, there are presently no measurable ore reserves because each ore deposit of the old mine was "gutted" at time of its disclosure and Castle Peak's present ore showings are essentially virgin surface disclosures whose potentialities remain to be proven by underground exploration. This procedure represents the chief objective of the present project.

(e) Geologic features (Refer to Maps No. 1 & No. 2). The rock of Castle Peak's vicinity comprise the following, reading upward from oldest to youngest.

(1) The basal rock comprises metamorphic sediments presumably of Triassic age. They constitute limy argillites, slates, hornfels, with some conglomerate composed of andesite pebbles. These are overlain by

(2) Northerly trending belt of "Alta" formation presumably upper Oligocene, composed of lavas, pyroclastics, hornblende and pyroxene andesite and agglomerate. The andesitic rocks have been extensively argillized and bleached and provide best host rock for Castle Peak's mercury deposits at and contact with overlying

(3) "Kate Peak" formation of late Miocene or early Pliocene (with time gap following "Alta"). Locally Kat Peak is practically unaltered andesite porphyry separated from highly altered upper bed of "Alta" by contact fault zone that has importantly influenced ore deposition at old mine and at Stinnet and Station 12 shows. Further exploration along contact zone may provide additional ore possibilities.

(4) The latest volcanics are basaltic rocks of late Pliocene overlying Kat Peak formation.

Ore localization Castle Peak deposits are typical of the larger "volcanic type" deposits that have produced Nevada's largest mercury mines. Or localization at Castle Peak is essentially in zones where andesite and agglomerate have been altered into clay (argillized). The amount of clay minerals in deposits seems roughly proportionate to the amount of cinnabar. The ore is characterized by presence of pyrite and marcasite, scarcity of silica. Because of sulphate prevalence in near surface waters jarosite and gypsum are widespread at outcrops. Castle Peak ore localization is controlled by steeply dipping fractures and joint faults of small displacement, by breccia zones and, by joint intersections.

The ore deposits are of two classes: (1) The largest Open stope, Dome stope, and Chickenladder ore bodies mined down 300-feet, localized along two sets of joints intersecting at 60° to 80°. The most persistent jointing or "feeder fault" strikes NE-SW @ about 90° dip and controls the chief ore occurrences and mineralization down 300-slope feet in the mine. This "feeder fault" is considered the channelway forming conduit for upward circulation of mineralizing solutions from ore magma source, these depositing mercury at favorable gouged intersections, breccia zones, etc. The ore occurred as pods in breccia zones formed at these joint intersections from which ribs of rich ore extended out along gouged, less persistent NW-SE crossing jointings. The ore pods were large enough and occurred sufficiently close to each other toprovide nearly continuous ore from the surface down. (2) The second type localized as lenses of rich ore in fault

fissures along highly altered Alta andesite in contact with overlying, less altered, Kate Peak andesite porphyry and was mined from Main Winz levels for 180-feet depth below the Main Haulage tunnel.

Two feeder faults, similar to the controlling structure of old mine, are evidenced at ore bearing part of Stinnett show as shown on Maps 1 & 2.

(f) Reasons for expecting to find ore The recent disclosures at Stinnett show open a newly recognized zone that may considerably expand the property's ore potentials. Except for "New show" productive possibilities Castle Peak's present ore showings are essentially virgin surface disclosures. Their productive potentialities have to be proven but are enhanced by productive precedent of the old mine's three chief ore deposits across full 40-feet thickness of the same ore favorable bed that includes Stinnett and Station 12 ore showings. This gives basis for expectancy that underground exploration may also provide similar ore pods and occurrences in these showings. The success of preliminary bulldozer trenching along the ore favorable contact warrants further surface exploration into unexplored extensions to north and south in chance of disclosing other ore deposits of economic possibilities.

Sampling In addition to the following cut samples, 7500-pounds of bulk samples were taken by Revill & Wolsey for testing a new processing system. The results as assayed by Rare Metals Cpn., Salt Lake City are included into the various localities from which they came.

(1) "New show" Samples taken in 1954 returned 8# mercury per ore ton from the cut and tunnel and 5# per ton from 50-ft. x 100-ft. surface area. Revill & Wolsey took 1500# from 25-foot cut across New show surface returning 8.9# mercury per ore ton.

(2) Stinnett show The following samples were taken from time to time: J. L. Stinnett, December 14, 1956 four samples from discovery cut, assayed by Smith Emery Co., Los Angles, 11#, 6.2#, 4# and 4.8# mercury per ore ton, average 5-feet width 6.5#. Two samples by Jos. Revill, assayed by Rare Metals Cpn., Salt Lake City December 20, 1956, returned 1.3# and 6.8# mercury per ore ton. Sample of high grade bunch returned 190# mercury per ore ton. The following samples were taken by Revill & Wolsey in conjunction with the 1500# bulk sample that returned 16.4# mercury per ore ton as assayed by Rare Metals Cpn.,

STINNETT SHOW ASSAYS (Localities on Map No. 2)

Sample No.	Width	Mercury pounds per ton	
1	3-ft.	1.49#	
2	3	72.60#	
3	4	2.45#	
4	4	1.80#	
12	1	2.18#	top of ore extending into cut floor.
13	8	56.00#	
13*	8	9.90#	average previously taken
14-15-16	no samples taken because ore in floor of cut, not exposed .		
17	5	0.35#	
19	4	18.10#	

Multiplied average 105-feet length by 4-feet width 11.9# mercury per ore ton inclusive of high grade or 6.6# per ton reducing 72.6# to adjacent 8.93 and 56# to adjacent 9.9#.

Station #12 Sample across 4-feet returned 17.7# mercury assay by Rare Metals Cpn. Bulk sample 400# representing the 4-feet face returned 15.2# mercury per ore ton.

North Show Assays by Rare Metals Cpn. Sample across 2-ft. at location cut 0.26#, Sample at winz dump 7.12#, Sample of waste dump 0.44# mercury per ore ton. A 1500# bulk sample returned 11,6# per ton.

Flue dust at old plant site. Contour samples assayed 13# mercury per ton. A 2000# bulk sample assayed by Rare Metals Cpn. returned 10.8# mercury per ore ton.

Furnace discard dump Sampled by Revill & Wolsey, assayed by Rare Metals Cpn. returned: Fines 0.06# and 0.10# and coarse 2.10# mercury per ton. A 1000# bulk sample returned 1.2# mercury per ton.

Stinnett show sampling confined to hangingwall of ore favorable bed immediately at contact. In places it is evident that ore occurs down in the cut floor, unavailable to sampling until cuts deepened toward the bed's footwall. The ore widths may be expanded similarly to occurrence at old mine's Open stope, Dome stope, and Chicken-ladder stope, which were ore productive across the full 40-foot width.

The 105-feet length at Stinnett show was first established by panning, then followed by sample cuts and excavating bulk sample in the better north part of the ore showing.

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3. ACCESSIBILITY OF PROJECT (a) Arthur Lakes, 700-Forest Street, Reno, Nevada (Phone Fairview 3-8910) will meet and accompany DMEA Team to project.

The property is easily accessible by automobile over 17-miles paved highway over "Geiger grade" and thence by 4-mile mountain road. All described underground workings are accessible to caved faces noted.

Castle Peak mine is situated at from 5800 to 6200-feet above sea level, 21-miles by highway and dirst road from Reno which is the chief supply point. Manpower is available at Reno labor market and nearby Virginia City and Silver City, all within driving distance that will preclude necessity for local boarding house. Equipment for the project can be rented or purchased at Reno. There is presently no water available on the property hence whatever may be required for exploration project will be hauled 7-miles from Virginia City or 11-miles from valley point. The Louse Creek spring from which water was piped 1¼-mile @ 325-foot head can be rehabilitated and utilized for mining and production. Power will be Deisel.

4. THE EXPLORATION PROJECT (a) Wish to explore for cinnabar (mercury).

The accompanying Maps No. 1 and No. 2 and Cross Sections A-B-C

show location of proposed exploratory work as related to (a) significant geologic features, (b) existing mine workings and, (c) property bounds.

For convenience of description the proposed work is divided into two stages: STAGE I Bulldozer exploration in Stinnett and Station 12 shows plus extensions northerly and southerly along contact from Stinnett show and southerly from Open stope, augmenting bulldozer work by blasting into harder bedrock at disclosed ore deposits. This work comprises use of bulldozer and plugger drill where required. STAGE II comprises underground work (a) rehabilitating 400-feet of Haulage tunnel and 60-feet of #3 upraise (See Map No. 1) and (b) exploration into downward extensions of Stinnett show to and inclusive of Haulage tunnel level. Rehabilitation of Haulage tunnel will require installation of 400-feet of track and timbering an aggregate 60 to 100-feet of tunnel. Rehabilitation of #3 raise will require replacement of 50-60-feet of ladders and compratment dividers. Raise timbers in good condition.

STAGE I Surface exploration will fomprise the following Bulldozer cut extensions @ average 8-feet bank depth by 16-feet cut width, which divided by 2 equals 2.4-cu. yd. per lineal foot.

	Feet length	Cubic yards	@ per cu. yd	Total cost
(1) Cut from north end Stinnet cut to Station 12 cut	300	640	50¢	$320.00
(2) Cut NE from Station 12	100	240		120.00
(3) Widen Cut 310 south of Open stope	200	300		150.00
(4) Extend Cut 310 southerly	200	480		240.00
	800	1660		$830.00
(5) Deepen Stinnett contact cut an additional 7 or 8-feet for 200 feet length (or more as conditions warrant)	200	1800		900.00
Total STAGE I	1000	3460		$1730.00

Stage I work will be situated in north half of Juniper No. 4 claim and in south half of Juniper No. 1 claim whose SW corner is 100-feet due west from north part of Stinnett cut. Stinnett cuts and north part of 310 Cut lie 100-feet above Main Haulage Tunnel.

STAGE II The underground exploration of Stinnett show will comprise the following at localities marked P-1 through P-5 Crosssection A

(P-1) Continue Main Haulage Crosscut @ 7x5-ft. to projected porphyry contact, estimated 50 to 60-feet ahead of present face.

(P-2) Drift 75-feet each way in ore favorable contact zone at Haulage Level.

(P-3) Upraise @ 8x4-ft. about 60-feet from Haulage level to actual contact to test ore conditions midway surface and Haulage Level. Locate this raise about midway #3 raise and crosscut face. If indications warrant extend 7x5-ft. drifts northerly and southerly 50 to 70-feet.

(P-4) Alternatic to project (P-3) drive 7x5-ft. tunnel easterly through ore favorable bed half way up Raise #3. This crosscut will be about 100-feet length from footwall to hangingwaill at contact. Thence drive 7x5-ft. drifts each way along ore showings for 50 to 70-feet or more, similarly as at (P-3).

)P-5) Further exploration will be 8x5-ft. sloping raise at contact area in ore zone from (2) Haulage level to east end of (P-4) for 200-feet and thence (b) from east end of (P-4) to surface for 100-feet. Total 300-feet of upraise from Haulage level to surface.

Total tunnelling	7x5-ft.	350-feet
Total upraising	8x5-ft	360-ft.

(b) No access road required.

(c) In event that an exploration contract with DMEA is executed the work will start within 60-days and be completed within 4 to 5-months thereafter.

5. EXPERIENCE E. L. Wolsey, President of Castle Peak Mining Co., explored Circle Cliffs Uranium property, Utah. Joseph N. Revill, Director, has had three years company management for Aetna Insurance Co., as adjuster and investigator. Two years experience as company property manager in Wyoming and Nevada for Interstate Mining & Exploration Co., Work involved management, development, and exploration operations on property valued at several million dollars. Two years as material expediter and purchasing manager for James F. Barnes Construction Co. at Tooele Ordinance Depot, Utah. Arthur Lakes, E. M. Consulting Geologist and Engineer, Reno, Nevada will supervise operations egology and engineering. Has had 35-years experience as examining and supervising geologist-engineer and mine manager in United States, Canada, and Mexico in exploration, development, and exploitation of silver-lead, lead-zinc, copper, tungsten, iron, inclusive of co-discoverer of Smerica's largest high grade tungsten mine (Emerald) in British Columbia, Reeves MacDonald zinc-lead mine, Whitewater lead-zinc-silver and Lucky Jim zinc mines in British Columbia, Lucky Friday and other Coeur d'Alene mines, Idaho.

Applicant ready to furnish proof of financial responsitbility.

6. ESTIMATE OF COSTS

(a) STAGE I Independent Contract, Bulldozer Trenching

3460-cu. yd. @ 26-cu. yd. per hour, 133-hours @ $13 per hour, inclusive transport $1730.00

STAGE II Company Operations, Underground Exploration in downward extension Stinnett show $25340.92

Total $27,070.92

(b) Presonal Services @ 2-working shaifts per die m inclusive rehabilitation tunnels & raises

	Forward	$1730.00
1-working foreman @ $500 per month, 4-months	$2000.00	
*4-miners 6½-days per week @ $17 per day or $402 per week for 16-weeks	6432.00	
** 1-outside man, compressor, water truck, etc. @ $17 per day, $100.50 per week, 16 wks.	1608.00	
1-Supervisor, cons. eng-geologist @ $650 per month for 4-montsh	2600.00	
Transportation men @ $30 per week, 16-weeks	480.00	$13,120.00

* Labor @ $17 per day with 1½ time 6th. day makes 6½-days per week, ** Arrange get man reside at property for protection 1/3 off labor period.

(c) Operating materials & supplies:

Figuring 350-feet 7x5-ft. tunnel and 360-feet 8x5-upraises, 12# rail, 13 6-foot holes @ 91 sticks powder for each 5-foot round @ 144-roundz.

Explosives	Per round	Per 144 rounds	@ Price	Total	
Dynamite	90-sticks	13,100 (4300#)	$26.40/100#	$1135.00	
Fuse	70-feet	10,100 feet	13.55-1000'	137.00	
Caps	13-caps	1,900 caps	2.85/100	26.00	$1298.00

Track	400-feet retrack Main Haulage tunnel plus 350-feet for branch tunnels, 750-feet of track 12# rail @ 4# per foot x 1500-ft is 6000# or 3-tons @ $250/ton	750.00	
	130-sets fish plates & bolts @ $1	130.00	
	250-ties @ 30¢	75.00	950.00
Pipe	710-feet 2" compressed airpipe @ 84¢	596.00	
	710-feet ½" water pipe @ 10¢	71.00	
	3-Valves @ $6	18.00	
	L's, T's and plugs 13 @ 30¢	4.00	689.00
Timber	Posts 6"x6" 7-ft. Caps 6"x6" 5-ft. Raise caps 8-ft. Lagging 2"x8" by 5ft.		
	Rehabilitate 100-ft. Haulage adit 20-sets 40-posts @ $2 $80; 20-caps @ $1.32 $26.40; 200-lagging @ 60¢ $120; 100-wedges @ 4½¢ $4.50	230.90	
	Rehabilitate 50-feet #3 raise, 50-lagging	30.00	
	Estimate 20-timber sets, tunnels	225.00	
	Estimate 40-raise sets, lagged top, ½ sides	570.00	
	Chutes & spreaders, estimated	100.00	1155.00
Ventillation	600-feet 8" vent tube @ 50¢ ?	300.00	
	1-Copus blower, second hand	150.00	450.00
	Forward		$19,392.00

Forward		$19,392.00
Drills 1-IR 38A 35" feed, Jackleg, new	$785.00	
1-plugger, second hand	75.00	
Threaded steel: 7/8" 2' $5.50, 4' $7.25, 6' $9.10	21.85	
Timpkin carbide bits: 1½" $15.45 1-5/8" $16.70	32.15	
Airhose, 50-feet 3/4" & couplings	35.00	949.00
Mine cars 2-16 cu. ft. second hand	200.00	
Deisel oil tank, 1200-gal	175.00	375.00
Grease, oil, etc. estimate	100.00	
Deisel oil for compressor @ 30-gal per shift, 4320-gal for 144-shifts @ 16.8¢	725.00	
Carbide for miners' lights 300# @ $13.20/100#	40.00	
CO2 Fire protection	50.00	915.00
Miscellaneous		
Axe (timbering) $6, Miners' picks 2 @ $11, Mine shovels 4 @ $5.85	23.40	
4# hammer $4.15, 12# hammer $9.80	13.95	
1-claw hammer $4.35, Timber saw $8.69	13.04	
20-dwt. spikes @ 14.18/100#. 8-dwt @ ;4.61/100#	28.79	
First aid basket, estimated	50.00	129.00
(d) Operating Equipment. all on rental-purchase basis		
315. cu. ft. per min. Deisel compressor 2nd. hand @ $350 per month x 4 months	1400.00	
Airhoist @ $60 per month, x 4 months	240.00	
Mucking machine, 2nd. hand @ $150 per mo.	600.00	
1200-gal. tank truck @ $150 per month	600.00	2840.00
(e) Buildings are non existent hence no rehabilitation or repairs.		
(f) New buildings, fixtures & installations.		
1-Change house & storage shack 12' x 20'	436.00	
1-shed over compressor	100.00	
1-Powder house 10' x 10'	114.00	650.00
(g) Miscellaneous		
Equipment repairs & maintainance @ $50 per mo.	$200.00	
Assaying estimated @ $50 per month	200.00	
Accounting estimated @ $50 per month	200.00	
Payroll expense @ $13,120.00		
Unemployment Insurance @ 2.7% of $13,120	354.24	
Social Security assessment @ 2%	262.40	
Industrial Insurance @ 6.9%	904.28	1520.92
Forward		$26,770.92

Forward		$26,770.92
Estimated haulage of equipment & materials	$150.00	
Estimated ploughing & maintainance road 2-months winter	150.00	300.00
TOTAL ESTIMATE OF EXPLORATION PROJECT		$27,070.92

---

7. (a) Castle Peak Mining Company is prepared to furnish its share of cost of proposed project in accordance with regulations on Government participation stated in Sec. 7 or DMEA Order-1 Amended

   (b) The company will furnish its share by money.

RARE METALS CORPORATION OF AMERICA
P. O. Box 306
MURRAY, UTAH

To: Castle Peak Mining Co.

June 7, 1956

DESCRIPTION	CHEMICAL ASSAY Hg					REMARKS
# 3 Stinnett Show Mercury Samples	15.2 lbs/ton					
# 6 New Show	8.9 "	"				
# 2 Station '12'	15.2 "	"				
# 1 North Winz Dump	11.6 "	"				
# 4 Flue Dust	10.8 "	"				
# 5 Furnace Dump	1,2 "	"				

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DMEA
RECEIVED SEP 26 1957

DATE	INITIALS	CODE

E. Glen Jewett
CHIEF CHEMIST
for R. Bronstadt

DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS
EXPLORATION ADMINISTRATION

OFFICIAL BUSINESS

KNOXVILLE, TENN.
1957

OPERATING COMMITTEE
DEFENSE MINERALS EXPLORATION ADMIN.
U. S. DEPARTMENT OF THE INTERIOR
WASHINGTON 25, D. C.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
12-12	[illegible]	400
12-12	Martin	400
12/16	[illegible]	130
12/16	Jones	130
12/16	Nelson	130
"	Johnson	110
"	Mittendorf	100
12/17	gb	220
		225

DEC 17 1957

Castle Peak Mining Company
2501 South State Street
Salt Lake City, Utah

Re: Docket No. DMEA 4838 - Mercury
Castle Peak Mine
Storey County, Nevada

Gentlemen:

Your application for exploration assistance and other data available to us in Washington concerning the referenced property have been reviewed.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding material of acceptable grade in quantities that will significantly improve the mineral supply position of the National Defense Program.

Careful study of all our information, although noting the occurrence of mercury mineralization on your property, indicates to us that the probability of disclosing significant ore reserves is not sufficiently promising to justify Government participation. Under these circumstances we regret to advise you that your application is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Administration program and for bringing this property to our attention.

Sincerely yours,

C. O. Mittendorf (fw)
Administrator

JHOPKINS/dlm 12-12-57
cc to: Code 400
Admr. R. File
Oper. Comm.
Messrs. J. W. Pennington, USBM
T. H. Kiilsgaard, USGS
FT. REG. II

8623

DMEA Form 7
(12-56)

December 12, 1957

OFFICIAL FILE COPY

Date	Surname	Code
12-12	Martin	400
12-12	Martin	400
		110
		100

MEMORANDUM

To: Administrator, DMEA

From: Division of Iron and Ferro-Alloys

Subject: Denial of the subject application for exploration assistance in the amount of $27,070.00
Docket No. DMEA 4838 - Mercury
Castle Peak Mining Company
Castle Peak Mine
Storey County, Nevada

Denial of the subject application is recommended by this Division based on the following information:

The Applicant, Castle Peak Mining Company, on September 20, 1957, applied for exploration assistance on the above-cited property at an estimated cost of $27,070.00. It proposed 3,460 cubic yards of surface trenching, 350 feet of drifting or crosscutting, and 360 feet of raising.

Applicant: Castle Peak Mining Company
2501 South State Street
Salt Lake City, Utah

Property Ownership: The property consists of all unpatented claims: Juniper Nos. 1 through 4, Artel Nos. 1 through 6, and Little Joe, owned by the Operator.

Location certificates are recorded at Virginia City, Nevada.

Geology: The oldest rock in the mine area is a limy shale of pre-Tertiary age that is unconformably overlain by late Tertiary or Pleistocene volcanic rocks.

The limy shale beds strike northerly and are steeply dipping or vertical.

The contact between the shale and volcanic rocks appears to be an erosion surface containing residual clay that acted as a barrier to the ore fluids. The Contact is irregular and dips between 20° and 40° E.

Numerous faults of minor displacement cut the volcanic rocks but only one is of economic importance where a quicksilver ore body is localized of the intersection of the fault and joints in the hornblende andesite and andesite agglomerate.

Cinnabar occurs as veinlets and as replacements of clay-like alteration products. Native mercury occurs in crystal-lined vugs in the cinnabar veinlets.

8623

There are three types of cinnabar bodies; one type localized along joint intersections. The second type is localized in fault gauge. The third type is localized in fractures in the argillized agglomerate.

Past History and Production: The property was discovered in 1927 and was operated by the Castle Peak Quicksilver Company until 1933, when several thousand feet of exploratory work failed to develop any new ore bodies. The mine was abandoned and plant removed in 1944. The claims were relocated in 1951.

A few bulldozer cuts were excavated by the present Company in 1956 before applying for DMEA assistance under Docket No. 4459 which was denied February 2, 1957.

Total production from the deposit was 2,576 flasks of mercury recovered from 23,500 tons of ore that averaged 8.7 pounds of mercury per ton.

Development:

The main ore body was mined by open pit and glory hole through a short crosscut and incline shaft. The mine was later developed by about 4000 feet of underground workings.

Since the DMEA examination in 1956 (Docket No. DMEA 4459) the Applicant has excavated 1270 linear feet of surface trenches about 6 feet deep.

Sampling and Ore Reserves:

The examiners took 16 samples from the Stinnett trench where the Applicant claimed that 4 to 9 feet of mineralized agglomerate averaged 6.6 to 11.9 pounds mercury per ton. The weighted average of these 16 samples was a width of 4.4 feet and 0.37 pounds of mercury per ton. The highest assay obtained was 2.3 pounds per ton.

There are no measured or indicated reserves except a few tons of ore-grade material remaining in the walls and pillars of old stopes. No additional reserves can be inferred from the new work done by the Applicant.

Proposed Work:

The Applicant proposes to modify and extend the existing bulldozed cuts an additional 1000 feet, to explore the downward extension of the mineralized exposures in the Stinnett cut by 710 feet of drifts and to raise and crosscut along the agglomerate-porphyry contact.

Conclusion:

The Field Team concludes that the showings of cinnabar exposed by

recent prospecting are not more favorable than those reported in DMEA -4459, and there is no geologic evidence to indicate that the low-grade mineralized zone will contain an ore body at depth. They, therefore, recommend that the application be denied.

The Commodity Divisions of the Geological Survey and Bureau of Mines concur in this recommendation.

W S Martin

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

IN REPLY REFER TO:

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

November 29, 1957

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of Field Examination Report, DMEA 4838 (mercury), Castle Peak Mining Company, Castle Peak Mine, Storey County, Nevada

The examining team do not believe that additional exploration on the applicant's property would result in a worthwhile discovery of mercury ore.

The Castle Peak Mine has produced a fair amount of ore in the past. The mine has produced a total of 2,576 flasks of mercury, recovered from 23,500 tons of ore that averaged 8.7 pounds of mercury per ton. That amount of ore would have a gross value before mining and furnacing, of over $500,000, at today's somewhat depressed mercury price.

On the other hand, the examiners show that the zones containing cinnabar are widely scattered and of low grade. Samples taken by the examining team all gave low assay values for mercury. Finally, fairly extensive prospecting by the applicant consisting of 1,270 linear feet of surface trenching, failed to disclose minable ore deposits.

Because of the unfavorable features of the property, I agree with the conclusions of the examining team and recommend denial of the application.

W. P. Williams

W. P. Williams

11/29 C
11/29 WSM 220
400

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

11/22	C	220
11/25	WSM	400

November 22, 1957

Memorandum

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

From: Assistant Chief, Branch of Base Metals

Subject: Review of Field Team examination report, Docket No. DMEA-4838 (mercury), Castle Peak Mining Company, Castle Peak Mine, Storey County, Nevada. $27,070.92.

The applicant proposed to explore for mercury mineralization by 3460 cubic yards of surface trenching, 350 feet of drifting or cross-cutting, and 360 feet of raising at an estimated total cost of $27,070.92.

Examination and sampling of the mineralized zone showed the mineralization to be less than 2.3 pounds of mercury per ton and there was no geological indication that the low grade material would improve at depth.

I concur with the recommendation of the Field Team that the application for DMEA assistance be denied.

J. W. Pennington

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

DMEA

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

November 15, 1957

DATE		
11/19	C	220
11/22	JHB	130
11/25	C	220
11/25	WSM	400

Memorandum

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

From: Executive Officer, DMEA Field Team, Region II

Subject: Docket No. DMEA-4838 (Mercury)
Castle Peak Mining Company
Castle Peak Mine
Storey County, Nevada
(Your letter, October 9, 1957)

ON SITE EXAM

Enclosed are three copies of a report by B. H. Sheahan, Bureau of Mines, and J. E. Carlson, Geological Survey, on subject property.

Roscoe Smith and I concur in the recommendation that the application for DMEA exploration assistance be denied.

S. Ricker

Attachments

Reviewed by
DMEA OPERATING COMMITTEE
11-22-57
(date)

BUREAU OF MINES
WASHINGTON, D. C.

Nov 18 1 55 PM '57

OFFICIAL RECORD
DMEA
RECEIVED NOV 18 1957

DATE	INITIALS	CODE
11/22	2/13	130
		220

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-4838 (Mercury)
Castle Peak Mining Company
Castle Peak mine
Storey County, Nevada

by

B. H. Sheahan
U. S. Bureau of Mines

J. E. Carlson
U. S. Geological Survey

November 12, 1957

Reviewed by
DMEA OPERATING COMMITTEE
11-22-57
(date)

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General Geology	5
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ILLUSTRATIONS

Figure 1 . . . . . Index map

2 . . . . . Geologic and Underground maps

3 . . . . . Stinnett trench

4 . . . . . Block diagram of the mine

INTRODUCTION

The Castle Peak Mining Company, 2501 South State Street, Salt Lake City, Utah, Mr. E. L. Wolsey, president, applied to the Defense Minerals Exploration Administration, docket DMEA-4838, for Government assistance in a $27,070.92 program to explore for mercury at the Castle Peak mine, Storey County, Nevada.

The application was referred to the Field Team on October 9, 1957 and the property was examined by B. H. Sheahan, U. S. Bureau of Mines, and R. M. Smith and J. E. Carlson, U. S. Geological Survey, on October 23-24, 1957. Sheahan and Carlson were accompanied October 24 by Mr. Arthur Lakes, the applicant's representative.

Workings above the main haulage level and surface trenches were examined. Sixteen samples were taken and the new trenches were mapped.

A previous application, docket DMEA-4459, was denied on February 18, 1957. Since then the applicant has excavated 1,270 linear feet of shallow surface trenches, and now proposes exploration consisting of 3,460 cubic yards of surface trenching, 350 feet of drifting or crosscutting, and 360 feet of raising.

CONCLUSIONS AND RECOMMENDATIONS

New exposures along an unconformable contact of volcanic rocks above the Castle Peak mine contain cinnabar in fractures and sparsely disseminated in highly altered andesite agglomerate. The applicant reports that these exposures are the best on the property and are the ones on which he bases his proposed exploration.

The highest grade check sample is from a 5-foot channel and assays 2.3 pounds mercury per ton. It was cut at the same site as the applicant's selected sample across 8 feet which assayed 56 pounds mercury per ton.

There is no geologic evidence to indicate that the low-grade mineralized zone will contain an ore body at depth, and we recommend, therefore, that the application be denied.

LOCATION, ACCESSIBILITY, AND LOCAL FACILITIES

The property is in sec. 20, T. 18 N., R. 21 E., M.D.B.&M., at an altitude of 5,800 feet in the Virginia Range, Storey County, Nevada (fig. 1).

To reach the mine from Reno, Nevada, travel 9.0 miles south on U. S. Highway 395, turn left on State Highway 17, and travel 7.2 miles easterly, turn left on dirt road and travel 3.7 miles

northerly to the mine. The dirt road is usally impassible in winter months because of mud and snow.

Reno is the nearest source of labor and supplies. Water can be obtained from a spring 1.5 miles northeast of the mine.

HISTORY AND PRODUCTION

The deposit was discovered by Mr. Hank Lufek in 1927. The main ore body was mined by the Castle Peak Quicksilver Company who installed a 30-ton rotary furnace in 1928. In 1933 the operator did several thousand feet of exploratory work because the reserves were practically exhausted. The results of this exploratory work were discouraging. In 1944 the furnace plant, equipment, and buildings were removed. The claims were relocated in 1951.

Castle Peak Mining Company acquired the property in 1956. A few shallow bulldozer trenches were excavated before the company applied to DMEA for assistance in exploring the property.

Total production from the deposit was 2,576 flasks of mercury recovered from 23,500 tons of ore that averaged 8.7 pounds mercury per ton. A tabulation of annual production follows:

Year	Operator	76-lb. flasks mercury	Ore, tons	Average grade, lbs./ton
1929	Castle Peak Quicksilver Co.	461	3,641	9.6
1930	" " " "	762	7,093	8.1
1931	" " " "	718	4,653	11.7
1932	" " " "	147	992	11.3
1933	" " " "	201	2,502	6.1
1934	" " " "	151	1,880	6.1
1935	" " " "	55	700	6.0
1936	" " " "	--	--	--
1937	Bretchtel and Hann	--	--	--
1938	Moro Bay Copper Co.	--	--	--
1939	American Quicksilver Co.	66	1,995	2.6
1940)	(the property was	5	--	--
1941)	leased by individuals)	10	--	--

PROPERTY AND OWNERSHIP

The property consists of 11 unpatented claims; Juniper Nos. 1 through 4, Artel Nos. 1 through 6, and Little Joe, owned by the operator. Location certificates are recorded at Virginia City, Nevada. In connection with docket DMEA-4459 Mr. Lakes submitted a letter, dated November 21, 1956, which listed quit claim deeds dated July 16 and 17, 1956, and October 26, 1956, regarding title to the Juniper and Artel groups of claims.

DEVELOPMENT

The main ore body cropped out at the surface and was mined as an open pit and glory hole through a short crosscut and incline shaft. The mine was later developed by a main haulage level, raises, winzes, and sub-level drifts to the 150 level. The total footage of these workings

exceeds 4,000 feet (fig. 2). Since the DMEA examination in 1956 the applicant has excavated 1,270 linear feet of surface trenches about 6 feet deep.

There is no equipment at the mine and none is owned by the applicant.

GENERAL GEOLOGY

The oldest rock in the mine area is a limy shale of pre-Tertiary age that is unconformably overlain by late Tertiary and Pleistocene volcanic rocks.

The limy shale crops out in the southern part of the mine area (fig. 2) and contains some pebble conglomerate and slate beds. The beds strike northerly and are steeply dipping or vertical.

The volcanic rocks from oldest to youngest consist of hornblende andesite, basalt, andesite agglomerate, rhyolite, andesite porphyry, and olivine basalt. The agglomerate contains angular fragments of andesite, basalt, shale, and boulders of silicified limestone, is largely altered to clay, and is bleached white through a thickness of at least 40 feet. The overlying gray andesite porphyry is largely unaltered and contains abundant phenocrysts of plagioclase and minor amounts of hornblende and biotite. Where the contact between the agglomerate and the andesite porphyry has

been exposed in a bulldozer cut the upper surface of the agglomerate appears to be an erosion surface containing residual clay that acted as a barrier to ore fluids. This contact is irregular and dips between 20° and 40° E. (fig. 3). Fine-grained olivine basalt caps the ridges and forms prominent cliffs east of the mine area. All of the volcanic rocks strike northeast and dip 20° to 50° SE.

Numerous faults of minor displacement cut the volcanic rocks in the mine area, but only one is of economic importance. Where it is exposed in the main inclined winze (fig. 2) and in drifts off the winze it trends north and dips about 50° E. Two sets of joints that trend N. 55° W. and N. 65° E. and the altered contact zone described above also localized ore minerals.

ORE DEPOSITS

The volcanic type quicksilver ore bodies are localized along the intersections of steeply-dipping faults and joints in andesite agglomerate and hornblende andesite. Small veinlets are also localized in the andesite agglomerate near its contact with the andesite porphyry.

The principal ore mineral is cinnabar with minor amounts of native mercury and calomel. Cinnabar occurs as veinlets and as replacements of clay-like alteration products of hornblende and plagioclase. Native mercury occurs in crystal-lined vugs in the

cinnabar veinlets. Gangue minerals are clays, carbonates, silica, barite, and pyrite.

The cinnabar bodies are of three types. One type was localized along the joint intersections and extended into individual joints and into the wall rock for several feet. The second type of body was localized in fault gouge along the north-trending fault east of and below the main deposit. The third type of body was localized in the argillized agglomerate in fractures parallel to and just below the agglomerate-porphyry contact.

The main ore body was of the first type, was tabular to pipe-like, from a few feet to as much as 60 feet in diameter, extended down dip about 100 feet and yielded about 20,000 tons of ore with an average grade of about 8 pounds of mercury per ton.

The ore bodies of the second type were of higher grade but occurred as small masses and veins with sharply-defined walls and yielded about 3,500 tons of ore having an average grade of about 12 pounds of mercury per ton.

Two mineralized zones newly exposed in the bulldozer cut - are bodies of the third type. They are roughly tabular, are about 4 feet thick, and 70 feet and 10 feet long respectively. Some of the fractures in these zones contain visible cinnabar for a few feet along

the strike and are about one millimeter wide. Specks of cinnabar are also disseminated in the agglomerate. The longer zone includes the Stinnett discovery and averages less than 2 pounds mercury per ton, while the shorter zone contains about 0.4 pound mercury per ton. No bodies of commercial size and grade have been found in these zones. At the location of sample 626 (fig. 3) the contact was explored 14 feet down dip and diminishing amounts of cinnabar were found.

SAMPLING

The following samples were taken from the Stinnett trench where the applicant claimed that 4 to 9 feet of mineralized agglomerate averaged 6.6 to 11.9 pounds mercury per ton.

Sample No.	Type	Width, feet	Lbs. Hg/ton	Remarks
S-622	vertical channel	5.0	<0.1	Altered andesite agglomerate.
S-623	" "	4.3	<0.1	" " "
S-624	" "	3.1	<0.1	" " "
S-625	" "	3.8	1.7	" " " with cinnabar.
S-626	" "	3.7	0.9	" " " " "
S-627	" "	4.3	0.3	" " " " "
S-628	" "	5.0	2.3	" " " " "
S-629	" "	3.0	0.2	" " " " "
S-630	" "	4.3	<0.1	" " " " "
S-631	" "	4.7	<0.1	" " " " "
S-632	" "	4.5	0.4	" " " " "
S-633	" "	5.0	<0.1	" " " " "
S-634	" "	4.3	0.1	" " " " "
S-635	" "	5.0	<0.1	" " " " "
S-636	" "	5.5	0.1	" " " " "
S-637	" "	5.0	0.1	" " " " "
		4.4	0.37	Weighted average of 16 samples.

Mr. Lakes stated that samples listed in the application were taken by Revill and Wolsey, both of whom lacked sampling experience.

ORE RESERVES

There are no measured or indicated reserves except for a few tons of ore-grade material remaining in the walls and pillars of old stopes. Inferred reserves are a few hundred tons of ore having an average grade of about 6 pounds of mercury per ton. These reserves are contained in small, widely scattered bodies in the andesite agglomerate along and near the contact with andesite porphyry, and are similar in size and grade to those that have been mined by leasers since the exhaustion of the major ore bodies.

No additional reserves can be inferred from the new work done by the applicant.

EXPLORATION

The applicant proposes to modify and extend the existing bulldozed cuts an additional 1,000 feet, and to explore the downward continuation of the mineralized exposures in the Stinnett cut (fig. 3) by 710 feet of drift, raise, and crosscut along the agglomerate-porphyry contact.

This exploration program does not justify Government participation because (1) the zones containing cinnabar near the contact are widely scattered and of low grade (see also: Sampling, DMEA-4459); (2) the re-entrant into the contact zone at BM-626 explores down the dip about

15 feet and reveals less cinnabar than is found on either side; (3) the applicant's samples were selective, e.g., the 190-pound assay noted in the application, and (4) the showings of cinnabar exposed by recent prospecting are not more favorable than those reported in DMEA-4459.

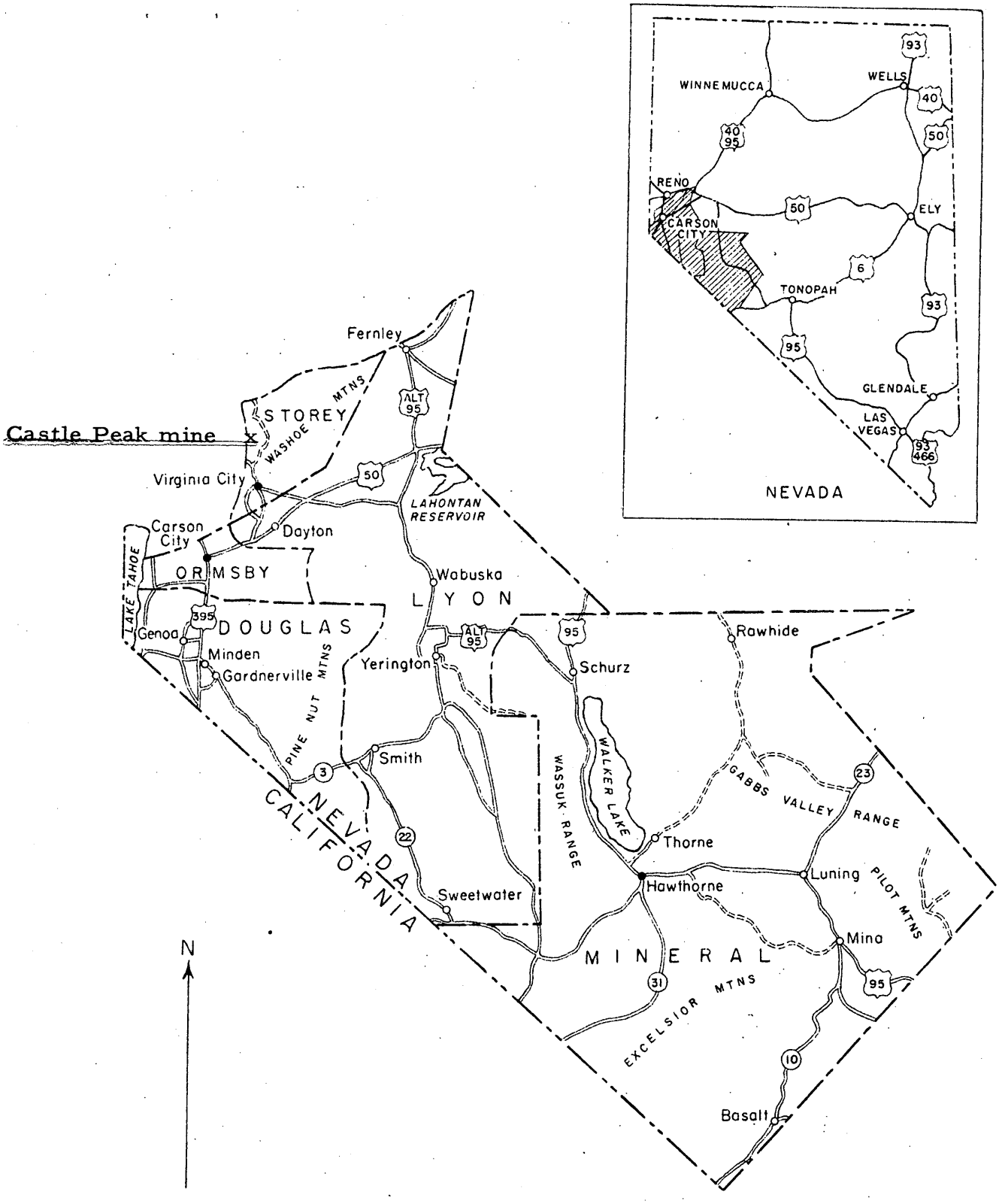
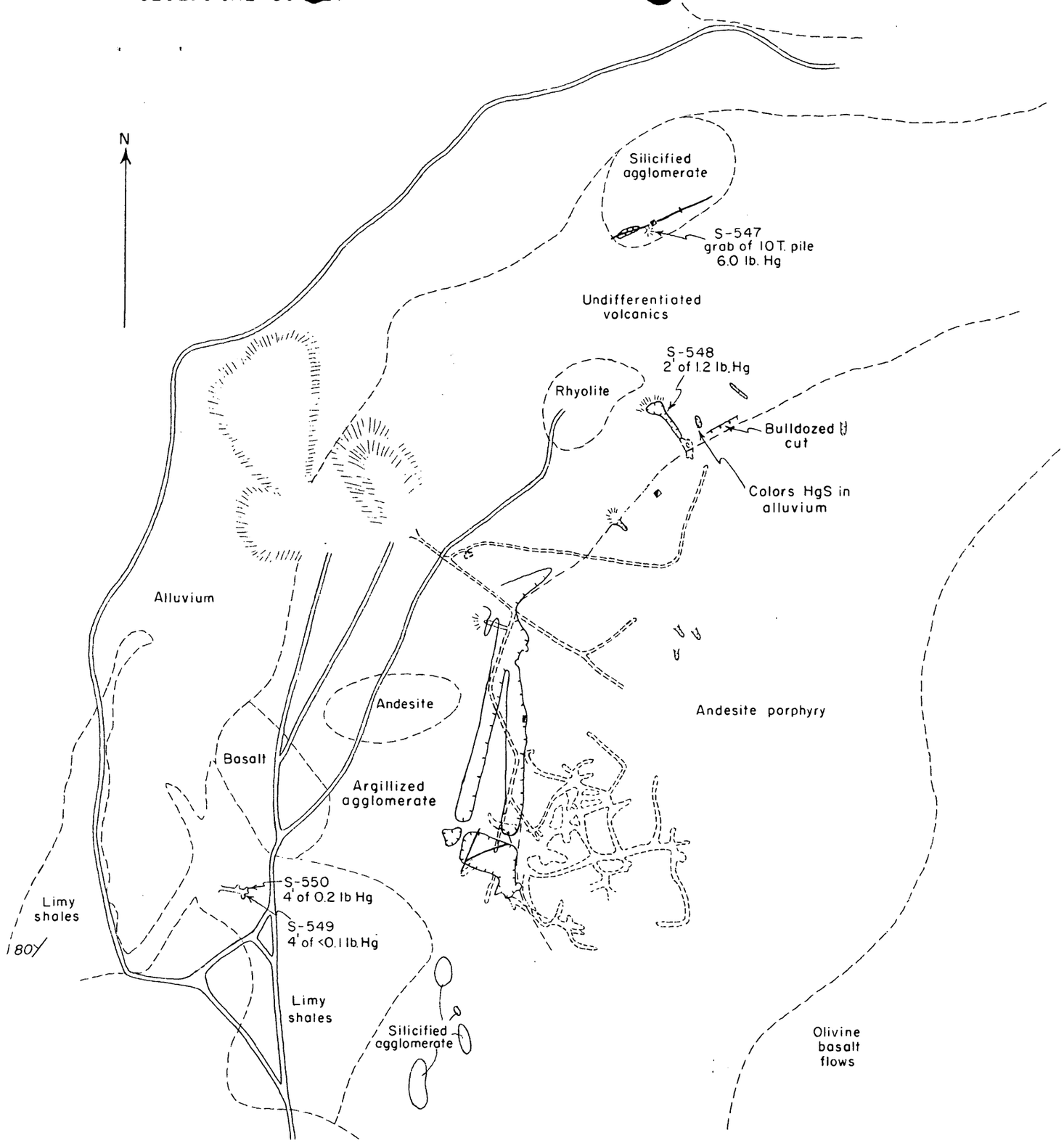
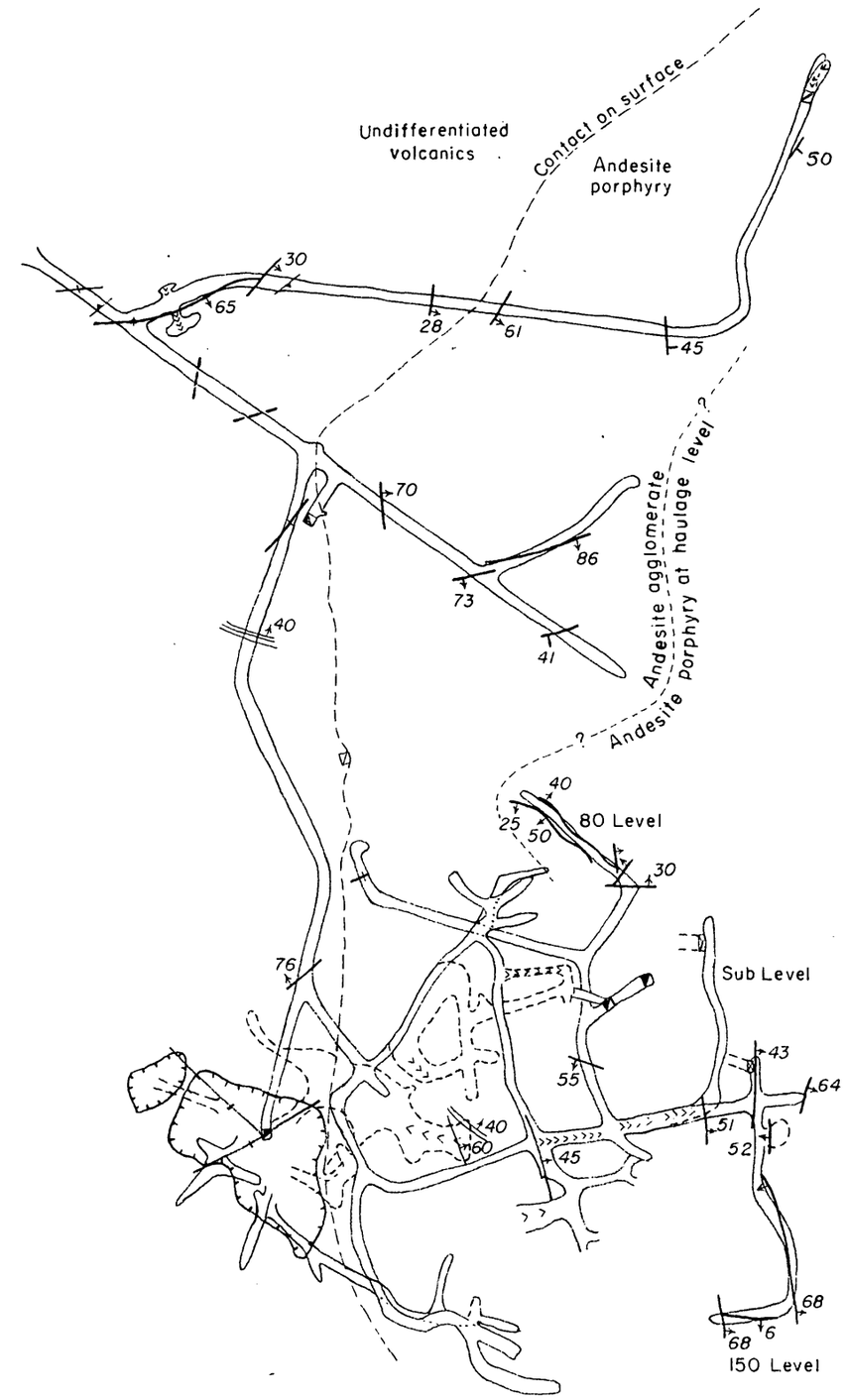


Figure 1. INDEX MAP OF STOREY, ORMSBY, DOUGLAS, LYON, AND MINERAL COUNTIES, NEVADA

0 20 40 60 MILES

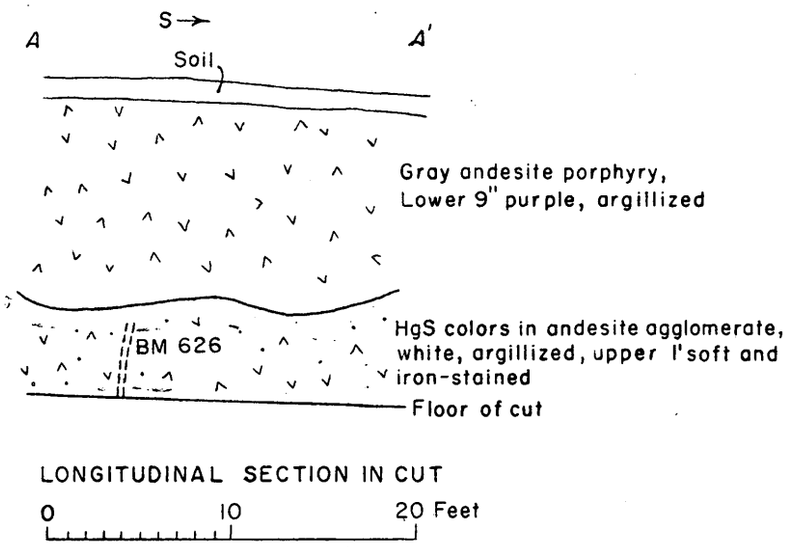


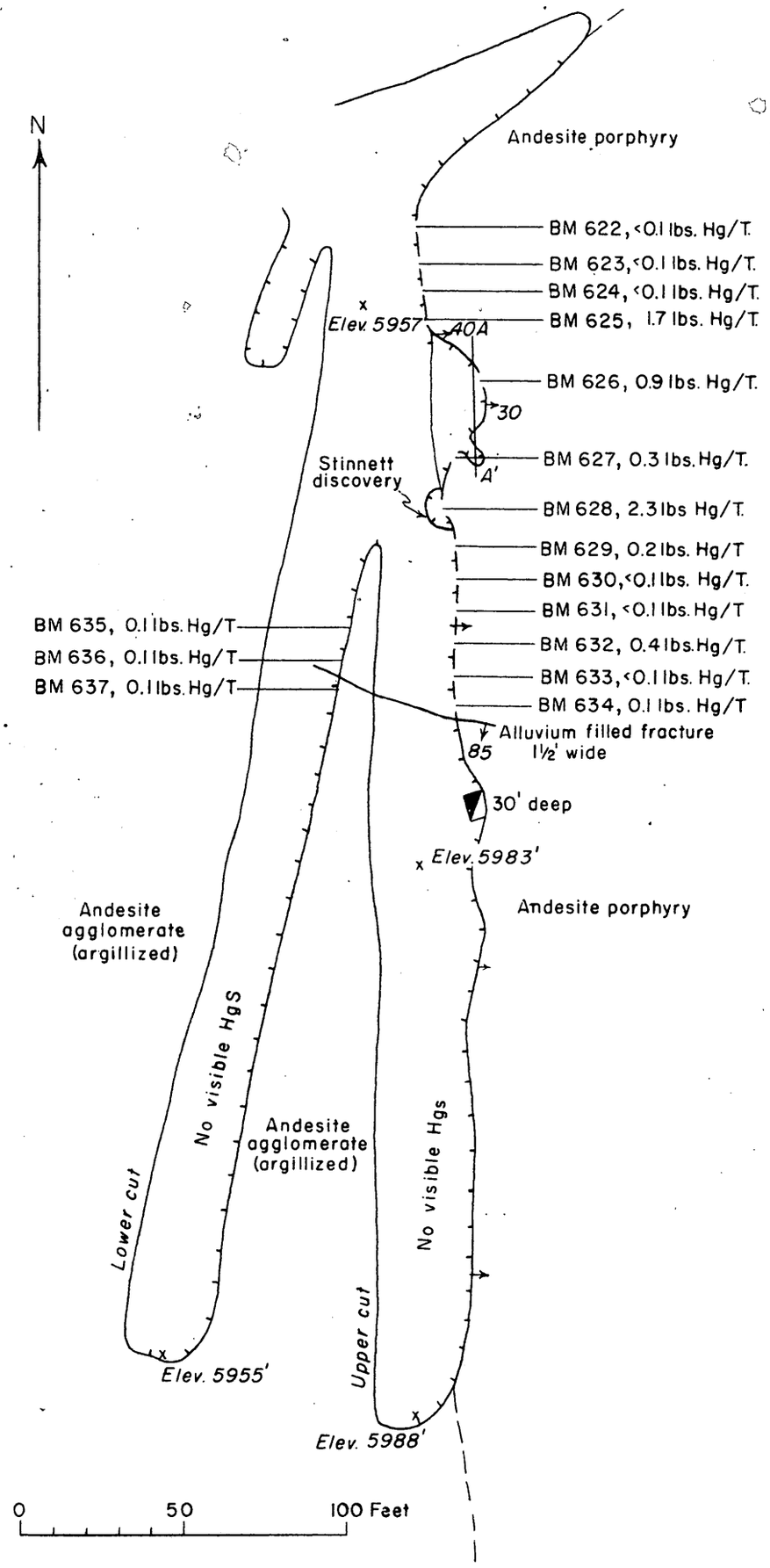
GEOLOGIC SKETCH MAP
0 200 400 Feet



COMPOSITE UNDERGROUND MAP
0 100 200 Feet

Figure 2. CASTLE PEAK MINE, STOREY COUNTY, NEVADA





STINNETT TRENCH

Figure 3. CASTLE PEAK MINE
STOREY COUNTY, NEVADA

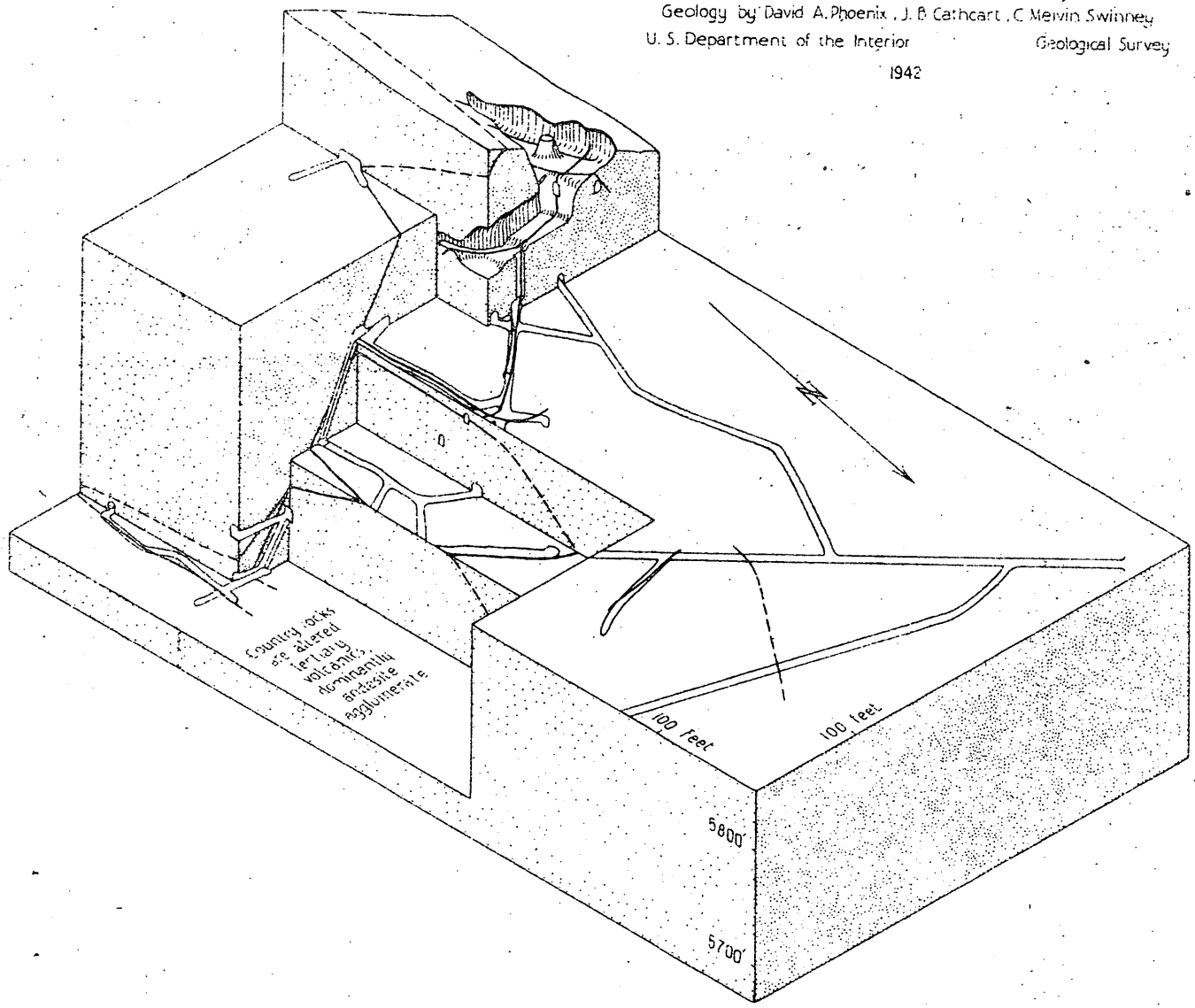

BLOCK DIAGRAM OF THE
CASTLE PEAK QUICKSILVER MINE
STOREY COUNTY, NEVADA
Geology by David A. Phoenix, J. B. Cathcart, C. Melvin Swinney
U. S. Department of the Interior
Geological Survey
1942
N
country rocks are altered tertiary volcanics, dominantly andesite agglomerate
100 feet
100 feet
5800'
5700'

Figure 4

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10-8	Chapman	400
10-8	Martin	400
10/9	Selfridge	630
"	Johnson	110
9	Hattendorf	100
10/10	B	220
		400

OCT 9 1957

Mr. Spangler Ricker, Executive Officer
DMEA Field Team, Region II
1605 Evans Avenue
Reno, Nevada

Re: Docket No. DMEA 4838 - Mercury
Castle Peak Mining Company
Castle Peak Mine
Storey County, Nevada

Dear Mr. Ricker:

The above-docketed application for exploration assistance is being referred to your office for review and a possible field examination of the property.

Copies of memoranda dated September 30, 1957, and October 4, 1957, J. W. Pennington, Bureau of Mines, and W. P. Williams, Geological Survey, respectively, relating to the project are enclosed. Also enclosed is an extra copy of the application for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

APPROVED:

Frank D. Lamb

Member, Bureau of Mines

W. P. Williams

Member, Geological Survey

TLChapman/dlm 10-8-57
cc to: Code 400
Admr. R. File
Oper. Comm.
FT. REG. II
Messrs. J. W. Pennington, USBM
T. H. Kiilsgaard, USGS

Enclosures

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10-8	Chapman	400
10-8	Martin	400
10/9	[illegible]	130
10/9	Lamb	130
10/9	Williams	130
	Johnson	110
9	Mittendorf	100
10/10	B	220
		400

OCT 9 1957

Castle Peak Mining Company
2501 South State Street
Salt Lake City, Utah

Re: Docket No. DMEA 4838 - Mercury
Castle Peak Mine
Storey County, Nevada

Gentlemen:

The above-referenced application for exploration assistance for mercury ores has been reviewed by the Washington Office of the Defense Minerals Exploration Administration and referred to Mr. Spangler Bicker, Executive Officer, DMEA Field Team, Region II, 1605 Evans Avenue, Reno, Nevada, for review and a possible field examination of the property.

Any assistance you can give the members of the Field Team will be appreciated.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

TLChapman/dlm 10-8-57
cc to: Code 400
Admr. R. File
Oper. Comm.
FT. REG. II
Messrs. J. W. Pennington, USBM
T. H. Kiilsgaard, USGS

8623

IN REPLY REFER TO:

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

October 4, 1957

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of application, DMEA 4838 (mercury), Castle Peak Mining Company, Castle Peak mine, Storey County, Nevada

The applicant proposes to explore for mercury ore deposits on 11 unpatented mining claims that are the site of the old Castle Peak mine. The Castle Peak mine was the subject of DMEA 4459, which was denied on February 18, 1957.

Since submitting DMEA application 4459, the applicant states he has completed several hundred feet of 'dozer trenching which has uncovered several 'shows' of mercury ore. A selected sample of high grade ore assayed 190 lb. of mercury per ton, according to the applicant.

The applicant proposes to do surface trenching, drifting, crosscutting, and raising at a total estimated cost of $27,071.

In view of the applicant's work on the property and his assertions that he has uncovered ore-grade rock, I recommend that the application be referred to the Field Team for review and comment.

W. P. Williams

W. P. Williams

OFFICIAL FILE COPY
DMEA
RECEIVED OCT 7 1957

DATE	INITIALS	CODE
10/7	C	220
10/8	WSM	400

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

September 30, 1957

Memorandum

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

From: Assistant Chief, Branch of Base Metals

Subject: Review of Application, Docket No. DMEA 4838 (mercury), Castle Peak Mining Co., Castle Peak Mine, Storey County, Nevada. $27,070.00.

A previous application, Docket No. DMEA 4459, for aid to explore the Castle Dome Mine was denied February 18, 1957.

Since then, apparently the applicant has found by preliminary work, an area believed to warrant additional exploration. In a revised program, it is now proposed to explore for mercury mineralization in 2 stages, at an estimated total cost of $27,070.00. Stage I will consist of surface excavation whereas Stage II will be underground exploration.

It is recommended that the application be referred to the Field Team for appropriate action.

The application is returned herewith.

J. W. Pennington

J. W. Pennington

Attachment

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

OFFICIAL FILE COPY
DMEA
RECEIVED OCT 1 1957

DATE	INITIALS	CODE
10/1	B	220
		400

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

September 27, 1957

Castle Peak Mining Company
2501 South State Street
Salt Lake City, Utah

Gentlemen:

Subject: DMEA-4838

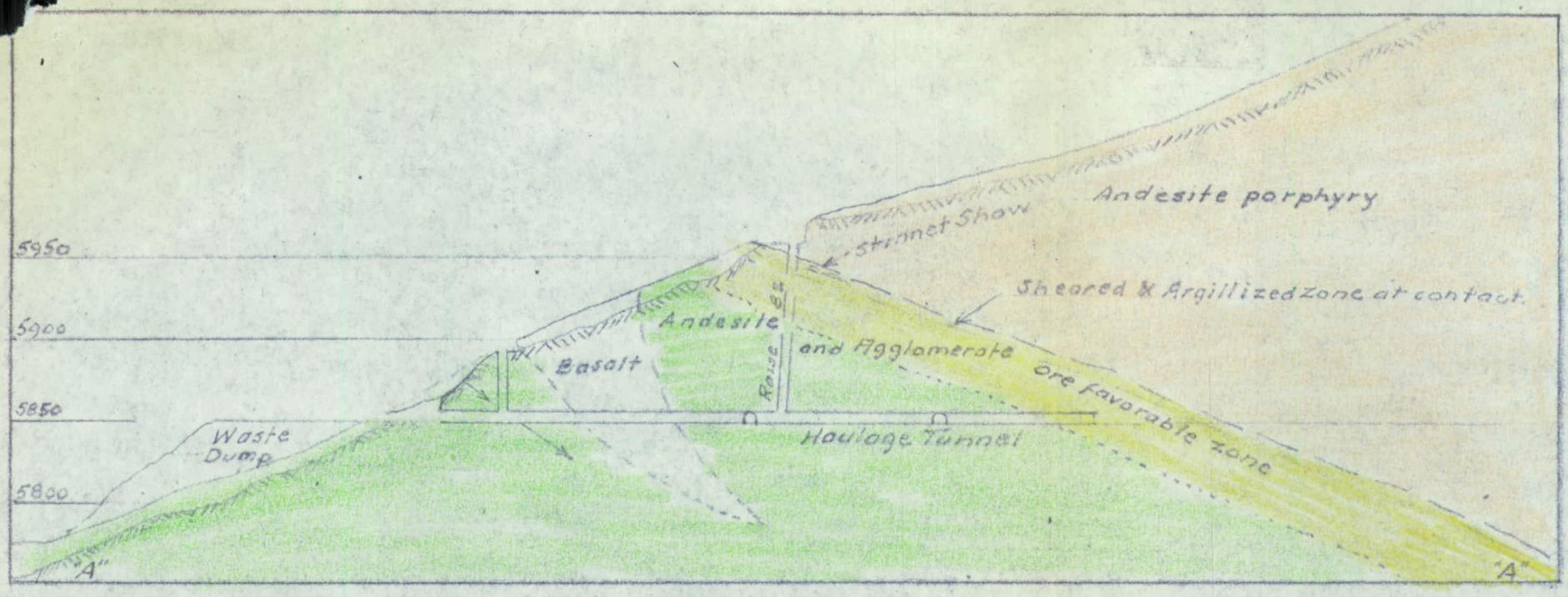
Your application for exploration assistance, dated September 20, 1957 submitted to our office at Reno, Nevada has been assigned Docket Number DMEA-4838 and referred to the Iron and Ferro-Alloys Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

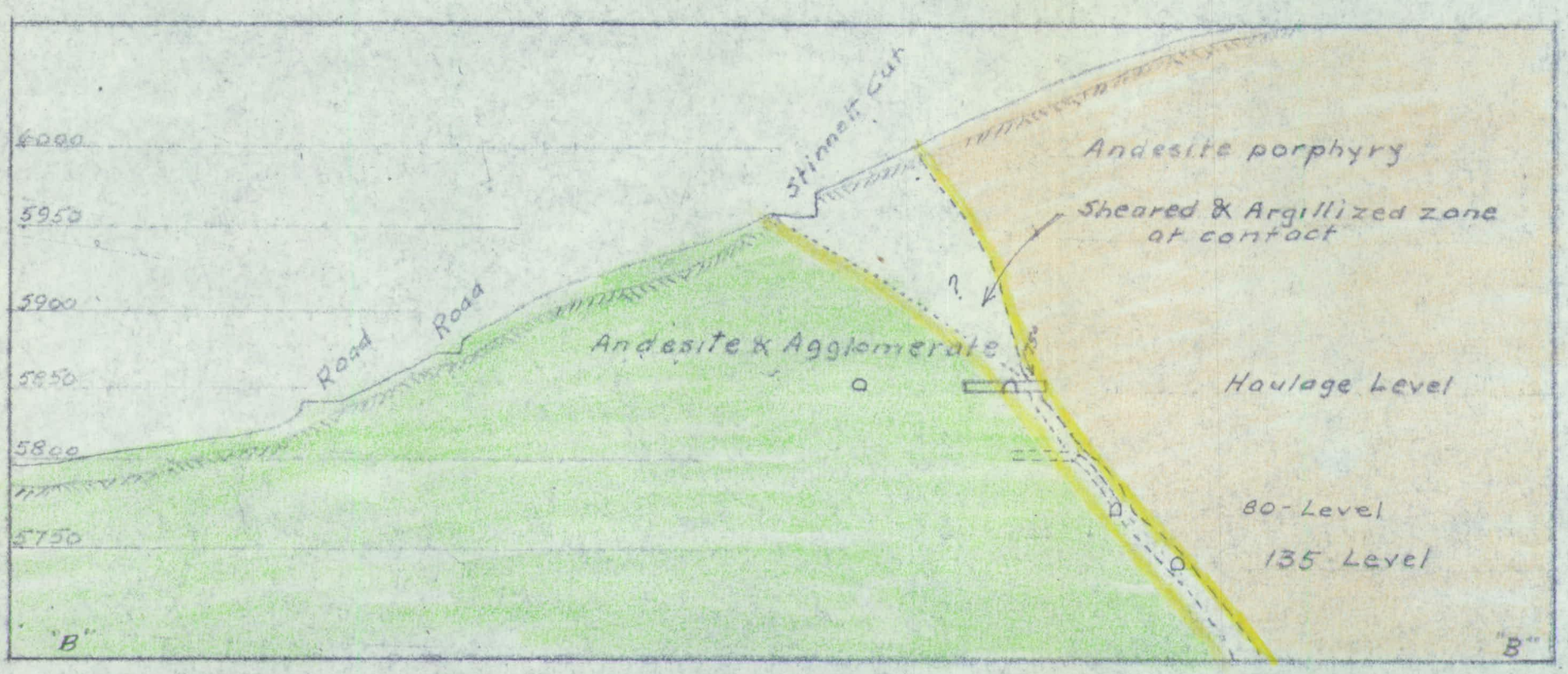
Sincerely yours,

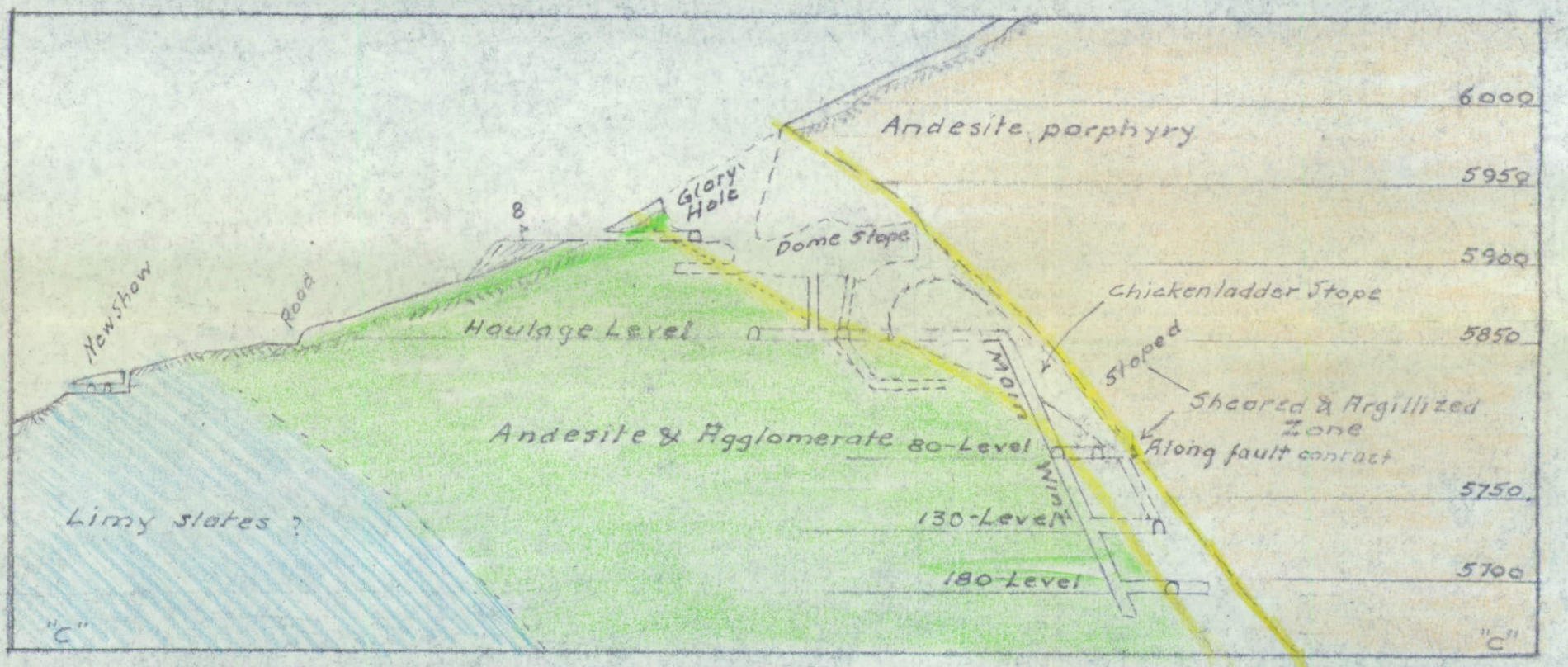
Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to:

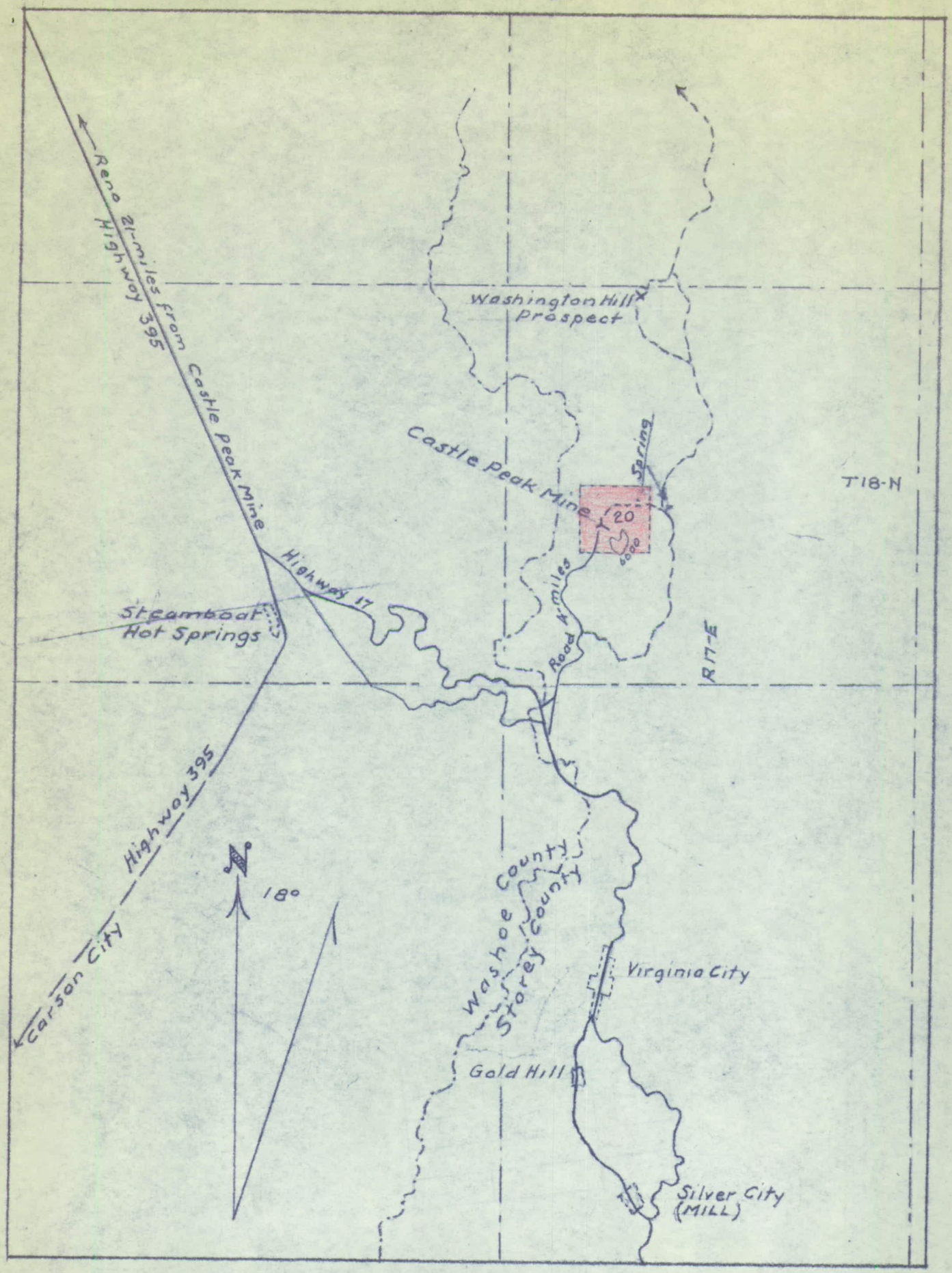
Region II



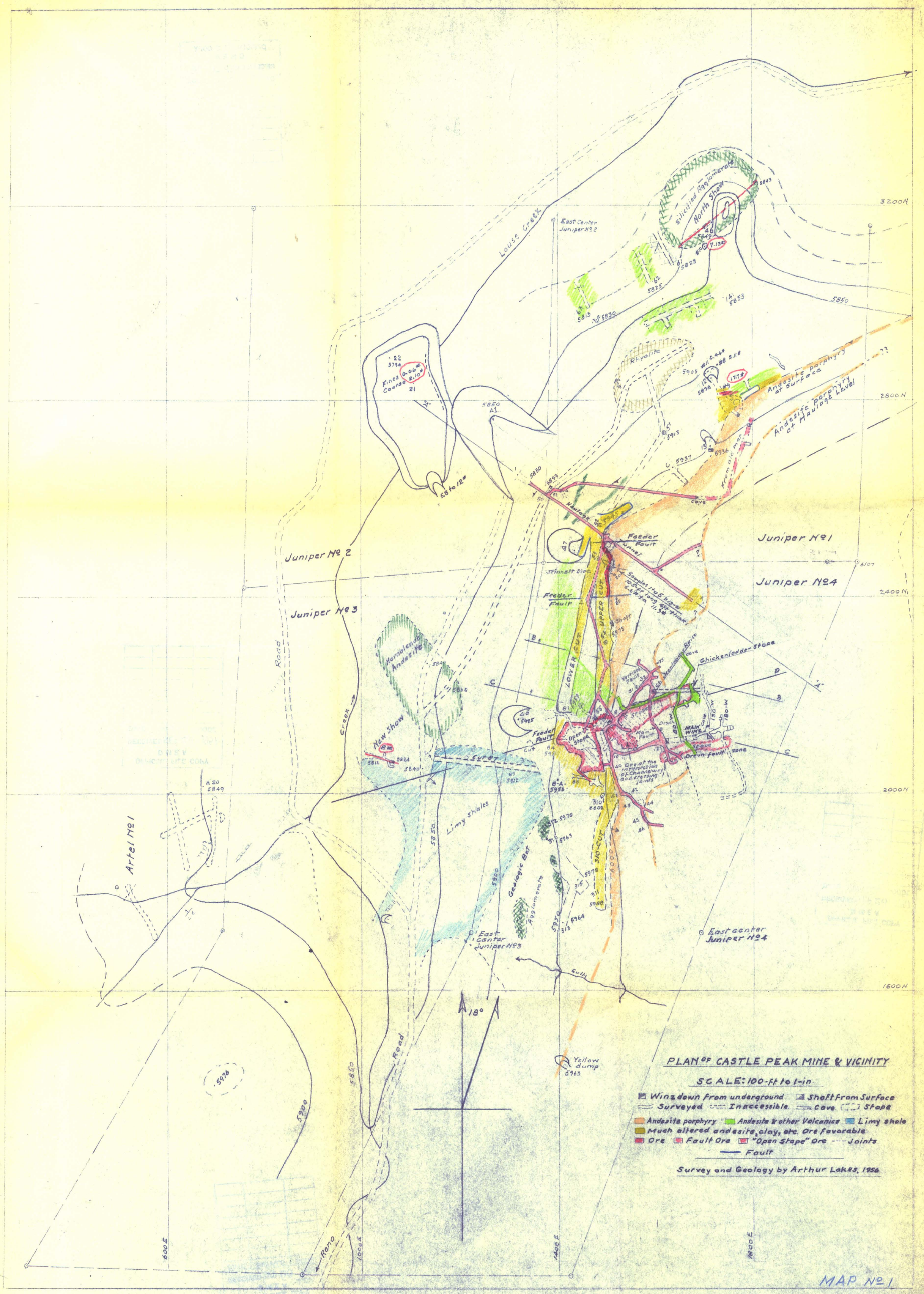


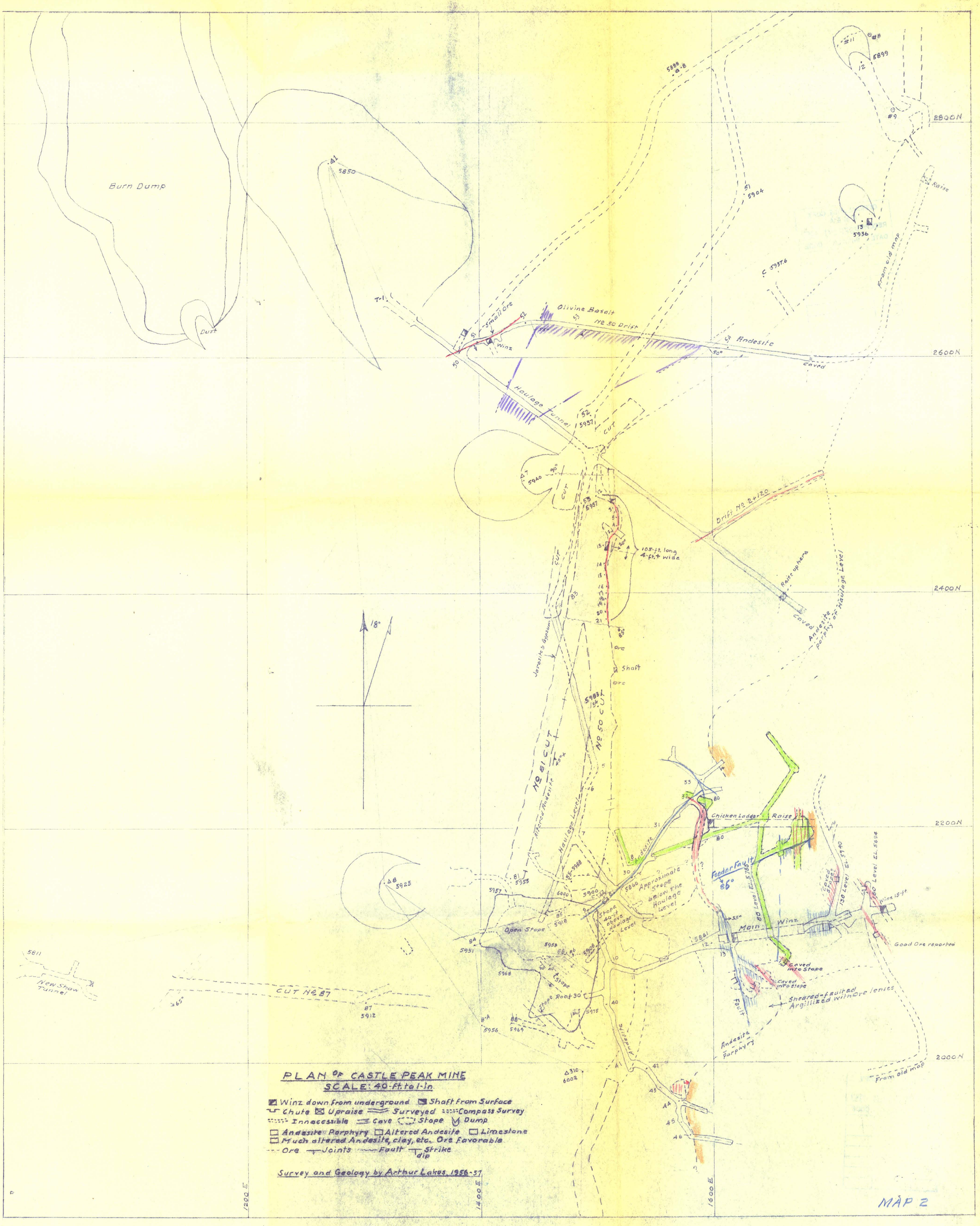


CROSS SECTIONS SHOWING APPROXIMATE ATTITUDES & LOCALITIES OF CONTACTS.
SCALE: 100-ft. to 1-in.



MAP Showing Location of Castle Peak Property
SCALE: 2-miles to 1-inch


PLAN OF CASTLE PEAK MINE & VICINITY
SCALE: 100-ft to 1-in
Winz down from underground
Shaft from Surface
Surveyed
Inaccessible
Cave
Stope
Andesite porphyry
Andesite & other Volcanics
Limy shale
Much altered andesite, clay, etc. Ore favorable
Ore
Fault Ore
"Open Stope" Ore
Joints
Fault
Survey and Geology by Arthur Lakes, 1956
Louse Creek
East Center Juniper No 2
Silicified Agglomerate
North Show
Rhyolite
Andesite Porphyry at Surface
Andesite Porphyry at Haulage Level
Juniper No 1
Juniper No 2
Juniper No 3
Juniper No 4
Haulage
Feeder Fault
Tunnel
Stinnett Disc.
Upper Cut
Lower Cut
Samples 1 to 5 1/2-ft 105-ft long 4-ft thick 6.6 oz/ton 11.5#
Chickenladder Stope
Chickenladder Raise
Vertical Fault
Main Winz
Main Fault
Open Stope
Ore at the intersection of Channelway and crossing joints
Open fault zone
Hornblende Andesite
New Show
Cut 87
Limy Shales
Geologic Bar
Agglomerate
310-Cut
East Center Juniper No 3
East center Juniper No 4
Gulch
Road
Creek
Yellow dump
Artel No 1
Reno
18°
3200 N
2800 N
2400 N
2000 N
1600 N
600 E
1000 E
1400 E
1800 E
MAP No 1


PLAN OF CASTLE PEAK MINE
SCALE: 40-ft. to 1-in.
Winz down from underground
Shaft from Surface
Chute
Upraise
Surveyed
Compass Survey
Inaccessible
Cave
Stope
Dump
Andesite Porphyry
Altered Andesite
Limestone
Much altered Andesite, clay, etc. Ore favorable
Ore
Joints
Fault
Strike
dip
Survey and Geology by Arthur Lakes, 1956-57
Burn Dump
Dust
Olivine Basalt
No. 50 Drift
Haulage Tunnel
Andesite
Caved
Small Ore
Winz
No. 81 CUT
No. 50 CUT
Altered Andesite
Haulage Level
Jarosite & Gypsum
Shaft
Ore
Drift No. 2+120
105-ft. long 4-ft. wide
Raise up here
Andesite porphy of Haulage Level
Chicken Ladder Raise
Feeder Fault
Approximate Stope below the Haulage Level
Stope 40-ft above Haulage Level
Open Stope
Stope Roof 30'
Main Winz
80 Level
130 Level
Good Ore reported
Caved into Stope
Sheared-faulted Argillized with ore lenses
Fault
Andesite Porphyry
From old map
Raise
New Show Tunnel
CUT No. 87
2800N
2600N
2400N
2200N
2000N
1200E
1400E
1600E
MAP 2