DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4549

Application
- [ ] Denied
- [x] Withdrawn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 Completed 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
- [x] On-site Exam Report (Tab) 10-8-57
- [ ] 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

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

DMEA
DEPARTMENT OF THE INTERIOR
NOV 19 1956
REGION III
DENVER, COLORADO

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 4549.
Metal or Mineral La. Zinc-Copper
Date Received 11-23-56
Estimated Cost $50,381.22
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Walter W. Bentley, d.b.a. Kittimac Mining Company
P.O. Box 541, Silverton, Colorado
(see attached sheets for detailed answers to Form MF-103)

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

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(*b*) State any mine name by which the property is known.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore .....

.....

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

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*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

(*b*) How do you propose to furnish your share of the costs?

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

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.

Dated Nov. 17, 1956

Walter W. Beatty
(Applicant)

d.b.a. By Lettimac Mining Co

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

Walter W. Bentley
Silverton, Colorado.

I - Name of applicant:-

(a) Walter W. Bentley, d.b.a. Kittimac Mining Co.
P.O. Box 541, Silverton, Colorado.

(d) If a partnership, add names of all partners:-

O. W. Bentley and Associates, c/o Crown-Willamette Paper Co.
Portland, Oregon.
Negotiations are still pending as to other partners who wish to acquire interests. When any partners are accepted, they will be added to this application by letter amendment.

II -

III - Applicant's property rights

(a) The Kittimac group consists of 84 claims of 10 acres each, two mill sites, and a 76 acre portion of the John H. French placer claim, together with certain water rights, situated in the Eureka Mining District, San Juan County, Colorado.
These are all unpatented claims with the exception of the Forest Queen #6 to #10 inclusive, U. S. Survey #18843, and the portion of John H. French Placer, U. S. Survey #45.
The names and other data are set forth in the attached agreement, marked Exhibit I.

(b) The mine has always been known as the Kittimac.

(c) The applicant has a five year lease with option to purchase, as set forth in the agreement attached, marked Exhibit I.

(e) There are no liens or encumbrances other than those related to the original receivership, as recited in the agreement.

(f) The book and page numbers of recorded locations are set forth in Exhibit I.

(g) The claims of the Kittimac group were located prior to 1901, and the records of the General Land Office show that the most important claims were surveyed for patent and the survey number 14544, was filed in February, 1901 on the group outlined in red on Figure 1.

There are reported to be 9 veins outcropping on this group, and the Caliber vein is reported to have been the original objective of the early work, because of a high

Walter W. Beasley
Silverton, Colo.

gold content in the outcrop of this vein. There is a report that C. R. Wilfley of the U.S.B.M. cut a sample from this outcrop which ran 1.0 oz. gold and 40.0 oz. silver, but a search of the old files has failed to produce any record to confirm this. The old workings on the Caliber vein consisting of trenches and short tunnels, are now sloughed full of surface debris and are inaccessible.

The old work consists of two tunnels on the Little Joe vein, the upper of which is caved at the portal. The lower tunnel on the Little Joe vein is now retimbered and cleaned up, and was the working level throughout the history of mine. A boarding house, compressor house, and ore house containing bins, crushers, and tramway terminal were constructed at this portal. A 10,000 foot aerial tramway connected this portal with a mill on the edge of the Animas Valley adjacent to the tracks of the Silverton Northern Railway.

After driving approximately 1000 feet on the Little Joe vein toward the Caliber vein, a short cross cut was driven to the left which disclosed a second vein in which very good ore was encountered. Drifts were driven both ways, and at about 150 feet westerly a third vein was found, which was also drifted on in both directions from this point. There was some production from all three veins.

According to Mr. William A. Hay, the local attorney since 1906, who was well acquainted with all the mines and mine operators of the district at the time, the managers of the Kittimac were extravagant and inexperienced, and consequently found themselves in financial difficulties. In about 1916, bonds were issued to raise funds for their operations, and in 1917, full payments not having been made on the bonds, the bondholders had a receiver appointed, and the mine was closed. During World War II the Little Joe tunnel was cleaned out and the then lessee applied for an R.F.C. loan. In connection with this request, the U. S. Bureau of Mines field engineers cut trench samples under the track marked U.S.B.M. #1 to #15, as shown on Fig. 5. In 1946, the American Smelting and Refining Co. became interested in the property, and sent their engineers to examine it. These engineers made the maps attached, Fig. 2, 3 and 4, and cut trench samples under the track, shown on Fig. 5 as A.S.R. #26 to #36, also #39 in the back of the old stope, #40 from a stope pillar, and #41 on the Little Joe vein. Litigation was started against A.S.&R.Co. by claim-jumpers, and they dropped the project, for that or other reasons.

During 1948 and 1949, the U. S. Bureau of Mines had a project in San Juan County, Colorado, which included sampling and drilling of potential mineral reserves. Mr. Scott Hanes was in charge, and he obtained tracings of the A.S.&R.Co. maps, copies of which are attached as Fig. 2, 3 and 4, in connection with a project to drill the Isabella vein from the Kittimac and Caledonian Mines. Apparently funds were not appropriated to continue the program, and the drilling planned, as shown on Fig. 2, was not done.

Walter W. Bentley
Silverton, Colo.

In June, 1956, the applicant obtained a lease and option from the Receiver on the Kittimac mine, and transferred this agreement to a Syndicate organized to re-open the mine. This Syndicate drilled three diamond drill holes as shown on Fig. 5, and based on the results, dropped out. The applicant had no voice in the location of the holes, was not permitted to handle the core in any way, nor permitted to suggest that certain standard methods be employed in recording core recovery. In all three holes, fissures and caved areas were soon encountered, so that there was no sludge recovery from any hole. In no case was core carefully measured as it was removed from the barrel, nor careful measurements made of penetrations in any run, so that exact core recovery can only be estimated. In Hole #1, core recovery was probably as low as 75% for highly mineralized part of the core, and the assay returns of a split of this core are attached as Exhibit II. In Hole #2, core recovery was probably somewhat less. This core was not split nor assayed, and is now in the possession of the applicant. In Hole #3, in at least one 5 foot run, core recovery was 0% and overall probably averaged less than 50%. There was so small an amount of core recovered in the best part of the vein that all the core was required to make a volume sufficient for assay. The results are attached as Exhibit III.

It should be noted that the drilling was planned from the information available on Fig. 5, and that beyond sample #40 on that figure, the workings were inaccessible because of water that filled the drift to the back. After the drilling was finished, it was found that this water had been drained by the drill holes and Fig. 5 was prepared at a later date.

In conclusion, as to the drilling, the applicant is of the opinion that it is not a practical method in this mine. The above program cost in excess of $10 per foot, and if the holes had been properly cased and cemented, if indeed it would have been possible to cement fissures of the magnitude that could drain such a volume of water in a few days, then the costs would have soared to a prohibitive figure, with results probably no more satisfactory than those in the present program. The galena, bornite, chalcopyrite and sphalerite tend to be rather friable in the ores of this mine, and may well have been reduced to sludge. Lacking any sludge recovery, and with poor core recovery, the applicant is of the opinion that the drilling neither proved nor disproved anything, other than that other methods are preferrable for exploration of the property.

After the termination of the drilling, the applicant prepared the map attached as Fig. 5, and in October, 1956, obtained a new five year lease and option on the mine.

As to accessibility, referring to Fig. 5, it is now possible to wade with hip boots from the foot of the ladder shown at Point "D" to the faces at "H" and "N" and to the caved stope fill at "K". However, the drifts are filled to knee deep or more with a sludge carried into the mine by surface water entering the mine through a stope which was holed

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to surface in the area between "F" and "G". The sill timber supporting a 20 feet depth of shrink stope ore has failed between "B" and "C", so that the drift has been dammed and the sludge has been collecting for several decades. From "E" to "G" and from "J" to "K", the drifts are timbered and apparently stoped out above, as the material seen between the back lagging appears to be wall rock broken for stope fill in a "cut and fill" stope system. It is too fine to be sorted material.

IV (b)

The past production figures have been copied from U. S. Bureau of Mines records, which show production from 1908 to 1912, inclusive, during 1916 and 1917, and a small tonnage of dump ore during 1944 and 1945. There has been no production since 1945. The record is attached as Exhibit IV. There are no records available as to the efficiency of the Kittimac mill, but it is doubted that the results were better than others in the district at that time, with recoveries ranging from 40% to 60%.

The U. S. Bureau of Mines samples are shown on the attached Exhibit V, and their locations shown on Fig. 5. Samples #375 to #378, taken by the applicant, are shown on the attached Exhibit VI, and their locations are shown on Fig. 5.

With regard to ore reserves, the block from Point "O" to the pillar at "D", Fig. 5, can be classed as "positive" ore to a depth of 25 feet, with an additional 25 feet below that of "probable" ore, and an additional 50 feet of "possible" ore. Using the A.S.&R.Co. samples, as shown on Fig. 5, and dropping #25 and #26 as being an area that would not be stoped, and #35 and #36 as being left in a stope pillar in usual mining practice, there is a net length of 165 feet. This will yield 2434 tons "positive", 2434 tons "probable" ore, and 4868 tons "possible" ore, using a width of 5.9 ft. and a factor of 10 cu. ft. per ton.

For the blocks "E" to "G", and "J" to "K", the lack of samples will not allow for assuming any positive ore, but it should be reasonable to assume from the stoping above a 50 feet depth of probable, and a further 50 feet of possible ore under these stopes. Using a width of 7.0 ft., and length of 220 feet and 40-plus feet, these two blocks would yield 9100 tons "probable", and 9100 tons "possible" ore. To recap, to 100 foot depth below present stopes:

Positive:-	Block O - D,	2434 positive,	2434 probable,	4868 possible
	Block E - G,		7700 "	7700 "
	Block J - K,		1400+ "	1400+ "
		2434 positive,	11534+ probable,	13968+ possible

Using the A.S.&R.Co. samples, and excepting the four as above, yield a weighted average as follows:

Width - 5.9 ft. Au .02 oz., Ag 5.76 oz., Pb 5.73%, Cu 2.65%, Zn 5.11%

Using current prices of Au $35.00, Ag. 90¢, Pb 16¢, Cu 57¢, Zn 10¢ the above ore would have a gross value of $46.80 per ton.

The positive ore figure at this value would yield $113,011.20 gross value, and if the remaining tonnage of probable and possible were of the same tenor, the gross value of the 25,502 tons in them would be $1,193,493.60, or a total gross value of $1,307,504.80.

IV (e)

The country rock in the Kittimac workings is the andesite that is common to the major mines and ore bodies on the South side of the Animas River. It is a favorable host rock for mineral deposition, and the Shenandoah-Dives, Highland Mary, Pride of the West, Buffalo Boy, and other smaller mines have found their principal ore bodies in this rock. It is underlain by the Burns latite, and in general when productive veins enter the latite they are no longer commercial. The andesite is flat lying, with a slight dip to the northeast, and the contact between the andesite and latite is believed to be between 500 and 600 feet below the present Kittimac workings. The workings of the Caledonian, which is the adjoining mine to the northwest, are approximately 500 feet lower than the Kittimac, and are all in andesite.

The vein between "O" and "D", and "K" and "H", Fig. 5, is quartz, with about 5% to 10% iron pyrite, with galena, chalcopyrite, bornite and sphalerite as the ore minerals.

The present program was based on the premise that the known ore bodies would persist downward, probably to the latite below, and would in themselves constitute a sizeable reserve. To mine those reserves most economically would require a new lower tunnel level, to avoid the costs of drainage, extra handling of ore incidental to hoisting, hoisting equipment and operating costs, and very importantly, ventilation. To justify the driving of a lower level, it was planned to prove the downward extension of known ore by diamond drilling, but this program was poorly executed and the results inconclusive other than indicating that a well-conducted drilling program would be excessively costly.

A more practical approach was to clear out the caved area, remove the mud under the stoped areas, sample under the old stopes and then if ore was disclosed by this work to sink to a depth sufficient to justify the lower tunnel. Shipping the ore mined by sinking would also provide a more accurate assay of the ores, and defray a part of the costs.

Clearing out the caved area would also provide access to the west face at "H", which shows commercial ore but is only 0.9' wide. This drift should be extended, because the

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Silverton, Colo.

outcrop of the Isabella vein is 8 to 10 feet wide on the Camilla claim, several hundred feet to the west. The outcrop directly over the face at "H" and for several hundred feet to the west is buried under heavy slide rock.

The crosscut from "A" to "H" would give access to the Isabella vein, so that driving to the east would be possible if warranted. This appears to be a more feasible approach to this vein in this area than to clear out the caved stope fills at "K", the extent of which are unknown. Any work done to the east would be approaching the Caliber vein, which would be the objective of a later development program in view of the reports of good values in it. There are also reports that very good sulphide ores outcrop on the claims in the southeast corner of the property, which have never been exploited because of their inaccessibility. These ore bodies would become available if the Caliber vein were developed.

IV (d)

There is a good road to the portal of the Kittimac workings, which is maintained by the County. It is 3.1 miles from the portal to the mouth of Minnie Gulch, where this road intersects the state highway. From Silverton, Colorado, to this intersection is 7 miles, of which one mile is blacktop and the rest a good gravel road. From the mine to the nearest custom mill is 5 miles. This is the "Pride of the West" mill, which accepts 500 ton lots for milling on a toll basis. From this mill, mine concentrates can be trucked 5 miles to Silverton and loaded on D.&R.G.W. narrow gauge cars for shipment to Amarillo, Texas, with transfer to standard gauge at Alamosa, Colorado. Some shippers prefer to truck 37 miles from this mill to Ridgeway, Colorado, where the concentrates are loaded in standard gauge cars. Lead concentrates can go from Ridgeway to Salt Lake City smelters, or to the Leadville, Colorado, smelter. Zinc concentrates are shipped from Ridgeway to the Anaconda Company at Great Falls, Montana.

Fuel, explosives, lumber, small tools, etc. can be obtained in Silverton, Colorado. Equipment can be obtained in Grand Junction, Colorado, 124 miles, or Denver, Colorado, 334 miles. Mine crews would reside in Silverton, Colorado.

IV (e)

There is a good supply of manpower in Silverton, Colorado, which is a mining community. Materials and supplies are also obtainable there. There is a surplus of water available for all purposes. The electrical power supply is adequate, but the power lines from the Animas Valley to the mine, 3.2 miles, have been removed. For the proposed program diesel powered equipment will be required.

V (a)

It is proposed to explore for copper, lead and zinc.

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Silverton, Colo.

V (b)

The proposed work would be divided into two phases, A and B. Phase A would be conducted on an exact-cost basis, and has been divided into three parts in an effort to estimate costs more accurately. Part One would be the removal of caved material from Point "B" to Point "C", Fig. 5, and retimbering the drift through this area. There would be minor cleanup required from the portal to Point "B", which is now cleaned up, but will require a few shifts by spring. There is a good track from the portal to Point "A", with 30# rail, except for a switch at the waste dump. There are no rails beyond "A". There are 12 mine cars in the mine, which require only cleaning and greasing to be put in service. Part Two would be the removal of mud from Point "C" to "O" and from "J" to "K". The present plan is build a dam in the drift east of Point "C", and impound water there. This drift now produces water sufficient to fill a two inch pipe, so that by damming it up an adequate supply will be available. Then install a pump at "O", with water lines to "C", to be extended as required, and use water under high pressure to remove as much as possible of the mud. It may be necessary to use a mucking machine or hand mucking for some part of the mud, but the pump should remove the greater portion of the most liquid material, and perhaps all of the mud.

Part Three would include removal of rails, and cleaning out trenches at 10 foot intervals under the stoped areas "B" to "D", "E" to "G", and "J" to "K", including diversion of water through pipes or ditches, and sampling of each trench from wall to wall. If the assays of these samples indicate sufficient ore of satisfactory grade to justify further exploration, then a Phase "B" would be started, but if not, then the project could be shut down.

Phase "B" would be carried out on a unit cost basis, and be divided into two parts. Part One would be sinking an exploration shaft on the vein to a depth of 150 feet. The shaft to be carried from wall to wall of the vein, which will probably be from 6 to 8 feet, and 6 feet along the vein, to provide a 2 feet ladderway and 4 foot hoisting compartment, separated by stulls. The requirements for head room above for dumping buckets and storing muck, as well as safety considerations bearing on the condition of stope timber in open stopes above, would probably limit the location to some point between "O" and "B", or else at the manway shown near "G". There is insufficient headroom elsewhere between "E" and "G". It is proposed to leave this final selection of a site until a member of the field inspection team can see the conditions and agree on the choice.

Part Two would consist of driving a cross cut from "A" to "R", or approximately 50 feet, but sufficient to cross the Isabella vein at that point, or hole to old workings if already drifted on. This cross cut to be 7' x 5' in section, and to be driven with the same equipment used in sinking, except for a mucking machine. The crew would work on night shift so as to have sufficient compressed air, and not interfere withthe sinking crew.

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Silverton, Colo.

V (c)

The work will start in the spring, after the heavy snows are over, and the County road crews have cleared the roads of snow. The roads are not kept clear of snow to inactive properties. Starting date is estimated to be May 15, 1957 and will be completed within 7 months, or December 15, 1957.

V (d)

The applicant expects to do the supervisory work on this project. Has had over 30 years experience in the mining industry, including more than 20 years with the Anaconda Copper Mining Co., in all categories from miner to mine foreman. Since 1946 has been superintendent of two local mines and of an Uranium property.

VI

The estimated costs are as follows:

Phase "A" - Part 1 - Cleanup and Retimbering (3 men-6 weeks-Est.)

Estimate of Supplies Required.

*3-1/2 Tons 30# Rail	high? @	$260. (new)	$910.00
32 prs. 30# Rail Splices	@	1.35 pr.	43.20
2 - Track Bolt Wrenches	@	2.95 ea.	5.90
100# Track Spikes	@	.21	21.00
110 - Track Ties	@	.65	71.50
100# Track Bolts	@	.34	34.00
1 - 30# Switch	@	50.00	50.00
1 - Rail Bender	@	65.00	65.00
*1500 ft. 2" Pipe (air line)	high @	? .50 (new)	750.00
6 - 2" Unions	@	2.70	16.20
10 - 2" Tees	@	1.80	18.00
10 - 2"x1" Reduced Bushings	@	.59	5.90
10 - 1" x 30" Pipe	@	.24-1/2¢ ft.	79.50
10 - 1" Valves	@	2.85	28.50
3 - 2" Valves	@	13.50	40.50
16 - C.P. Quick Hose Couplers	@	1.15	18.40
50 ft. - 1" Air Hose	@	69.00	69.00
500 ft. Lineal Ft. Round Stull Timber for 10 drift sets	@	.40	200.00
1000 ft. BM 5"x12"x5' Lagging and 2" x 6" staging	@	80.00 BM	80.00
16 pcs. 4"x4"x12' Spiling-160'BM	@	80.00	12.80
100# Nails and Spikes	@	15.50	15.50
Hauling Charges, Pipe, Lumber, etc.	Est.		100.00
200# Carbide	@	10.00	20.00
			[illegible]
Plus 10% for expected price increases			[illegible]
			$118.31

[illegible]er W. Bentley
Silverton, Colo.

Phase "A" - continued

Estimated Payroll - Part 1

4 shifts	- clean tunnel from Portal to Point A		
2 "	- " " " Point A " " B		
60 "	- muck out caved material - Point B to Point C		
50 "	- timber - " " " " "		
8 "	- spiling one set - partly caved set at F		
10 "	- install compressor and air line, Portal to Point A		
5 "	- clean, oil and repair 10 mine cars.		
5 "	- repair surface track, install switch, extend waste track		
4 "	- hand muck est. 40 tons at F - too low for mucker		
	Total - 1[illegible] shifts @ $16.00 -		$[illegible]
	Overtime -		144.00
45 "	- Supervisor Supervisor - 1-1/2 @ 800.00		1200.00
5 "	- Mechanic for repairs- outside mechanic		72.00
			$[illegible]

Estimated Rental of Equipment - Part 1

** 1-1/2 months	- Compressor-Diesel Power Unit, 365 c.f.m.	@ 561.00/mo.	841.50
** 1-1/2 "	- Air Tremmer, 6 H.P.	@ 150.00/mo.	225.00
** 1-1/2 "	- Mucker	@ 275.00/mo.	412.50
	Freight on delivery of Rental Equipment, est.		500.00
			$1[illegible]

* Used, to be purchased

** Rental quotations by Western Machinery Co., Grand Junction, Colorado on basis of used units then available. All equipment is on rental purchase basis, and the particular units quoted are priced as follows:

	Mo. Rental	New Price	Used Price
Kimco 18-B Mucker	275.00	3450.00	1950.00
Air Tremmer - 6 H.P.	150.00	2055.00	1250.00
Compressor - 365 c.f.m.	561.00	11050.00	5250.00
Air Hoist - 2000# rope pull	100.00	1500.00	900.00

90% of rentals apply on purchase price. Advised to add 5% to above new prices to cover price increases expected after January 1 on new equipment.

Estimated Fuel and Supplies - Part 1

1000 gal. Diesel Fuel	@ 19¢ gal.	190.00
50 gal. Gasoline	@ 30¢ gal.	15.00
3 sets Muck and Oil Filters	@ 5.40	16.20
50 gal. Motor Oil	@ .95 gal.	47.50
50 gal. Compressor Oil	@ .75 gal.	37.50
1 - Fuel Pump	@20.00	20.00
Estimated gas, oil, grease, repairs for transport equipment for 45 days, 30 miles per day per vehicle @ 20¢ per mile ? high		675.00
One vehicle for transportation of crew, and pickup for supply and service haulage and transportation for supervisor.		/1001.20

[illegible]r W. Bentley
Silverton, Colo.

Phase "A" continued

Estimated Cost Insurance - Deposits, etc. - Part 1

Comprehensive and $50.00 deductible and medical payment Insurance on pickup and jeep	@ 100.00 yr. each	$200.00
State Workmens Compensation Deposit		100.00
Liability Insurance		50.00
Workmens Compensation (2% of payroll)		100.48
State Unemployment Tax (3.1% of payroll)		100.56
F.I.C.A. Tax (2% of payroll)		62.52
Est. of 2% Sales Tax		126.97
	Total -	$[illegible]

Grand Total - Part I - $[illegible]

Phase "A" - Part 2 (3 men - 3 weeks - estimated)

Removal of Mud from Point "E" to "H" and from "J" to "K"

Estimate of Supplies Required - Part 2

350 ft. 2 inch Pipe	@ 59¢ ft. (new price, but used will be obtained)	206.50
4 - 2 " " Unions	@ 2.70	10.80
50 ft. 1" Hose	@ 69.00	69.00
		$286.30

Estimate of Payroll - Part 2

3 shifts	- install pump at Point "O", and construct dam in drift at "O" to store water	
3 "	- install water line Point "O" to Point "F"	
40 "	- washing mud	
10 "	- cleaning ditches and track	
21 "	- Supervisor	
	Total - 56 shifts @ 16.00	- $896.00
	Overtime	- 72.00
	Supervision	- 400.00
		$1368.00

Estimated Rental of Equipment - Part 2

3/4 months	- Compressor	@ 561.00	420.75
3/4 "	- Air Tresmer	@ 150.00	112.50
3/4 "	- Mucker	@ 275.00	206.25
3/4 "	- Jeep or pickup, crew transportation		120.00
3/4 "	- Pickup for service and Supervisor transportation		100.00
3/4 "	- High Pressure Pump	@ 100.00	75.00
			$1114.50

W[illegible]er W. Bentley
Silverton, Colo.

Phase "A" continued

Estimated Cost Insurance - Deposits, etc. - Part 1

Comprehensive and $50.00 deductible and medical payment Insurance on pickup and jeep	@ 100.00 yr. each	- $200.00
State Workmens Compensation Deposit		100.00
Liability Insurance		50.00
Workmens Compensation (3% of payroll)		108.48
State Unemployment Tax (5.1% of payroll)		109.56
F.I.C.A. Tax (3% of payroll)		32.52
Est. of 2% Sales Tax		124.97
	Total -	$767.53

Grand Total - Part I - $10,4[illegible]

Phase "A" - Part 2 (3 men - 3 weeks - estimated)

Removal of Mud from Point "H" to "H" and from "J" to "K"

Estimate of Supplies Required - Part 2

350 ft. 2 inch Pipe	@ 59¢ ft. (new price, but used will be obtained)	206.50
4 - 2 " " Unions	@ 2.70	10.80
50 ft. 1" Hose	@ 69.00	69.00
		286.30

Estimate of Payroll - Part 2

5 shifts	- install pump at Point "O", and construct dam in drift at "O" to store water	
5 "	- install water line Point "O" to Point "F"	
40 "	- washing mud	
10 "	- cleaning ditches and track	
21 "	- Supervisor	
	Total - 56 shifts @ 16.00	- $896.00
	Overtime	- 72.00
	Supervision	- 600.00
		$1568.00

Estimated Rental of Equipment - Part 2

3/4 months	- Compressor	@ 561.00	420.75
3/4 "	- Air Tramper	@ 150.00	112.50
3/4 "	- Mucker	@ 275.00	206.25
3/4 "	- Jeep or pickup, crew transportation		100.00
3/4 "	- Pickup for service and Supervisor transportation		100.00
3/4 "	- High Pressure Pump	@ 100.00	75.00
			$1114.50

Walter W. Bentley
Silverton, Colo.

Phase "A" continued

Estimate of Fuel and Supplies - Part 2

500 gals. Diesel Fuel	@ 19¢	95.00
10 gals. Gasoline	@ 30¢	3.00
2 sets Fuel and Oil Filters	@ 5.40	11.80
10 gals. Motor Oil	@ .95	9.50
10 gals. Compressor Oil	@ .75	7.50
Est. cost operation transportation vehicles 21 days, 50 miles per day per vehicle @ 35¢/mi.		315.00
		$441.80

Estimated Cost - Insurance, etc. Part 2

Workmens Compensation Tax (5% payroll)	47.04
State Unemployment Tax (3.1% payroll)	48.61
F.I.C.A. Tax (5% payroll)	31.36
Est. Sales Tax 3%	35.31
	$162.32

Grand Total - Part 2 - $3,[illegible]

Phase "A" - Part 3

Removal of truck, cleaning loose rock, digging sample trenches and cutting samples, Point "B" to "D", "J" to "K", and "E" to "G" (29 trenches @ 10' intervals)

Estimate of Supplies Required - Part 3

30 - Sample Sacks - dry sacks	@ 1.50	45.00
29 - Assays (Au, Ag, Cu, Pb & Zn)	@ 6.00	174.00
1 - " (cadmium)		25.00
1 - Spectrographic Analysis		15.00
		259.00

Estimate of Payroll - Part 3

3 shifts - removal of truck		
15 " - cleaning sample trenches		
15 " - sampling		
3 " - Supervisor		
	Total - 35 shifts @ 15.00 -	525.00
	Overtime	24.00
	Supervision	200.00
		749.00

Estimated Rental of Equipment - Part 3

1/4 mo. Compressor	@ 561.00 mo.	140.25
1/4 mo. Air Tugmmer	@ 150.00 "	37.50
1/4 mo. Hoeker	@ 275.00 "	68.75
1/4 mo. Pump	@ 100.00 "	25.00
		271.50

Walter W. Bentley
Silverton, Colo.

Phase "A" - Part 3 - continued

Estimate of Fuel and Supplies - Part 3

150 gal. Deisel Fuel	@ 10¢ gal.	28.50
Est. cost operation transportation vehicles, 7 days @ 30 mi. per day per vehicle	@ 25¢ mi.	105.00
		133.50

Estimated Cost - Insurance, etc. - Part 3

Workmens Compensation Tax (3% of payroll)	22.56
State Unemployment Tax (3.1% of payroll)	24.82
F.I.C.A. Tax (2% of payroll)	15.04
Est. 2% Sales Tax	9.92
	72.34

Grand Total, Part 3- $1,488.34

Phase "B" - Part 1.

Sinking on Vein (Est. 4 months - 3 men)

Estimated Unit Cost per foot - Labor and Supplies
150 feet at $85.00 per foot — $12,750.00

Estimated - Supervision
4 months at $800.00 per month — 3,200.00

Estimated Rental of Equipment

4 months - Compressor	@ 561.00	2,244.00
4 " - Air Trammer	@ 150.00	600.00
4 " - Pump	@ 100.00	400.00
4 " - Hoist	@ 100.00	400.00
4 " - Ventilation Fan	@ 75.00	300.00
		3,944.00

Estimated - Purchase of Equipment

2 - Jackhammers complete with fittings, hoses, steel		2400.00
1 - Tungsten Carbide Bit Grinder		540.00
5000 BM Timber and Lumber for Head Frame and Bin		225.00
1 - Sheave Wheel	@ 55.00	55.00
250 feet Hoisting Cable	@ 52.50 per c.	131.50
150 feet Ventilation Fan Tubing	@ 1.00	150.00
		3351.50

Estimated Cost - Taxes, etc.

Workmens Compensation Tax (3% of payroll)	276.00
State Unemployment Tax (3.1% of payroll)	303.40
F.I.C.A. Tax (2% of payroll)	184.00
Estimated Sales Tax - 2%	65.02
	828.42

Grand Total - Part 1 $20,473.01

Walter W. Bentley
Silverton, Colo.

Phase "B" - Part 2 - Driving Cross-Cut Point "A" to Point "R"

Estimated - 12 shifts - 2 men

Using same equipment as used for sinking in Part 1, except addition of mucker, but operating night shift

Estimated Unit Cost per foot - Labor and Supplies
50 feet @ $40.00 per foot $2,000.00

Rental of Equipment

1/2 mo. Mucking Machine	@ 275.00	137.50

Estimated Cost - Taxes, etc.

Workmens Compensation Tax (2% payroll)	50.00
State Unemployment Tax (3.1% payroll)	31.00
F.I.C.A. Tax (2% of payroll)	20.00
Est. Sales Tax - 2%	2.75
	53.75

Grand Total - Part 2-$2221.25

Recap:-

Phase "A" - Part 1	$10,432.04	
Phase "A" - Part 2	3,630.82	
Phase "A" - Part 3	1,488.34	
Phase "B" - Part 1	27,174.12	
Phase "B" - Part 2	2,221.25	
	$ 44,946.57	
Accounting, Consultants, etc.	900.00	
Contingencies, est.	4,494.65	
		$50,381.22

VI(b)

Miners pay scale locally is $1.875 per hour, where men are assured of steady employment. In the clean up and drilling project recently completed, it was found that for temporary jobs it was necessary to pay $2.00 per hour to obtain men, and estimates are based on that figure. It is expected that during Phase "A" three miners will be employed.

During Phase "B" five to six miners will be employed on a unit cost basis.

Walter W. Bentley
Silverton, Colo.

The Supervisor is to be paid $800.00 per month.

Surveyor, to complete survey of tunnel level after mud is cleared - 6 days at $40.00 per day	$240.00
Geologist, to map geology cleared area, 4 days at $100.	400.00
Accounting, est. 6 months @ $50.00 per mo.	300.00
	$940.00

VII (a) Yes

(b)

The partnership is prepared to pay their share of project costs in cash.

[illegible] Gold Shippers Agency
[illegible] Avenue, Durango, Colorado

CERTIFICATE OF ASSAY

DESCRIPTION	Ozs. Per Ton 2000 Lbs. GOLD	SILVER	Per Cent Lead (wet)	Per Cent Copper (wet)	Per Cent Zinc	Per Cent Insoluble	Per Cent Iron	VALUE $ PER TON
[illegible]' - 380"	0.00	1.[illegible]0	2.70	0.35	4.20			
[illegible]' - 382"	Trace	0.[illegible]	1.30	0.20	1.90			

Colorado [illegible]

[illegible]

ASSAYERS

P. O. Box

[illegible] SHIPPERS' AGE[illegible]

[illegible], Durango, Colorado

CERTIFICATE OF ASSAY

DESCRIPTION		Ozs. Per Ton 2000 Lbs. GOLD	SILVER	Per Cent Lead (wet)	Per Cent Copper (wet)	Per Cent Zinc	Per Cent Insoluble	Per Cent Iron	VALUE $ PER TON
[illegible] 0 32'	30"	0.01	0.7	0.30	0.12	1.10			
	32"	0.02	1.2	0.50	0.16	3.80			
	37½"	Trace	0.2	nil	0.02	nil			
	35½"	Trace	0.3	0.20	0.08	0.80			
	15½"	0.01	0.6	0.40	0.12	1.20			
	36"	0.02	1.6	2.30	0.26	3.10			
	23½"	0.01	0.9	1.30	0.20	1.40			
	12½"	0.01	0.7	0.40	0.12	1.70			
	30½"	Trace	0.2	0.30	0.04	0.80			
[illegible]-225'-245'		Trace	0.2	Random pieces showed more than usual pyrite.					

[illegible]olorado

[illegible]

ASSAYERS

EXHIBIT IV - [illegible] MINE - PRODUCTION RECORD (From U.S.B.M.)

[illegible] Silverton, Colo.

Year	Tons	Gold Oz. Recovered	Gold Value	Silver Oz. Recovered	Silver Value	Copper Gross # in Concentrate	Copper Value	Lead Gross # in Concentrate	Lead Value	Zinc Gross # in Concentrate	Zinc Value
1908	110	12.05	249.00	32	17.00						
1909	10,847	26.35	543.00	34,607	18,342.00	176,627	28,260.00	504,167	22,687.00	22,861	1,485.00
1[illegible]	3,685	37.22	767.00	11,794	6,250	63,939	10,230.00	238,094	10,714.00	24,438	1,588.00
1911	372	1.87	38.00	591	313.00	3,674	588.00	6,241	280.00	59,023	3,836.00
1912	195	25.82	532.00	1,724	914.00	15,625	2,500.00	24,781	1,115.00	-	-
1913	none										
1914	none										
1915*	(13.02)	-	-	20	-	1,615	258.00	4,850	219.00	3,280	213.00
1916	5,000	18.25	376.00	5,819	4,772.00	48,647	7,784.00	124,820	5,617.00	74,000	4,810.00
1917	3,500	15.78	325.00	5,257	4,310.00	77,623	12,240.00	157,857	7,104.00	91,040	5,918.00
19[illegible]-1943 No production											
194[illegible]	45	1.29	-	109	-	1,135	-				
1945	211	2.00	-	486	-	4,212	-	2,634	-	3,088	-
(Current prices)			235.00/oz.		90¢/oz.		37¢/#	10,746	-	9,900	
Total	23,965	140.63	4,922.05	60,439	54,395.10	393,097	145,445.89		16¢/#		10¢/#
								1,074,190	171,870.40	287,630	28,763.00

* 13.02 Tons concentrate from mill clean up
** Dump Ore

Grand Total - $405,396.44

EXHIBIT V - SAMPLES BY U.S.B.M. - See Fig. 5

Sample #	Width	Oz. Au.	Oz. Ag	Cu %	Pb %	Zn %	Wt. of Sample	Total Value
7	7.0'	0.79	2.8	2.8	4.0	4.8	25#	11.6
8	7.0'	0.01	0.8	2.5	2.1	2.8	40#	7.4
9	6.0'	0.03	2.8	3.4	4.6	6.8	40#	14.8
10	6.0'	0.08	17.1	3.6	5.6	7.0	25#	16.2
11	6.0'	0.15	5.2	9.0	4.9	12.0	25#	25.9
12	5.0'	0.12	1.2	1.6	2.6	3.5	30#	7.7
13	4.0'	0.01	0.5	2.1	2.9	4.4	20#	9.4
14	5.0'	0.03	3.2	5.4	4.3	6.2	35#	13.9
15	6.0'	0.01	2.4	5.4	3.9	5.4	25#	14.7
16	3.5'	0.03	0.6	0.0	0.4	0.9	15#	1.3

W-13 - Grab from chutes for a distance of about 150 feet running S.E. from tunnel intersection

	Au	Ag	Cu	Pb	Zn	
W-13	0.01	-	2.65	2.9	4.8	10.35
W-14	.01	-	3.75	41.6	11.3	59.95
W-15	Tr.	-	0.65	0.2	6.1	6.95

W-14 - Selected sample from pillar in stope about 120' east of tunnel intersection.

W-15 - Floor sample about 200' southeast of tunnel intersection.

EXHIBIT # No. 6

C O P Y

Walter W. Bentley
Silverton, Colo.

THE COLORADO ASSAYING COMPANY, Inc.
2013 Welton Street
Denver, Colorado

Report on determinations made for Mr. W. Bentley,
Silverton, Colo.

September 26,1956.

Sample Marks	Metals	Amount per Ton Ozs.	Amount per Ton Lbs.	Per Cent	Value Per Ton	
#375 Kittimac-Face of drift at West end beyond cave 0.9 ft. width	Gold	.01			.35	
	Silver	4.00			5.60	
	Copper			1.35%	10.80	
	Lead			4.6%	13.80	
	Zinc			4.3%	6.45	
						55.00
#376 do: at 20 ft. East of #375 - back - 2.4' wide	Gold	.01			.35	
	Silver	.70			.65	
	Copper			0.30%	2.40	
	Lead			0.9%	2.70	
	Zinc			1.2%	1.80	
						7.88
#377 do: at 40 ft. East of #375 - back - 2.6' wide	Gold	.005			.18	
	Silver	.90			.81	
	Copper			0.25%	2.00	
	Lead			0.7%	2.10	
	Zinc			1.1%	1.65	
						6.74
#378 Resample of trench cut by A.S.&D. Number 33 4.5 plus feet wide	Gold	.01			.35	
	Silver	2.20			1.98	
	Copper			1.70%	13.60	
	Lead			2.2%	6.60	
	Zinc			3.4%	5.10	
						27.63

Gold at $35.00 per ounce
Silver at 90¢ per ounce
Lead at $3.00 per unit
Copper at $8.00 per unit
Zinc at $1.00 per unit

C O P Y

AGREEMENT

THIS AGREEMENT, Made and entered into this 10th day of October, 1956, by and between WILLIAM A. WAY, as the duly appointed, qualified and acting RECEIVER of the properties of The Kittimac Mines Company of Arizona, The Kittimac Mines Company of Wyoming, and the Kittimac Mine and Mill Company of Colorado, of the Town of Silverton, County of San Juan, and State of Colorado, as LESSOR, and as Party of the First Part, and WALTER W. BENTLEY, of Silverton, Colorado, as LESSEE and as Party of the Second Part, WITNESSETH:-

That, whereas, the said Party of the First Part and herein designated as the LESSOR, is now and since the twenty-fourth day of September, 1925, has been the duly appointed, qualified and acting RECEIVER of and for the properties hereinafter described, and heretofore owned or controlled by The Kittimac Mines Company of Arizona, the Kittimac Mines Company of Wyoming, and the Kittimac Mine and Mill Company of Colorado, or some one or more of them, under order of appointment as such, entered by the Judge of the District Court in and for the County of San Juan, State of Colorado, in case No. 1401; and, whereas, under and by virtue of such appointment, said Party of the First Part has had and now holds the exclusive possession and custody of all the property and mining claims hereinafter described in accordance with the laws of the State of Colorado, and the terms and conditions of his said order of appointment; and, whereas, it appears to be for the best interest of all parties and corporations involved in said receivership proceedings that the properties constituting said receivership estate, and hereinafter more fully described, shall be operated under lease and option under the terms and conditions hereinafter stated to the end that such property may produce some revenue in the near future and may eventually be sold to produce sufficient revenue to pay receivership expenses, including taxes, and the satisfaction of claims, in whole or in part, heretofore filed against said receivership in the order of priority established in and by said Court; and whereas,

said Party of the Second Part, is desirous of obtaining a lease and option of purchase on said mining properties on the terms and conditions hereinafter set forth.

THEREFORE IT IS HEREBY COVENANTED AND AGREED AS FOLLOWS:

That the said LESSOR, for and in consideration of the royalties hereinafter reserved and the covenants and agreements hereinafter expressed, and by the said LESSEE to be paid, kept and performed, has granted, demised and let, and by these presents does grant, demise and let unto the said LESSEE all of the following described lode mining claims and mining property, situate in the Eureka Mining District (although a small portion thereof may be situate in Animas Mining District), San Juan County, Colorado, to-wit:

The CALIBER LODE MINING CLAIM, the original location certificate of which is recorded in Book 97 at page 370 and the amended location certificate of which is recorded in Book 92 Page 461 of the records of San Juan County.

The CALIBER NO. 1 LODE MINING CLAIM, the original location certificate of which is recorded in Book 111 Page 142 and the amended location certificate of which is recorded in Book 92 at Page 462 of the records of San Juan County.

The CALIBER NO. 2 LODE MINING CLAIM, the original location certificate of which is recorded in Book 111 at Page 143 and the amended location certificate of which is recorded in Book 92 at Page 463 of the records of the County of San Juan.

The CALIBER NO. 3 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 695 of the records of San Juan County.

The PURSER LODE MINING CLAIM, the original location certificate of which is recorded in Book 97 at Page 241 and the amended location certificate of which is recorded in Book 92 at Page 202 of the records of San Juan County; also in Book 111 at Page 582.

The PURSER No. 1 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 Page 583 of the records of San Juan County.

The PURSER NO. 2 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 584 of the records of San Juan County.

The HOME LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 480 of the records of San Juan County.

The HOME NO. 1 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 Page 482 of the records of San Juan County.

The HOME NO. 2 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 Page 482 of the records of San Juan County.

The SLIDE LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 489 of the records of the County of San Juan.

The SLIDE No. 1 LODE MINING CLAIM, the location certificate of which is recorded in Book _____ Page ____ of the records of San Juan County.

The DETROIT LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 599 of the records of San Juan County.

The GLOBE LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 598 of the records of San Juan County.

The LIVERPOOL LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 597 of the records of San Juan County.

The MICHIGAN LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 600 of the records of San Juan County.

The GRAND RAPIDS LODE MINING CLAIM, the location certificate of which is recorded in Book 111 Page 601 of the records of San Juan County.

The NEW YORK LODE MINING CLAIM, THE LOCATION CERTIFICATE OF WHICH IS RECORDED in Book 111 Page 602 of the records of San Juan County.

The CHICAGO LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 603 of the records of San Juan County.

The ANN ARBOR LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 604 of the records of the County of San Juan.

The DURANGO LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 585 of the records of San Juan County.

The PITTSBURGH LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 586 of the records of San Juan County.

The HELENA LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 587 of the records of San Juan County.

The LAKE CITY LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 588 of the records of the County of San Juan.

The SILVERTON LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 589 of the records of San Juan County.

The DENVER LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 590 of the records of San Juan County.

The BERLIN LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 591 of the records of San Juan County.

The ST LOUIS LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 592 of the records of the County of San Juan.

The LONDON LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 593 of the records of the County of San Juan.

The PARIS LODE MINING CLAIM, the locateion certificate of which is recorded in Book 111 at Page 594 of the records of the County of San Juan.

The BALTIMORE LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 595 of the records of San Juan County.

The BOSTON LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 596 of the records of San Juan County.

The IRON LODE MINING CLAIM, the location certificate of which is recorded in Book 114 at Page 87 of the records of the County of San Juan.

The IRON NO. 1 LODE MINING CLAIM, the location certificate of which is recorded in Book 116 at Page 225 of the records of the County of San Juan.

The IRON NO. 2 LODE MINING CLAIM, the location certificate of which is recorded in Book 116 at page 226 of the records of the County of San Juan.

The IRON no. 3 LODE MINING CLAIM, the location certificate of which is recorded in Book 116 at Page 227 of the records of the County of San Juan.

The IRON NO. 4 LODE MINING CLAIM, the location certificate of which is recorded in Book 116 at Page 228 of the records of the County of San Juan.

The IRON DUMP LODE MINING CLAIM, the location certificate of which is recorded in Book 114 at Page 29 of the records of the County of San Juan.

The IRON AGE LODE MINING CLAIM, the location certificate of which is recorded in Book 114 at Page 28 of the records of San Juan. County.

The FOREST QUEEN LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 267 of the records of San Juan County.

The FOREST QUEEN NO. 1 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 268 of the records of the County of San Juan.

The FOREST QUEEN NO. 2 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 269 of the records of the County of San Juan.

The FOREST QUEEN No. 3 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 270 of the records of the County of San Juan.

The FOREST QUEEN NO. 4 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 271 of the records of the County of San Juan.

The FOREST QUEEN NO. 5 LODE MINING CLAIM; THE LOCATION CERTIFICATE OF WHICH IS RECORDED IN Book 111 at Page 272 of the records of the County of San Juan.

The FOREST QUEEN NO. 6 LODE MINING CLAIM, the location certificate of which is recorded in Book 114 at Page 35 of the records of the County of San Juan, and said claim now being patented and now known by U. S. Survey No. 18843.

The FOREST QUEEN NO. 7 LODE MINING CLAIM, the location certificate of wich is recorded in Book 114 at Page 36 of the records of the County of San Juan and said claim now being patented and now known by U. S. Survey No. 18843.

The FOREST QUEEN NO. 8 LODE MINING CLAIM, the location certificate of which is recorded in Book 114 at Page 37 of the records of the County of San Juan and said claim now being patented and now known by U. S. Survey No. 18843.

The FOREST QUEEN NO. 9 LODE MINING CLAIM, the location certificate of which is recorded in Book 114 at Page 38 of the records of the County of San Juan and said claim now being patented and now known by U. S. Survey No. 18843.

The FOREST QUEEN NO. 10 LODE MINING CLAIM; the location certificate of which is recorded in Book 114 at Page 39 of the records of the County of San Juan and said claim now being patented and now known by U. S. Survey No. 18843.

The FOREST QUEEN NO. 11 LODE MINING CLAIM; the location certificate of which is recorded in Book _____ at Page _____ of the records of the County of San Juan.

The ISABELLA LODE MINING CLAIM, the original location certificate of which is recorded in Book 111 at Page 256 and the amended location certificate of which is recorded in Book 111 at Page 615 of the records of the County of San Juan.

The ISABELLA NO. 1 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 616 of the records of the County of San Juan.

The ISABELLA NO. 2 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 617 of the records of the County of San Juan.

The ISABELLA NO. 3 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 618 of the records of the County of San Juan.

The ISABELLA NO. 4 LODE MINING CLAIM, the location certificate of wh which is recorded in Book 111 at Page 619 of the records of the County of San Juan.

The ISABELLA NO. 5 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 620 of the records of the County of San Juan.

The ISABELLA NO. 6 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 621 of the records of the County of San Juan.

The ISABELLA NO. 7 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 622 of the records of the County of San Juan.

The ISABELLA NO. 8 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 623 of the records of the County of San Juan.

The MONITOR LODE MINING CLAIM, the location certificate of which is recorded in Book 114 at Page 24 of the records of the County of San Juan.

The MONITOR NO. 1 LODE MINING CLAIM, the location certificate of which is recorded in Book 114 at Page 25 of the records of the County of San Juan.

The MONITOR NO. 2 LODE MINING CLAIM, the location certificate of which is recorded in Book 114 at Page 26 of the records of the County of San Juan.

The MONITOR NO. 3 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 483 of the records of the County of San Juan.

The MONITOR NO. 4 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 484 of the records of the County of San Juan.

The MONITOR NO. 5 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 485 of the records of the County of San Juan.

The MONITOR NO. 6 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 606 of the records of the County of San Juan.

The MONITOR NO. 7 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 607, of the records of the County of San Juan.

The MONITOR NO. 8 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 608 of the records of the County of San Juan.

The MONITOR NO. 9 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 609 of the records of the County of San Juan.

The MONITOR NO. 10 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 610 of the records of the County of San Juan.

The MONITOR NO. 11 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 611 of the records of the County of San Juan.

The MONITOR NO. 12 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 612 of the records of the County of San Juan.

The MONITOR NO. 13 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 613 of the records of the County of San Juan.

The MONITOR NO. 14 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 614 of the records of the County of San Juan.

The AURORA LODE MINING CLAIM, the location certificate of which is recorded in Book 97 at Page 369 and the amended location certificate of which is recorded in Book 92 at Page 450 of the records of San Juan County.

The AURORA NO. 1 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 Page 144 and the amended location certificate of which is recorded in Book 92 at Page 451 of the records of San Juan County.

The LITTLE JOE LODE MINING CLAIM, the location certificate of which is recorded in Book 97 Page 65, and the amended location certificate of which is recorded in Book 92 at Page 449 of the records of San Juan County.

The WANDA LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 633 of the records of the County of San Juan.

The FOUNTAIN LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 479 of the records of the County of San Juan.

The CAMILLA LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 634 of the records of the County of San Juan.

The MIDNIGHT SUN NO. 1 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 486 of the records of the County of San Juan.

The MIDNIGHT SUN NO. 2 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 487 of the records of the County of San Juan.

The MIDNIGHT SUN NO. 3 LODE MINING CLAIM, the location certificate of which is recorded in Book 111 at Page 488 of the records of the County of San Juan.

Also the FOREST QUEEN MILLSITE CLAIM, the location certificate of which is recorded in Book D-2 at Page 109 of the records of the County of San Juan.

The MONITOR MILLSITE CLAIM, the location certificate of which is recorded in Book D-2 Page 110 of the records of the County of San Juan.

That Portion of the J. H. FRENCH (also known as the JOHN H. FRENCH) PLACER MINING CLAIM, U. S. SUR. NO. 45, described in the decree of the District Court of San Juan County, Colorado, in Case 1289, and awarded to the Minnie Gulch Mining and Tunnel Co., et al, a copy of which is recorded in the office of the County Clerk and Recorder of San Juan County, Colorado in Book 137 at Page 266.

(1259)

Also that certain water right, location and filing known as the Bijou Water Right, as described in the records of San Juan County, Book D-2 Page 56, and the amended description thereof in Book D-2 Page 84 of the records of San Juan County.

Also that certain water right, location and filing known as the D. M. Estey Water Right, as shown by the records of said San Juan County, in Book D-2 Page 61 and the amended filing shown in Book D-2 Page 83.

TOGETHER with all and singular the mine structures, buildings, improvements and machinery upon and about said above-described property, including an air compressor, compressor house, boarding house, tramway terminal, blacksmith shop, crushers and crusher house, tracks, mine cars, ore bins, air pipe, tramway, including all tower, cable, buckets, equipment and

terminals, mill buildings and contents, including crushers, rolls, ball mill, tables, motors, driers, boiler and other machinery; bunk house and contents; boarding house and contents, and all other materials, tools, machinery and equipment as shown and listed in the inventory thereof hereto attached, marked Exhibit "A" and made a part hereof.

AND TOGETHER with the Kittimac Water Right, water tank and 700 feet of flume.

AND generally together with all and singular the surface and underground improvements thereon, therein and thereabout situate; and all tunnels therein and thereabout located, and all surface rock deposits and mine dumps therefrom, thereon, and thereabout situate, and any and all water, water rights, ditches, pipe lines, flumes and rights of way therefor used in connection therewith or thereto appertaining and together with all and singular the other appurtenances thereto belonging.

All of the above being suitate in the Eureka Mining District and principally in the County of San Juan in the State of Colorado, and a small portion of said property being situate in the County of Hinsdale, in the State of Colorado.

TO HAVE AND TO HOLD the same and all thereof unto the said LESSEE from and after the date hereof to and until the 10th day of October, 1961, unless sooner forfeited or determined through the violation of any covenant or agreement hereinafter made, or to be performed by the said LESSEE or Tenant.

And in consideration of the said demise, the LESSEE does covenant and agree to and with the said LESSOR as follows:

FIRST: To enter into said mine and mining premises and properties within five days after the approval of this agreement by the District Court of San Juan County, Colorado, and thereafter to remain in custody and control thereof during the life of this agreement and as hereinafter required to work the same mine fashion and in manner necessary to good, safe and economical mining, so as to take out the greatest amount of ore possible with due regard to preservation of such premises as a workable mine, and to the special covenants hereinafter reserved. Inasmuch as winter storms may be expected in the near future, it is understood and agreed that work on such properties may be discontinued to and until June 20, 1957, but work thereon shall be resumed on or before such date and continued thereafter during the life of this agreement and not less than ninety shifts of work performed on such properties each calendar month thereafter during the life of this

SIXTH: To occupy and hold all mineral deposits which may be discovered upon or in said premises by said LESSEE, or any person under him, whether such mineral deposit or deposits are in the form of cross or parallel ledes, veins, pockets, chimneys, blossoms, blowouts, chutes, dikes, spurs, or known by any other name, which mineral deposit or deposits shall be and shall become the property of the said LESSOR; and that said mineral deposit or deposits shall be worked and mined under the terms of this lease as the property of the said LESSOR, whether found, located or discovered in or by the working of any new or old drift, cross-cut, shaft, raise, stope, tunnel, winze or other workings of any kind or character whatsoever.

SEVENTH: To at all times keep all drifts, shafts, tunnels and other workings in said mine, made or used by him, thoroughly drained and clear of loose rock and rubbish, in accordance with the usages of good mining, unless prevented from so doing by an extraordinary mining casualty.

EIGHTH: To make all shafts seven (7) feet long and four (4) feet wide in the clear; and all drifts seven (7) feet high by four and one-half (4-1/2) feet wide, all in the clear.

NINTH: To pay to said LESSOR a royalty of ten percent (10%) of the net smelter or mill returns paid on all ore shipped and sold from said property, the net smelter returns being defined as the sum of money paid by the smelter for the ore purchased after deducting railroad freight and smelter treatment charges only, or if shipped from mine to smelter by truck, after deducting trucking charges and smelter treatment charges only. If such ore shall be shipped to a custom mill, the net mill returns shall be the amount paid the shipper for such ore after deducting transportation charges from mine to mill. A signed copy of this agreement placed with such smelter or custom mill shall be full authority to it to pay over to the said LESSOR royalty above reserved. Duplicate smelter or mill returns on all such ore and

concentrates so shipped and sold shall be mailed to the LESSOR at Silverton, Colorado, or to his successor in office, at such address as may be given to the purchaser of such ore.

TENTH: The LESSEE shall carry Workman's Compensation Insurance at all times when said property shall be operated, under and in compliance with the Workmen's Compensation Act of the State of Colorado and any amendments thereof covering all men working in and about the said demised property, and shall comply with all the terms and provisions of said Workmen's Compensation Act. He and his assigns shall indemnify and save harmless the said LESSOR from and against any and all claims and actions for injury to or damage suffered by any person or persons employed in and about the said leased premises, and any and all other persons who suffer injury or damage while upon such premises.

ELEVENTH: The LESSEE shall at all times hereafter during the term of this lease post, and keep posted, in conspicuous place or places upon the said property where any work is being performed, and especially upon the buildings and at the mouth of the tunnel used in operating such property, notice, or notices, in due form of law, stating that such property and premises are being worked and operated under lease only, and that the LESSOR and said property will in no wise be liable for any labor performed upon the said premises or materials and supplies furnished for the development and operation thereof. Such notices shall be in due form of law under the terms and provisions of the laws of the State of Colorado relating to mechanic's liens pertaining to the operation of mining property, so as to protect said property and the said LESSOR from Mechanic's liens. The LESSOR will sign such notices at any time hereafter upon request.

TWELFTH: The LESSOR agrees to pay all taxes now constituting a levied upon the property above described, and any part thereof, but only out of monies paid hereunder. It is understood and agreed that should it become impossible to recover the patented properties mentioned and described in paragraph one, page 2 hereof, no taxes shall be paid on any of said property hereunder, and the LESSEE shall hereafter pay all taxes levied and existing against the said property promptly as

the same become due, commencing with the taxes for the 1956 and payable in 1957.

THIRTEENTH: The LESSEE agrees to notify the LESSOR herein of the shipment of any ore or concentrates made from said leased property during the term of this agreement and the name of the mill, smelter, or other ore buyer to whom or to which the said shipment is made. A signed copy of this agreement deposited with such purchaser is authorization to make remittance of the royalty as herein above provided, the remainder of the purchase price of such ore to be sent to the LESSEE and his assigns.

FOURTEENTH: At the termination of this lease in any manner herein provided for, the said demised premises with the appurtenances and all improvements thereon shall be returned to the LESSOR in good order and condition, with all drifts, shafts, tunnels and other passages made or used by LESSEE within six month prior to such termination, clear of loose rock and rubbish, and said mine ready for immediate continued working thereof without further demand or notice, and said LESSEE upon compliance with the conditions in this paragraph reserved shall have the right to remove all machinery, tools and equipment installed by him upon said premises, but he shall not remove any buildings, tramway or ventilating pipe and mine rails and track heretofore or herafter installed upon and in said property.

FIFTEENTH: And, finally, that upon the violation of any covenant herein reserved, and by the LESSEE to be kept, paid and performed, the term of this lease may, at the option of the LESSOR expire, and the same and the said premises shall become forfeit to the LESSOR. Provided, however, that no forfeiture shall be declared or taken hereunder until the expiration of sixty (60) days after notice of such ground of forfeiture shall be given the LESSEE, and if during such period of time he shall cureor remedy such breach in the performance of the covenants hereof, no forfeiture shall be taken hereunder. If the LESSEE shall not cure or remedy such breach and the

covenants hereof within the sixty (60) day period herein reserved, the said premises, with the appurtenances, shall be and become forfeited to the LESSOR, and his agent or attorney, may thereupon, after demand in writing, repossess said premises with or without process of law, and take possession thereof and repossess the same as of the LESSOR'S former estate, and expel, remove and put out the said LESSEE, or any other person or persons claiming by, through or under him; and if the said LESSEE, or any person claiming under him, retains possession of said demised premises after his right of possession has expired as herein provided, he and all persons holding, by, through or under him, shall be deemed guilty of unlawful detainer under the laws of the State of Colorado, and proceeded against accordingly.

SIXTEENTH: Each and every clause and covenant of this lease shall extend to bind and inure to the benefit of the heirs, executors, administrators and assigns of the LESSEE, and to any lawful successor in interest of the LESSOR, as receiver, save and except a trustee in bankruptcy, or an assignee under a general assignment for creditors; and it is mutually agreed by the parties hereto that if the said LESSEE, or his lawful assigns, shall be adjudicated to be a bankrupt, or shall make a general assignment for the benefit of creditors, this lease in such event shall become null and void, and shall have no further force and effect thereafter, and the said LESSOR herein shall then have the right to immediate possession of all the demised premises and appurtenances as of his former estate, without further notice; and that in the event an attachment or writ of execution is levied against the said LESSEE'S interest in this lease, or upon the interest of his assigns herein, and said attachment is not dissolved, or said writ of execution not released within a reasonable time or after the exercise of due diligence, such attachment or writ of execution shall work a forfeiture of this lease and entitle the said LESSOR to the immediate possession of said demised premises.

OPTION TO PURCHASE THE DEMISED PREMISES:

And in further consideration of the foregoing lease and the expenditures to be made thereunder and the well and faithful keeping of the covenants and agreements thereunder by the LESSEE, the said LESSEE shall have and is hereby given and granted the right, privilege and option to purchase the said demised premises and mining property by the payment to the LESSOR, or his successor in interest, of the full sum of Seventy-five Thousand Dollars ($75,000.00) in time and manner as follows, to-wit: the sum of One Thousand Dollars ($1,000.00) to be paid directly to said LESSOR at the time of the execution of this agreement; and the further sum of Three Thousand Dollars ($3,000.00) to be paid directly to said LESSOR on or before October 5, 1957; and the further sum of Five Thousand Dollars ($5,000.00) to be paid on or before October 5, 1958; and the further sum of Twenty-two Thousand Dollars ($22,000.00) to be paid on or before October 5, 1959; and the further sum of Twenty-two Thousand Dollars ($22,000.00) to be paid on or before October 5, 1960; and the further and final sum of Twenty-two Thousand Dollars ($22,000.00) to be paid on or before October 5, 1961. Time is of the essence hereof as to such payments and each of them. It is understood and agreed that any royalty payments under the lease herein given shall apply upon and constitute part payment of the next succeeding payment of purchase price due hereunder, and if he so elects the LESSEE and his assigns may at any time hereafter pay the then remaining balance of purchase price and be entitled to take deed hereunder as soon as the LESSOR, or his successor in interest, can secure authorization from the District Court of San Juan County, Colorado to issue such deed. It is further agreed that should be LESSEE desire to complete the purchase of such property at any time prior to October 5, 1961, he may give written notice of such desire to the above named LESSOR and if the payments previously made to the said LESSOR shall equal Twenty-Nine Thousand Dollars ($29,000.00), the LESSOR shall immediately

take the necessary legal steps to secure the authority from the said District Court of San Juan County, Colorado to issue the deed required to convey said property, and thereupon the unpaid remainder of such purchase price shall be paid at the time of the delivery of such deed.

Upon the payment of the total purchase price hereinabove provided for, either through royalty payments or otherwise, in compliance with the terms hereof, the LESSOR will, after obtaining the proper and requisite authority from the District Court of San Juan County, Colorado so to do, and under and in accordance with the orders of said court, and after giving the requisite and proper notice to the persons and corporations for whom and for which the LESSOR acts as receiver, make, execute, acknowledge and deliver, at the expense of said receivership, a good and sufficient receiver's deed in the nature of a mining deed, or deeds of conveyance, to all of said demised property, conveying the title of the corporations and companies for which he acts as receiver, free and clear of any claim or lien thereon asserted by any of the creditors of any of said three Kittimac companies, or of the Minnie Gulch Mining and Tunnel Company a defunct corporation. Of the properties above listed, the Forest Queen No. 6, Forest Queen No. 7, Forest Queen No. 8, Forest Queen No. 9, and Forest Queen No. 10 have heretofore been patented and it is agreed that when said sum of Twenty-nine Thousand Dollars ($29,000.00) shall have been paid, said LESSOR will at the expense of said receivership secure abstracts of title to the portion of the John H. French Placer Mining Claim, U. S. Survey No. 45, now held by him as a part of said receivership property and also of said Forest Queen lodes above described as being patented, and deliver such abstracts to the LESSEE for examination and such examination of title shall be completed by the LESSEE within (30) days, and said abstracts returned to the LESSOR above named.

The said LESSEE, upon ascertaining or being advised of any defect or defects in the title to said properties as shown or disclosed by said abstract, shall promptly notify the LESSOR of the

nature thereof, and the said LESSOR herein shall have a reasonable period of time, not to exceed one (1) year from the date of the notification of the nature of such title defects, in the absence of mutual agreement otherwise, in which to cure and remove the same, so far as he, in the capacity of receiver, is able so to do with the assistance and equity supervision of the receivership court. Further than the above, the said LESSOR as such receiver shall not be obligated to convey to the said LESSEE, or his assigns, any better title to said demised properties than he as such receiver obtained under and by virtue of said receivership proceedings; except that the same when conveyed shall be conveyed free and clear of any and all claims of receivership and tax lien creditors of the three Kittimac companies, and free and clear of the claims and liens of any other claims to said demised property so far as said receivership court shall have or be construed to have jurisdiction over said claimants by reason of said receivership proceedings.

The forfeiture, surrender or termination of the above and foregoing mining lease for any cause therein provided shall render this option void and of no further effect.

It is further herein understood and agreed that in the event said foregoing option is terminated by reason of the forfeiture of the above and foregoing mining lease, all payments theretofore made on the purchase price of the above described properties in said option stated, regardless of how the same may bepaid and whether as royalty or other wise, shall be retained by the said LESSOR as liquidated damages for the breach and non-performance by the said LESSEE of his covenants and agreements in said lease and in said option contained and by him to beperformed.

It is further agreed and understood that at this time San Juan County, Colorado has acquired and holds a tax deed to the patented property above described, to-wit: the Forest Queen No. 6, Forest Queen No. 7, Forest Queen No. 8, Forest Queen No. 9, Forest Queen No. 10 and a portion of the John H. French Placer, Survey No.

45, 76.087 acres in extent; that such deed appears to be invalid, but that if said receiver cannot acquire and deliver such title to the second party by October 1, 1961, the purchase price above named shall be reduced Ten Thousand Dollars ($10,000.00) and the final payment hereunder shall be reduced to the sum of Twelve Thousand Dollars ($12,000.00) instead of the sum of Twenty-two Thousand Dollars ($22,000.00) less any royalties theretofore paid, and the same property hereinabove mentioned shall be delivered over to the LESSEE excepting only such patented mining property.

It is further understood and herein agreed that the said LESSEE shall have and is hereby given the right to cancel the above set out lease and option at any time during the life thereof, by the surrender of said demised property and of the possession thereof to the said LESSOR in the same manner and upon the same conditions as upon the termination of said lease, and thereby said LESSEE shall be relieved from and against all further liability for the performance of the covenants of said lease and in said option contained and by him to beperformed, PROVIDED that said LESS shall give to said LESSOR thirty (30) days written notice of his intention and election so to do by delivering said written notice to said LESSOR or by mailing said written notice to said LESSOR at Silverton, Colorado not less than thirty (30) days prior to the date of the surrender of said lease and option for cancellation, and it is further herein understood and agreed that a surrender of said lease for cancellation as above provided shall ipso facto constitute a surrender of said option likewise for cancellation, and in any such event the said LESSOR may retain any and all payments thereunder made and credited upon said option price as liquidated damages for the non-performance of said option agreement, and the said LESSEE in the event of the surrender of said lease and option in the manner hereinabove provided shall not thereafter be liable for the further specific performance of the provisions and agreements thereof and herein contained.

It is understood that this agreement is made and given by the first party as receiver only, and that he assumes no liability except as receiver for any covenant or condition herein contained.

It is understood and agreed by all parties that this agreement is made subject to the approval of the said District Court of San Juan County, Colorado, by whom the LESSOR was appointed and will be in effect only when so approved.

WITNESS the hands and seals of the respective parties hereto this 10th day of October, 1956, it being understood and represented that the execution hereof by said LESSOR as Receiver has prior hereto been authorized and directed by appropriate order of the District Court of the County of San Juan, State of Colorado, having jurisdiction over said receivership proceeding.

(Signed) Wm. A. Way (SEAL)
As Receiver of the Properties of The Kittimac Mines Company of Arizona, The Kittimac Mines Company of Wyoming and the Kittimac Mine and Mill Company of Colorado, San Juan County, District Court Case No. 1401, as LESSOR and Party of the First Part.

(Signed) Walter W. Bentley (SEAL)
As LESSEE and Party of the Second Part.

EXHIBIT " A "

INVENTORY OF TOOLS, MATERIALS, MACHINERY, and EQUIPMENT now on demised property and included in the aforegoing lease.

A. PROPERTY IN ORE HOUSE:

One (1) 9 x 15 Blake Type Crusher in place

One (1) 9 x 15 Blake Type Crusher - dismantled

One (1) General Electric Induction Motor #64198 - 50 H.P. 440 Volt.

The above property is now located in what is known as the ore house, situate on the Kittimac mine property.

B. PROPERTY AT TRAM TERMINAL:

Twenty (20) Trenton Iron Works tramway buckets and tramway brake and control machinery, the latter of which is only in fair condition.

C. PROPERTY IN BLACKSMITH SHOP:

Ten (10) - 16 foot ore cars in poor condition but usable. (There are now no blacksmith tools or equipment ~~now no blacksmith tools or equipment now~~ located in ~~and~~ about this shop)

D. PROPERTY IN COMPRESSOR HOUSE:

[illegible] Box

[illegible]1) General Electric induction motor #138439 - Type 1-10-75A-720 Form K - 60 cycles - 70 R.P.M. 440 volts - 93 Amps.

One (1) 4' x 10' Air Receiver

One (1) [illegible] and Compressor: R.H. side #13692 P.P. 15 x 12
L. H. side #13691 P.P. 9 x 12

Value gear and connecting rods on the above are absent. Other small parts such as the oiler are missing and must be replaced prior to operation.

E. TRAMWAY:

The old tramway consisting four miles approximately 1" carrier cable (lock coil stationary cable) and a like length of 7/8" traction cable, extending between the old Kittimac Mill and the upper tramway terminal at the Kittimac mine, together with existing tramway terminals and tramway towers and fittings.

Surname

3/4/59 Klugerchaid 500

130

110

220

225

withdrawn 500

[illegible]

January 31, 1959

Re: Docket No. DMEA-4549 (Lead-Zinc-Copper)
Kittimac Mining Company
Kittimac Mine
San Juan County, Colorado.

Memorandum for Docket

Subject: Withdrawal of Pending DMEA Applications

Effective this date, this pending DMEA application is cancelled withdrawn for statistical purposes.

If, at a later date, the applicant requests reconsideration under the OMS program, all pertinent material in the DMEA file should be transferred to the new OMS docket.

Frank E. Johnson
Acting Director

What about pertinent documents?

We should return what was requested but retain a copy or make a copy of each item for our files. EG.

OFFICIAL FILE COPY
O. M. E.
MAR 26 1959
CODE
3/26 C
20
225

224 New Customhouse
Denver 2, Colorado
March 24, 1959

Mr. Walter E. Bentley
833 East Ellsworth, Apt. 205
Denver 9, Colorado

Re: Docket No. DMEA 4549 (Lead-Zinc Copper), Kittimac Mining Company, (Kittimac mine), San Juan County, Colorado

Dear Mr. Bentley:

At the request of the Washington office OME, returned herewith are the following data:

Figure 1 - Claim Map - Kittimac Property - 4 copies
Figure 2 - Map - 4 copies
Figure 3 - Map - Kittimac Mine - 4 copies
Figure 4 - Topographic Map of Kittimac Mine - 4 copies
Figure 5 - Map of Kittimac Mine - 4 copies
Application - 14 pages - 3 copies
Moot & Morton - 2 assay sheets - Exhibits 2 & 3 - 4 copies
Agreement - 17 pages - 4 copies
Exhibit "A" - 1 page - 4 copies
Exhibit 4 - 1 page - 4 copies
Exhibit 5 - 1 page - 4 copies
Exhibit 6 - 1 page - 4 copies

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Executive Officer
OME Field Team, Region III

Enclosures

HMC/ff
cc: Chmn. Op. Comm. (2)
Harshman
DMEA Docket 4549
Chron.

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
3/17	Klugescheid	500
	Iverson	500
	G.C.S.	130
3/17	Johnson	110
		~~100~~
		~~HB~~
3/18	C	220
		225

500

MAR 17 1959

Memorandum

To: Executive Officer, OME Field Team, Region III, Denver, Colorado

From: Chairman, Operating Committee, OME

Subject: Return of data to Operator as requested by him for Docket No. DMMA-4549 (Lead-Zinc-Copper), Kittimac Mining Company, Kittimac Mine, San Juan County, Colorado.

We have recently received a letter from Mr. Bentley withdrawing his application.

He has requested that all maps and reports that he submitted with the application be returned to him. We are enclosing the following data:

Figure 1 - Claim Map - Kittimac Property - 2 copies
Figure 2 - Map - 2 copies
Figure 3 - Map - Kittimac Mine - 2 copies
Figure 4 - Topographic Map of Kittimac Mine - 2 copies
Figure 5 - Map of Kittimac Mine - 2 copies
Application - 14 pages - 1 copy
Root & Norton - 2 assay sheets - Exhibits 2 & 3 - 2 copies
Agreement - 17 pages - 2 copies
Exhibit "A" - 1 page - 2 copies
Exhibit 4 - 1 page - 2 copies
Exhibit 5 - 1 page - 2 copies
Exhibit 6 - 1 page 2 copies

These are all the copies in our possession but we have made copies of everything so that we have a complete file.

Will you kindly forward these copies to Mr. Bentley and include any that may be in your possession.

/s/ George C. Selfridge (GCS)

Enclosures
APPROVED:

H. G. Iverson (HGI)
Member, Bureau of Mines

Thor H. Kiilsgaard (THK)
Member, Geological Survey

WPKlugescheid/er 3/17/59
Copy to: Docket
Dir Read File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

P.S. Please return the copies you have to Mr. Walter E. Bentley at 833 East Ellsworth, Apt. 203, Denver 9, Colorado.

43683

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 24 1959

DATE	INITIALS	CODE
2/24	C	220
3/3	1 chg	500

833 East Ellsworth, Apt.#203,
Denver 9, Colorado.

February 17, 1959

Mr. Frank Johnson, Acting Director,
Office of Minerals Exploration,
Department of the Interior,
Washington 25, D.C.

Re: Docket #D.M.E.A.-4549
Kittimac Mine
San Juan County, Colorado

Dear Mr. Johnson:

After considering the requirements for further processing of the above application, I have decided to withdraw from the D.M.E.A. program. Will you please return the maps and reports submitted in connection with this application to me at the Denver address shown at the top of this page. As I remember there were five copies of all maps and records submitted with the application.

Sincerely yours,

Walter W. Bentley

Walter W. Bentley

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
1/19	Klugescheid	500
	[illegible]	500
1/22	Selfridge	120
		~~110~~
		~~100~~
1/29	[illegible]	225
		500

JAN 29 1959

Mr. Walter W. Bentley
Kittimac Mining Company
Post Office Box 541
Silverton, Colorado

Re: Docket No. DMEA-4549 (Lead-Zinc-Copper)
Kittimac Mining Company
Kittimac Mine
San Juan County, Colorado

Dear Mr. Bentley:

Enclosed is a copy of the regulations for obtaining Federal assistance in financing mineral exploration under which the new Office of Minerals Exploration will operate.

If you wish that your partly processed DMEA application be considered under the OME regulations, please complete and return four of the copies of the attached application, OME Form 40.

Your attention is called especially to the certification which when signed declares that you would not ordinarily undertake the proposed exploration under current conditions and circumstances at your sole expense, and to Item 1(a) - and 1(b) if applicable - which relates to information used to determine your financial eligibility under the new exploration program. Information that is included in your DMEA application need not be repeated in the OME application, but you can add new information if you so desire.

We would like to call attention to the letter of the Administrator of DMEA, dated March 12, 1958, concerning proof of your right to possession of the property. This proof would be necessary for further processing of the application.

The present status of the Agreement must also be submitted.

Also enclosed are six copies of the Lien and Subordination Agreements, OME Form 52, referred to in Item 2(c) of the application. Early submittal of five completed copies of the form will save time in case you apply for exploration assistance under the OME program and a contract is granted.

If you do not wish to participate in the OME program, we shall appreciate being so informed.

WPKlugescheid/er 1/19/59
CC: Docket
Dir Read File
Reg. III (2)
Chron.

Sincerely yours,
Frank E. Johnson
Acting Director

Enclosures

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9/19	Transmittal	500
		110
9	Close	100
		225

SEP 19 1958

Mr. Walter W. Bentley
Kittimac Mining Company
Post Office Box 541
Silverton, Colorado

Re: Docket No. DMEA-4549 (Lead-Zinc-Copper)
Kittimac Mining Company
Kittimac Mine
San Juan County, Colorado

Dear Mr. Bentley:

As you have an application for exploration aid pending in our office, perhaps you may wish to study the proposed Office of Minerals Exploration regulations and comment on them before October 17 as provided in the first paragraph of the enclosed notice reprinted from the Federal Register of September 17.

Some time after October 17 when the final regulations become effective, we will send you the new application form so you may furnish any additional information necessary to process your application for aid under the new program.

Sincerely yours,

J. G. Westerdorf (for)

Director

Enclosure
WRGriswold/er 9/19/58
Copy to: Docket
Admr R File
Region III (2)
Chron.

8623

Details of F.T. costs and Project
and
Recalculation according to our Ideas.

Let us assume 4'x8' Inside timber
and 5' sets of 8"x8" Timber.

Wall plates: 8"x8"x 10'-0" = 2 x 53.33 = 107
End Plates + Divider: 8"x8"x 6'-0" = 3 x 32 = 96
Posts: 8"x8"x 5'-0" = 6 x 27 = 162
Lagging 2"x10' x 5'-0" Assume 50% = 11 x 10 = 110
475 Bd. Ft.

@ $80.00/1000 Bd. Ft. gives 80x0.475 = $38.00
38/5 = $7.60/ft.

365 Cu. Ft/min Compr.
Times 12 B mucker.

If we assume 6"x6" Timber.

6"x6"x 10'-0" = 2 x 30 = 60.00
6"x6" x6'-0" = 3 x 18 = 54.00
6"x6" x5'-0" = 6 x 15 = 90.00
Lagging as above 110.00
314.00

80 x 0.314 = 252/5 = $5.06/ft.

calculated advance per day
110'/3 mos = 3[illegible]/month. which is
not very good. This is only 37/25
25 | 37 | 1.4+/day.
25
120

F.T. Project.

Details of Sinking

110' Sinking	Cost	Cost/foot
Labor	4,800.00	$43.64
Supervision	1,800.00	16.36
		$60.00
Operating Materials + Supplies.		
Explosives	360.00	$ 3.27
Bits	140.00	1.27
Timber	400.00	3.64
Tools.	50.00	0.45
Fuel Oil + Lub. Oils etc.	633.50	5.76
Fuel Pump.	20.00	0.18
2 Jeeps, Oil + Repairs.	300.00	2.73
	1903.50	$17.30
Equipment Rental.		
Compressor, Hoist, Fan, etc.	3,648.00.	33.16
Equipment Purchased.		
Various.	220.20	2.00
Miscellaneous.		
Bookkeeping, Workmen's Comp. etc.	622.50	5.66

Total Cost/foot for Sinking $118.12.

Assuming 210' of sinking @ $118.00 = $24,780.00

Calculated advance per day
100' a month @ 25 days or 4'/day. OK

Stage I.

Drifting 200' of 5'x7'	Cost	Cost/ft
Labor	$3,200.00	$16.00
Supervision	1,200.00	6.00
		$22.00
Operating Materials & Supplies		
Explosives	472.00	$2.36
Bits etc.	210.00	1.05
Fuel Oil, Gas, Lub. Oil etc.	296.00	1.48
Oil, Gas, Repairs - 2 Jeeps	200.00	1.00
	1178.00	5.89
Operating Equipment Rental		
Pump, Hoist, Compressor etc.	2,982.00	14.91
Operating Equipment - Purchased		
Ventilation Pipes	200.00	1.00
Miscellaneous		
Bookkeeping, Workmen's Compensation	415.00	2.08
		$45.88

Extra 200' for Stage II.

Assuming 400' @ $38.00 = $15,200.00

Cost of Linking 210' @ $118.00		$24,780.00
Cost of Drifting & Crosscutting 400' @ 38.00		15,200.00
		39,980.00
Sampling & Analysis		500.00
		40,480.00

Summary Field Team Costs.

Cleanup and Rehabilitation.

Time: 2 1/2 months.

Labor & Supervision	$4,452.00
Materials & Supplies	4,154.04
Operating Equipment	3,215.00
Miscellaneous	445.39
	$12,266.43

Sinks 110 feet

Time: 3 months.

Labor & Supervision	$6,600.00
Materials & Supplies	1,903.50
Equipment Rental	3,648.00
" Purchased	220.20
Miscellaneous	622.50
Total	$13,994.20
10 Samples (6 det. each @ $6/sample)	60.00
	$13,054.20

(4'x8' size) Cost/foot = $118.13/foot

Drifting Stope I - 200' (size 5'x7')

Time: 2 months

Labor & Supervision	$4,400.00
Materials & Supplies	1,178.00
Equipment Rental	2,982.00
" Purchased	200.00
Miscellaneous	415.00
	$9,175.00
20 Samples @ 6 each	120.00
	$9,295.00

Cost/foot = $45.88

Drifting, Stage II
200 feet of 5'x7' as in Stage I @ $45.88/ft.

Time: 2 months — $9,175.00
20 samples @ $6.00 ea. — 120.00
$9,295.00

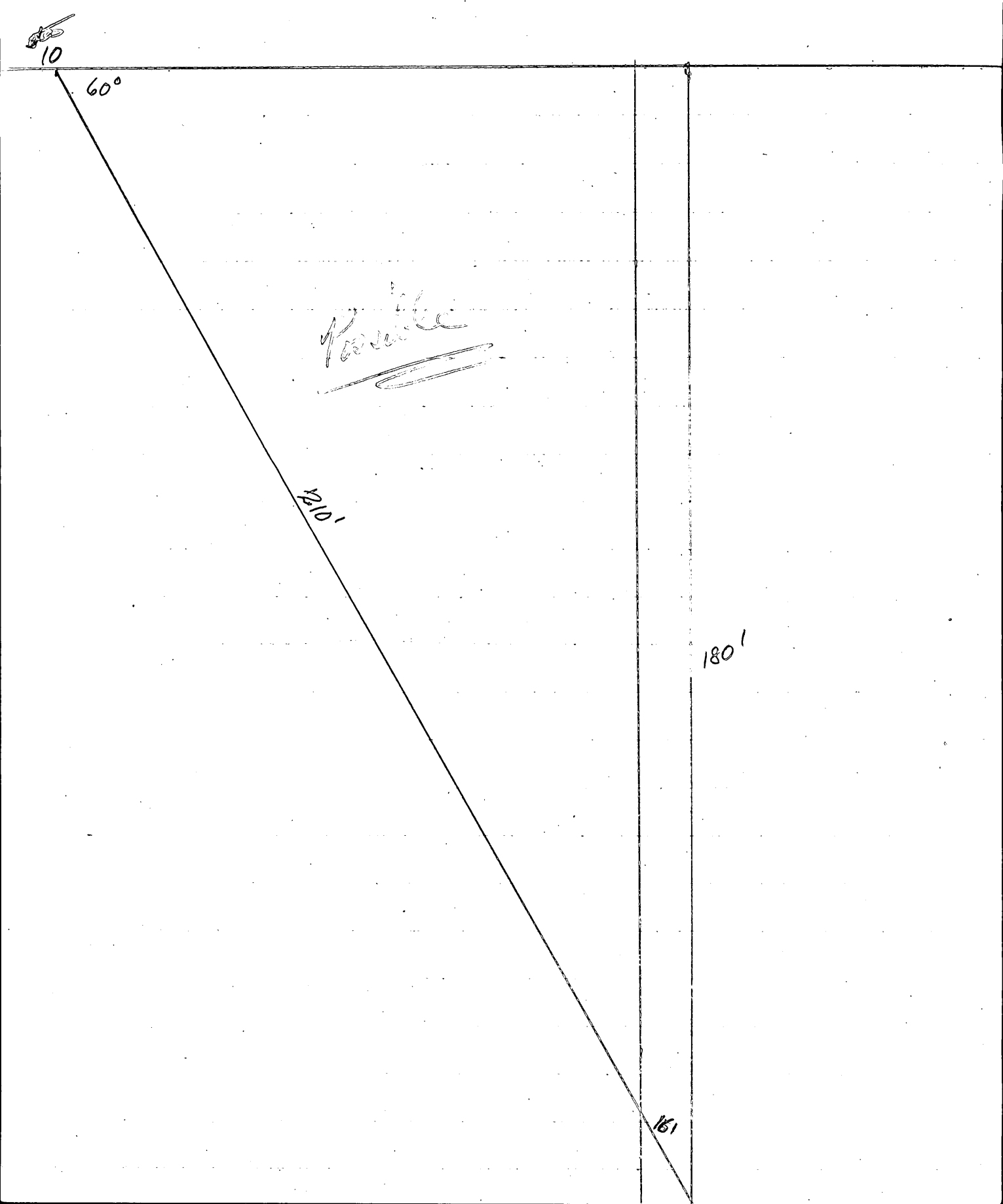
~~Title~~ ~~Footage~~ ~~Cost~~ ~~Cost/ft~~

Work	Time	Footage	Cost	cost/ft.
Cleaning & Rehabilitation	2.5 mos.	—	$13,266.43	—
Sinking	3.0 "	110'	12,994.20	118.13
Drifting (Stage I)	2.0 "	200'	9,175.00	45.88
" (Stage II)	2.0 "	200'	9,175.00	45.88
50 samples @ $6.00 ea			300.00	
	9.5 mos.		$43,910.63	

say 12 months.

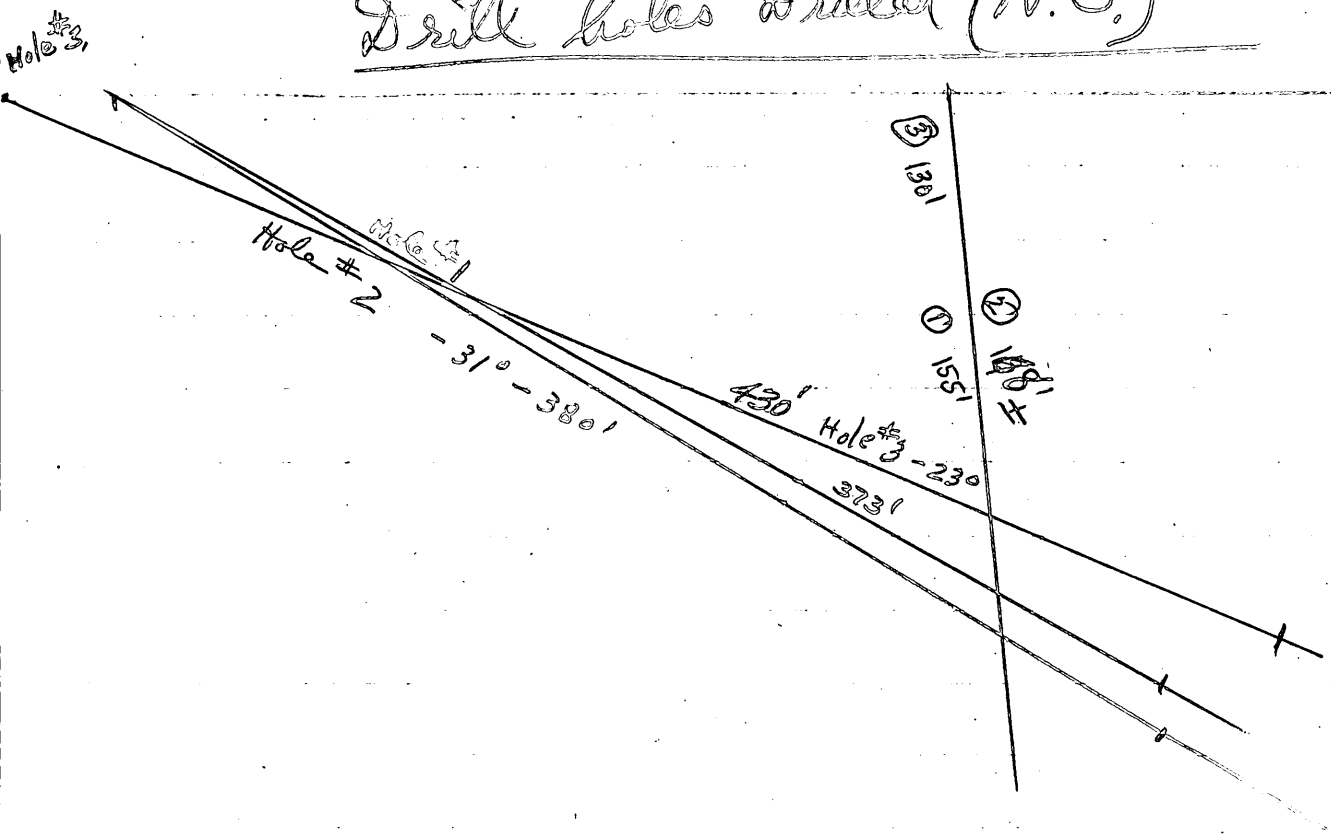
Grill Holes

2


10
60°
210'
180'
161

60 Scale

Drill holes Drilled (N.G.)



Kittimac Mining Co. Summary

DMEA-4549

Phase A. Part 1. Cleanup & Rehabilitation

Supplies	3,118.51
Payroll	3,616.00
Equipment Rental	1,929.00
Fuel & Supplies	1,001.20
Insurance etc.	767.33
	10,432.04

Feet of Rehab & Cleanup.

Portals to "A"	340'
"A" to "B"	70'
"B" to "C"	50'
	460'

Part 2

Supplies	286.30
Payroll	1,568.00
Equipment Rental	1,174.50
Fuel etc.	441.80
Insurance etc.	160.22
	3,630.82

Part 3.

Sampling, assaying etc.	259.00
Payroll	752.00
Equip. Rental	271.50
Fuel etc.	133.50
Insur. etc.	72.34
	1,488.34

Preliminary

Total $15,551.20

Total Cleanup & Rehab. (Parts 1+2) = $14,062.86

for 460' amounts to $30.57/ft.

Sampling, assaying etc for roughly 30 samples (Part 3) = $49.61/sample

Total cost as proposed for sampling (Parts 1,2,+3) = $518.37/sample

Phase "B" Part 1

Sinking an open only really sensible procedure

150' @ $85, (6'x8')		12,750.00
Supervision		3,200.00
Equip. Rental		7,144.00
Equip Purchase		3,251.50
Taxes etc.		828.62
Total		27,174.12
or a total cost of		$181.16/ft.

Too high $/foot maybe but at 161!

Part 2

(5'x7') Driving XC – 50' @	$40.00/ft.	2,000.00
Equip. Rental		137.50
Taxes etc		83.75
Total.		2,221.25
or a total cost of		$44.43/ft.

slightly high and so short it would not prove anything

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7/14	Klugescheid	500
	Williams	500
7/14	Martin	130
7/14	Lamb	130
7/14	Kilsgaard	130
"	Johnson	110
"	Mittendorf	100
		225

JUL 14 1958

Mr. Walter W. Bentley
Kittimac Mining Company
Post Office Box 541
Silverton, Colorado

Re: Docket No. DMEA-4549 (Lead-Zinc-Copper)
Kittimac Mining Company
Kittimac Mine
San Juan County, Colorado

Dear Mr. Bentley:

Early in June we sent you the Department of the Interior Information Service Release dated June 6, which announced that no new Defense Minerals Exploration Administration contracts could be executed after June 30th because of the ending of the present program for exploration assistance.

We regret to inform you that your application, identified above, could not be completely processed before June 30th because necessary information was not supplied.

However, we will be glad to hold your application until the Congress acts on pending legislation to continue exploration aid. If the aid is continued, we will then ask you to state whether you wish us to consider your application under regulations established for the new program.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

WPKlugescheid/er 7/12/58
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region III (2)
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
	Long	
	Sawyer	
	App'd. Sol. Off.	
	Elbridge	
3/12	Schwab	
"	Wittenberg	100
3/13	C	200
		500

MAR 12 1958

Mr. Walter W. Bentley
Kittimac Mining Company
P. O. Box 541
Silverton, Colorado

Re: Docket No. DMEA 4549
(Lead-Zinc-Copper)
Kittimac Mine
San Juan County, Colo.

Dear Mr. Bentley:

Your letter of February 5, 1958, addressed to Mr. W. H. King requests that you be advised as to the nature of the proof which will satisfy our legal department of your right to possession of the subject property.

The attorneys call attention to the fact that Mr. Way was appointed Receiver of the property some 33 years ago, during which time there were periods when the property was not being worked and no assessment work was performed. In such periods it would have been possible for unknown third parties to relocate the claims. In fact, Mr. Way's letter of December 2, 1957, indicates that there were several attempts to jump the claims and when he knew of such attempts he took action to protect the ground. Although Mr. Way states that in three different cases he was upheld by the District Court, he admits that he was not aware that in 1929 Mr. Samuel G. Martin located the Bear Group of claims over the same ground, and consequently did not bring suit against him. Your application states that in 1946 the A. S. & R. Co. was active on the property, but that suit was instituted against it by claim-jumpers and the company "dropped the project." In view of these statements, the attorneys point out that: (1) it is possible there may have been other third parties who have valid claims of ownership; (2) without an opportunity to review the decisions referred to by Mr. Way, they are unable to ascertain their effect; (3) and aside from Mr. Way's statement, there is no showing that Mr. Martin's second locations (i. e., the Bear Group) are

8623

invalid, and, therefore, subsequent purchasers of Martin's interest, evidenced by Sheriff's Deed, are without good title.

Article 12 and the last paragraph on page 15 of your lease and option agreement of October 10, 1956, refer to existing tax liens and the payment of taxes. Page 13 of the agreement contains provisions regarding the lessee's payment of $1,000.00 upon execution of the agreement and an additional $3,000.00 payment on or before October 5, 1957. Please advise us on the current tax status of the property and whether or not you, as lessee, have made the above mentioned payments.

The third paragraph of your letter of February 5 indicates that the Court has approved transfer of the title to you. Please furnish us with copies of all pleadings filed with the Court concerning your lease and option agreement, the Court's Order or Judgment, and the deed mentioned in your letter, in order that our attorneys may examine the same. If all should be in order and satisfactory, we will be able to continue processing your case.

If such is not the case, we would require either a title opinion by an attorney, based upon an abstract of title or personal examination of the county records, or a performance bond to be furnished by your company in an amount equal to the sum to be provided by the Government.

Sincerely yours,

(for)

Administrator

RWLong:md
3/5/58
CC: DMEA Docket
Admin. Reading File
Operat. Com.
Field Team Reg III (2)
Mr. Griswold
Mr. Bishop
R. P. Dwyer
R. W. Long
Chron
Pending

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
	Long	140
	[illegible]	140
	Appd. Sec. [illegible]	
3/6	[illegible]	500
	[illegible]	[illegible]0
		110
		100
		220
		500

Mr. Walter W. Bentley
Kittimac Mining Company
P. O. Box 541
Silverton, Colorado

Re: Docket No. DMEA 4549
(Lead-Zinc-Copper)
Kittimac Mine
San Juan County, Colo.

Dear Mr. Bentley:

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8623

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If such is not the case, we would require either a title opinion by an attorney, based upon an abstract of title or personal examination of the county records, or a performance bond to be furnished by your company in an amount equal to the sum to be provided by the Government.

Sincerely yours,

Administrator

CC: RWLONG
Chron
Pending

RWLong:md
3/5/58
CC: DMEA Docket
Admin. Reading File
Operating Com.
T. H. Kiilsgaard, USDS
Field Tea Reg. III (2)
Mr. Griswold
Mr. Bishop
R. P. Dwyer

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
2/24	Klugescheid	500

500

February 24, 1958

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Director, Division of Base Metals

Subject: Answer to Letter of Walter W. Bentley, dated February 5, 1958, Kittimac Mining Company, Kittimac Mine, San Juan County, Colorado, Docket No. DMEA-4549 (Lead-Zinc-Copper)

We do not know whether this letter of Mr. Bentley will shed any further light on the question of the property rights in this project. Possible the third paragraph will give some clue as to what further action is indicated.

Would you kindly study this matter and then prepare a letter to the Applicant telling him what he will have to do to prove title.

W. R. Griswold

WPKlugescheid/er
Copy to: Docket
Chron.

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

February 10, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 13 1958

DATE	INITIALS	CODE
2/13	C	220
2/13	King	500

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4549 (Lead-Zinc-Copper) Kittimac Mining Company (Kittimac Mine) San Juan County, Colorado

Please refer to our letter to Mr. Bentley, dated January 13, 1958, which was written to him as suggested in your letter to the Executive Officer, dated January 6, 1958.

Enclosed are the original and one copy of Mr. Bentley's reply dated February 5, 1958. Will you please assist us in this matter by making a reply direct to Mr. Bentley or provide us with the information that will permit us to make a proper reply.

W H King
W. H. King

Enc.

ORIGINAL FILE COPY
DMEA
RECEIVED FEB 13 1958

DATE	INITIALS	CODE

copy 12
#MC

DMEA
DEPARTMENT OF THE INTERIOR
FEB 10 1958
REGION III
DENVER, COLORADO

P.O. Box 541,
Silverton, Colorado.

February 5, 1958.

Mr. W. H. King,
Executive Officer, D.M.E.A.
Field Team, Region III.
224 New Customhouse,
Denver 2, Colorado.

Re: Docket No. DMEA 4549
Kittimac Mine, San Juan Co.,Colo.

Dear Mr. King:

You have requested that I inform you as to whether I would be willing to spend the time and money to prove legal possession of the Kittimac Mine. Inasmuch as I do not know what is required to satisfy your legal department, I do not know how to answer the question.

As to their questioning the title, I had Mr. Way answer the previous correspondence, feeling that an attorney, and also receiver for the property for 33 years and hence interested in the matter, could better satisfy your attorneys.

For my part, I feel there is no question about the title. On three occasions an attempt has been made to "jump" the claims. On all three occasions the District Court has ruled in favor of the Receiver. In my opinion, if the Courts hold that Mr. Way is in legal possession of the property, and the Court approves transfer of the title to me, which is the case, then I have a good and sufficient title. Since that time the assessment work has been performed for the current two years, which will establish the writer in possession of the property.

If Sam G. Martin were to have made legal discovery shafts or tunnels, and provided stakes for more than 70 claims, all within the few days when such work can possibly be done at an elevation of 11,500 to over 13,000 feet, he would necessarily have to employ a score or more men. In a small community such as Silverton, where the employment of even 3 or 4 men is cause for comment, such a working force would have rated excitement, and drawn the attention of the Receiver who would have had him ejected, as he has all others who made the same attempt. In Mr. Martin's case, the Receiver was not aware that anyone was employed on the property, and in any event in the quarter century

or more since Mr. Martin's death, none of the heirs, assigns or others have come forward to assert any right alleged to have been created by his act.

If your legal department can inform me as to what is required, I will be better able to judge my ability to meet the costs, and will furnish the data or request the application be withdrawn.

Very truly yours,

Walter W. Bentley.

Walter W. Bentley.

WWB.g

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 13 1958

DATE	INITIALS	CODE

224 New Customhouse
Denver 2, Colorado

February 10, 1958

Mr. Walter W. Bentley
Kittimac Mining Company
P. O. Box 541
Silverton, Colorado

Re: Docket No. DMEA 4549
(Lead-Zinc-Copper)
Kittimac Mine
San Juan County, Colo.

Dear Mr. Bentley:

This will acknowledge receipt of your letter dated February 5, 1958, which is being forwarded to the Washington Office, DMEA, for their consideration.

You may hear directly from them, or they may advise this office as to their legal requirements.

Very truly yours,

Original signed by
W. H. KING

W. H. King
Executive Officer, DMEA
Field Team, Region III

HMC:bh
cc: Chairman, Op. Comm. (2)
Harshman
DMEA/DFC
Docket
Chron.

ORIGINAL FILE COPY
DMEA
RECEIVED FEB 18 1998

DATE	INITIALS	CODE

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 13 1958

DATE	INITIALS	CODE
1/16	gb	220
1/16	KBdy	500

224 New Customhouse
Denver 2, Colorado

January 13, 1958

Mr. Walter W. Bentley
Kittimac Mining Company
P. O. Box 541
Silverton, Colorado

Re: Docket No. DMEA 4549 (Lead-zinc-copper)
Kittimac Mine, San Juan County, Colorado

Dear Mr. Bentley:

Our Legal Division advises that Mr. William A. Ways' letter of December 2, 1957, does not clearly establish your legal right to possession of the property. There is also doubt as to whether Mr. Ways, after all these years, he, as Receiver, is still in Legal possession of the claims. There is some question as to whether the locations made by Sam G. Martin were valid. If they were, the subsequent sheriff's deed and any later deeds would also probably be valid.

It will be possible to continue to process your application when sufficient proof is offered that you are really in legal possession of the property to be explored.

Your application will be held in our active file for a reasonable period of time, if you should care to make the effort to properly investigate and gather the necessary data to prove you have legal possession of the property. Will you please advise this office, as soon as possible, if you are willing to spend the time and money to prove your sufficient interest in the land for a DMEA project.

Very truly yours,

Original signed by
W. H. KING

W. H. King
Executive Officer, DMEA
Field Team, Region III

HMC:eh

cc: Ch. Op. Comm. (2)
Harshman
DMEA/DFC
Docket
Chron.

OFFICIAL FILE COPY
DMEA
RECEIVED

DATE	INITIALS	CODE
1/7	gb	220
		500

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

January 6, 1958

Re: DMEA 4549; Pb-Zn-Cu; $39,781
Kittimac Mining Co.
Kittimac Mine
San Juan County, Colo.

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM

Subject: Review of Supplemental Report by Field Examiners, dated December 9, 1957 and transmitted by Field Team 12/27/57.

I consider the exploration program outlined in the Supplemental Report to be much superior to that proposed earlier in that the location of the winze is better and the level interval is such as to represent exploration rather than development.

In making the final winze site selection it seems there would be some advantage to placing the winze in the footwall and that provision should be made for a rope raise and some facility for handling muck as hoisted from the winze.

I recommend that a contract be prepared on the basis of the field teams recommendation.

O. M. Bishop

O. M. Bishop

cc: Division of Minerals
Mr. Kiilsgaard
Mr. Lamb
Mr. Bishop
F I L E S

DMEA Form 7
(12-56)

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12/31	[illegible]	500
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Mr. W. H. King, Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-4549 (Lead-Zinc-Copper)
Kittimac Mining Company
Kittimac Mine
San Juan County, Colorado

Dear Mr. King:

As requested, we have submitted Mr. Wm. A. Way's letter, dated December 2, 1957, to the legal division for their opinion as to the property rights existing on the cited project.

We are enclosing copies of a memorandum from the legal division, dated December 23, 1957, setting forth their conclusions concerning said property rights.

You will note that they endeavored to obtain the required information from the Bureau of Land Management here in Washington, but the records were incomplete. It may be possible to obtain sufficient data in Denver to either prove or disprove the validity of the property rights.

A suit to quiet title would probably take considerable time, even if the Applicant were willing to institute it. It is difficult to see how the lessors would be interested in such an expenditure of money.

Unfortunately, Mr. Way's letter does not establish proof of ownership in any way and is apparently based largely on hearsay.

It will therefore be necessary to inform the Applicant that we will not be able to continue processing the application until such time as sufficient proof is offered that it is really in legal possession of the property to be explored.

8623

We would be willing to let things rest for a reasonable period of time if the Applicant should care to make the effort to properly investigate and gather the necessary data. As we see it, there is at the present time no positive proof of ownership whatsoever. It would be difficult to imagine a more involved setup.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures

APPROVED:

P. F. Yopes (GCS)
Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

WPKlugescheid/er 12/31/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

IN REPLY REFER TO:

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

January 3, 1958
Re: DMEA 4549
Kittimac Mining Company
Kittimac Mine
San Juan County, Colorado
Applicant's Est. $50,381.22
Recommended Est. $39,781.00
Lead-zinc-copper

Memorandum

To: W. R. Griswold, Defense Minerals Exploration Administration

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

Subject: Review of Field Team Report

The applicant requested assistance in rehabilitating old mine workings, diamond drilling, winze sinking, and drifting in veins credited with the production of considerable ore.

The examiners recommended an alternative program and the Division office and Operating Committee still another program. The last proposal meets with the approval of the examiners and is recommended by them and the Field Team.

I concur with their recommendation.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

December 27, 1957

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RECEIVED DEC 30 1957

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Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4549 (Lead-zinc-copper), Kittimac Mining Company (Kittimac mine), San Juan County, Colorado

Please refer to your memorandum of November 1 regarding the exploration program covered by the subject docket.

The field examiners have studied your letter and their report of October 8 and have accepted your suggestions. Enclosed are the original and two copies of a supplemental report prepared by the field examiners covering the matter. The engineers now recommend sinking of a winze on the vein to the depth of 210 feet. When the winze has been completed, they proposed 400 feet of drifting along the Isabella vein. They estimated that the cost of the program will be $39,781.00 and accordingly, the Government participation at 50 percent will be $19,890.50. The Field Team concurs in this recommendation.

Also enclosed are eight extra copies of Figure 3a for use in the contract.

W H King
W. H. King

Reviewed by
DMEA OPERATING COMMITTEE
1-3-58
(date)

IN REPLY REFER TO:

DMEA
DEPARTMENT OF THE INTERIOR
DEC 23 1957
REGION III
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

DATE	INITIALS	
1/3/58	JHB	130
		220

December 9, 1957

WPK
HMC

Memorandum

To: Executive Officer, DMEA Field Team, Region III
Through: E. N. Harshman

TRANSMITTED
DEC 27 1957

From: Carl Belser
W. N. Sharp

Subject: Docket No. DMEA 4549 (Lead-zinc-copper), Kittimac Mining Company (Kittimac mine), San Juan County, Colorado

SUPPLEMENTAL ON-SITE REPORT

The changes suggested by Washington in the recommended exploration program for the Kittimac mine, DMEA 4549, have been considered and are agreeable to the examining team. These changes are suggested in a letter dated November 1, 1957, to the Acting Executive Officer of Region III, from the Chairman, Operating Committee, DMEA, and amount to moving the location of the winze and increasing its length to 210 feet. Drifting at 200 feet depth will be northwestward along the "Kittimac" vein and proceed to the Isabella vein which continues to be the principal target.

A new site for the winze at the adit intersection on the "Kittimac" vein is agreeable. This site was recommended for consideration originally by the applicant because the site had been considered for a winze at an earlier date, and is partially prepared. However, a small amount of additional clearance work may be necessary to gain adequate room for a winze at this point.

Reviewed by
DMEA OPERATING COMMITTEE
1-3-58
(date)

A winze at this location on the "Kittimac" vein would be inclined at about 85° northeastward to follow the vein downward, and at the 200-foot level would have a horizontal offset of about 20 feet from the position on the adit level (fig. 3A).

Exploratory drifting will turn from the winze at the 200-foot level and continue northwestward along the "Kittimac" vein through and beyond the fault zone at "D" to substantial ground. At this point a crosscut northward will be driven to intersect the Isabella vein. The remaining footage allowed will be used in exploring the Isabella vein northwestward.

It is recommended that the fault zone at "D" be crossed directly by extending the drift along the "Kittimac" vein instead of crosscutting northward before crossing the fault zone as recommended by Washington. To cross the fault directly at the "Kittimac" vein intersection puts the operator in a relatively secure position beyond the fault. We know that the Isabella vein is north of this point.

To crosscut northward before passing the fault zone involves some uncertainties. The offset on the fault zone is not known and partly as a consequence, little is known about the vein represented at "H" and its relation to the mine geology. This vein may be an extension of the Caledonia vein, it may be the Isabella vein, or it may be a segment of an entirely different vein. To crosscut east of the fault appears likely to evolve two problems: (1) to locate the vein at "H" in the crosscut, which location may be farther north than

expected if the vein flattens in its dip, and (2) to determine after crossing the fault, at such point, the relative position of the Isabella vein.

Crossing the fault with the "Kittimac" drift appears to be the most logical approach to the Isabella vein. Unless unforeseen difficulties are encountered in locating the Isabella vein on the 200-foot level, the 400 feet of drifting allowed in the program should be adequate to explore the Isabella vein to a point in line with the station at "G".

This memo is supplemented with a revised copy of the Kittimac mine map, that shows the new winze location. Also included is a map that illustrates graphically all that can be determined about the diamond drilling performed at the property in 1956, about which Mr. Bishop seemed interested.

Estimated cost of modified program

This estimate is based on a two-stage exploration program that includes (Stage I) a 210-foot winze and (Stage II) 400 feet of drifting. A station will be made at the 200-foot level only, and drifting will turn from this point. A small amount of work is considered for rehabilitating the adit and providing adequate clearance for the headframe and working area at the winze site.

Estimated cost follows:

Stage I

Sinking winze on vein 210 feet. Minimum size 4 feet by 8 feet in the clear - 2 compartment. Time required 4 months.

Independent contracts

None

Labor and supervision

Mechanic 3 shifts at $24.00/shift	$ 72.00	
400 man shifts at $16.00/day	6,400.00	
Supervision 4 months at $600.00/mo.	2,400.00	
		$ 8,872.00

Operating material and supplies

Explosives	$ 460.00
Caps-wire (1,070 caps)	229.00
Bits 16 insert at $17.50 each	280.00
Stulls 1,200 feet at $0.40	480.00
Lumber 3,000 BM at $80.00	240.00
Hand tools	75.00
3,500 gals. diesel fuel at $0.19/gal.	665.00
140 gals. motor oil at $0.95/gal.	133.00
140 gals. compressor oil at $0.75/gal.	105.00
200 lbs. nails at $15.50/100	31.00
400 lbs. carbide at $10.00/100	40.00
Oil, gas, and repairs, 2 jeeps 4 months at $100.00/mo.	400.00

2 fuel pumps at $20.00 each	$ 40.00	
5 sets fuel and oil filters at $5.40 each	27.00	
2 percent tax	64.10	
		$ 3,269.10

Operating equipment

Rentals

Compressor 4 months at $561.00/mo.	$ 2,244.00
Air trammer 4 months at $150.00/mo.	600.00
Hoist 4 months at $100.00/mo.	400.00
Pump 4 months at $100.00/mo.	400.00
Ventilation fan 4 months at $75.00/mo.	300.00
2 sinker drills, complete, 4 months at $150.00/mo.	600.00
2 jeeps 4 months at $60.00/mo.	240.00
Freight	100.00
	$ 4,884.00

Purchases

1 sheeve wheel	55.00
1 mine bucket	100.00
300 feet hoisting cable at $32.60/100	97.80
200 feet ventilation tubing at $1.00/ft.	200.00
400 feet 2-inch air line at $0.59/ft.	236.00
200 feet 1-inch pipe at $0.265 per ft.	53.00

4 - 2" unions at $2.70 each	$ 10.80	
2 - 2-inch TS at $1.80 each	3.60	
2 - 2-inch valves at $13.50 each	27.00	
6 - 2-inch to 1-inch reducing bushings at 39¢ each	2.34	
2 percent tax	15.71	
	$ 801.25	
Total operating equipment		$ 5,685.25

Rehabilitation and repairs (Repair air line and track in main adit as follows:)

Labor (extra)	$ 200.00	
Operating material		
1,200 feet 2-inch pipe at $0.59/ft.	$ 708.00	
4 - 2-inch 45 s at $1.50 each	6.00	
3 - 2-inch unions at $2.70 each	8.10	
2 - 2-inch Ts at $1.80 each	3.60	
1 - 2-inch valve at $13.50 each	13.50	
3 - 2-inch to 1-inch reducing bushings at $0.39 each	1.17	
4 - 1-inch valves at $2.85 each	11.40	
1-1/2 ton 30 lb. rail at $260.00/ton	390.00	
20 pairs 30 lb. rail splices at $1.35/pr.	27.00	
1 track bolt wrench at $2.95	2.95	
100 lbs. track spikes at $21.00/100	21.00	

50 lbs. track bolts at $0.34/lb.	$ 17.00	
1 - 30-lb. track switch	50.00	
1 rail bender	65.00	
60 ties at $0.65 each	39.00	
2 percent tax	27.27	
Total operating material	$ 1,390.99	
Total rehabilitation and repairs		$ 1,590.99
<u>New buildings, installations, improvements</u>		
Labor (on headframe)	$ 200.00	
Timber and iron (headframe)	200.00	
Total headframe		$ 400.00
<u>Miscellaneous</u>		
Bookkeeping 4 months at $50.00/mo.	$ 200.00	
Payroll taxes, workmen's compensation and liability insurance 7% of $9,472.00	663.04	
		$ 863.04
Total estimated cost including sinking		$20,680.38
Less cost of headframe, track, and air line repair		$ 1,990.99
Estimated cost of 210 feet of sinking (only)		$18,689.39
Estimated cost per foot $89.00		
20 samples for Au, Ag, Pb, Cu, Zn at $6.00 each		$ 120.00
Total cost of Stage I		$20,800.38

Stage II

Drifting 400 feet of 5-foot by 7-foot drift on 200-foot level. Time required 4 months.

Independent contracts

None

Labor and supervision

400 man shifts at $16.00/day	$ 6,400.00	
Supervisor 4 months at $600.00/mo.	2,400.00	
Surveyor 6 days at $50.00	300.00	
Total labor and supervision		$ 9,100.00

Operating material and supplies

Explosives (2,400 lbs.)	$ 576.00	
Caps and fuse	368.00	
24 insert bits at $17.50 each	420.00	
2,400 gal. diesel fuel at $0.19/gal.	456.00	
80 gal. motor oil at $0.95/gal.	76.00	
80 gal. compressor oil at $0.75/gal.	60.00	
Oil, gas, repairs, 2 jeeps 4 months at $100.00/mo.	400.00	
400 lbs. carbide at $10.00/100	40.00	
2 percent tax	47.92	
		$ 2,443.92

Operating equipment

Rentals

Compressor 4 months at $561.00/mo.	$ 2,244.00
Air trammer 4 months at $150.00/mo.	600.00

Hoist 4 months at $100.00/mo.	$ 400.00	
Mucking machine 4 months at $275.00/mo.	1,100.00	
Pump 4 months at $100.00/mo.	400.00	
Ventilation fan 4 months at $75.00/mo.	300.00	
2 jeeps 4 months at $60.00/mo.	240.00	
	$ 5,284.00	
Purchase		
400 feet ventilation pipe at $1.00/ft.	$ 400.00	
4,200 lbs. - 16 pound rails at $260.00/ton	546.00	
100 lbs. track spikes at $21.00/100	21.00	
50 track splices and bolts at $0.50 each	25.00	
100 track ties at $0.50 each	50.00	
2 percent tax	20.84	
	$ 1,062.84	
Total operating equipment		$ 6,346.84

Rehabilitation and repairs

None

New buildings, improvements, installations

None

Miscellaneous

Bookkeeping 4 months at $50.00/mo.	$ 200.00	
Payroll taxes, workmen's compensation and liability insurance 7% of $9,300.00	651.00	
		$ 851.00

Total estimated cost for 400 feet of drifting	$18,741.76
Estimated cost per foot $46.85	
40 chemical analyses for Au, Ag, Pb, Zn, Cu at $6.00 each	240.00
Total estimated cost of Stage II	$18,981.76
Total estimated cost of program	$39,782.14

Recapitulation

Stage I

Sinking 210 feet at $89.00/ft.	$18,690.00
Constructing headframe	400.00
Repairing track and air line	1,591.00
20 chemical analyses for Au, Ag, Pb, Zn, Cu at $6.00 each	120.00
Total estimated cost of Stage I	$20,801.00

Stage II

Drifting 400 feet at $45.85/ft.	$18,740.00
40 chemical analyses at $6.00 each	240.00
Total estimated cost of Stage II	$18,980.00
Total estimated cost of program	$39,781.00
Government participation 50 percent or	$19,890.50

Time for completion, 8 months

(Machinery rentals total $10,168.00)

H. M. Connors
for Carl Belser, Mining Engineer

W. N. Sharp
W. N. Sharp, Geologist

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

DEC 23 1957

MEMORANDUM

TO: Administrator, DMEA
ATTENTION: Director, Division of Base Metals

FROM: Associate Solicitor, Division of Mineral Resources

SUBJECT: Property Rights of the Kittimac Mining Company, Kittimac Mine, San Juan County, Colorado, Docket No. DMEA-4549 (Lead-Zinc-Copper)

We are in agreement with the opinion expressed in your memorandum of December 11, 1957. Mr. William A. Way's letter of December 2, 1957, does not clearly establish applicant's legal right to possession of the property. Mr. Way's letter raises considerable doubt as to whether, after all these years, he, as Receiver, is still in legal possession of the claims; also, there is some question as to whether the second locations made by Sam G. Martin were valid. If they were, the subsequent sheriff's deed and any later deeds would also probably be valid.

In an attempt to expedite matters, we searched the local records of the Bureau of Land Management to determine the status of the two patent applications. Unfortunately, these records are not complete enough to be of assistance. In all probability, the Denver office of the Bureau of Land Management contains the necessary information.

Regardless of what information is obtained from Bureau of Land Management records, there is little likelihood of ever determining whether the ground was located by third parties during the periods that assessment work was not performed. From Mr. Way's letter it appears that no assessment work was performed for several years immediately prior to the commencement of work by the contract applicant. In the absence of more complete information from the applicant or his lessor, it would appear that a suit to quiet title would be the most expeditious manner of removing the defects which apparently exist.

Robert P. Dwyer

...letter must invariably be used by the Office Cadastral Engineer in advising the General Land Office and the appropriate local land office of the approval of a mineral survey. *Paragraphs 37 and 147, Mining Regulations, approved May 21, 1907*

Department of the Interior

PUBLIC SURVEY OFFICE

at Denver, Colorado,

, 1931.

The Hon. Commr. *of the* General *Land Office.*

Sir: I have the honor to inform you that on ..., 1931, I approved the following described mineral survey

Survey No. 20403	name and area of claim	Bear lode	20.661 acres
Bear No. 1 lode	[illegible] acres	Bear No. 2 lode	20.661 acres;
Bear No. 3 lode	[illegible] acres	Bear No. 4 lode	20.661 acres;
Bear No. 5 lode	[illegible] acres	Bear No. 6 lode	20.661 acres;
Bear No. 7 lode	[illegible] acres	Bear No. 8 lode	20.661 acres;
Bear No. 9 lode	[illegible] acres	Bear No. 10 lode	20.661 acres;
Bear No. 11 lode	20.661 acres;	Bear No. 13 lode	20.661 acres;

Name and survey number of each approved mineral survey with which actually in conflict, as conflicting claims are actually marked, defined, and established on the ground: Surs. Nos. 14544 Home No. 1; Home No. 2; Canada; [illegible] No. 1; Midnight Sun No. 2; Midnight Sun No. 3; Aurora; Aurora No. [illegible]; [illegible] No. 3; Monitor No. 4; Monitor No. 5; Monitor No. 6; Monitor No. [illegible]; [illegible] No. 9; Monitor No. 10; Monitor No. 11; Monitor No. [illegible]; [illegible]; London; Caliber; Caliber No. 1; Caliber No. 2; Caliber [illegible]; [illegible] Joe; Pursur; St. Louis; Isabella; Isabella No. [illegible]; Isabella No. 3; Isabella No. 4; Isabella No. 5; Detroit; New [illegible] [illegible] and Liverpool and 15304 Mountain Eagle lodes,

Applicant for survey (name and address) Samuel J. Martin, c/o C. N. Loomis, 31 Interstate Trust Bldg., Denver, Colorado.

Survey made by [illegible] Anderson, Mineral Surveyor.

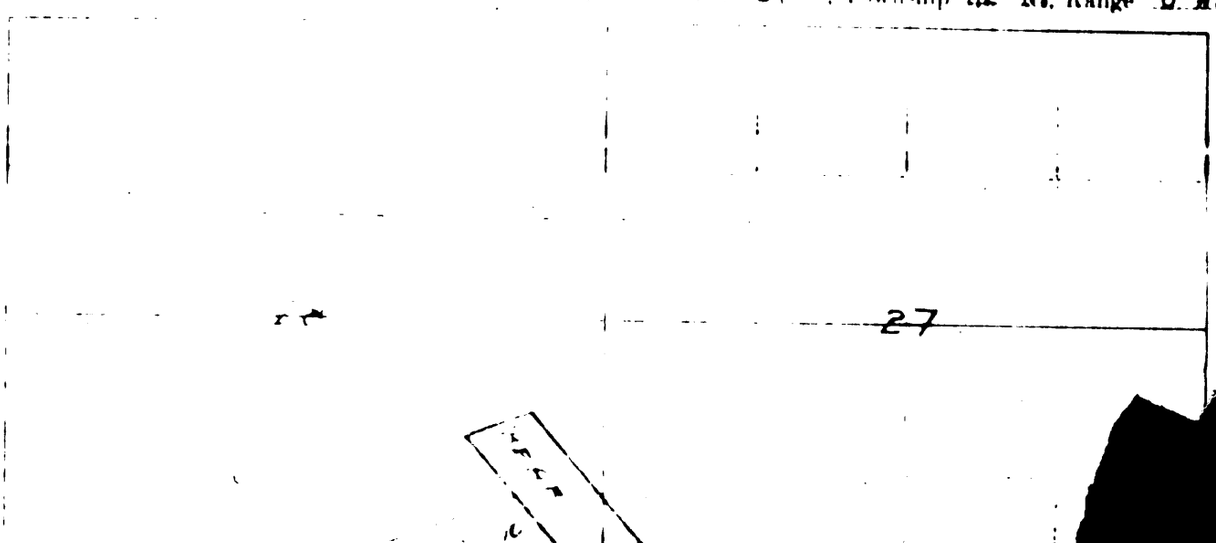
Legal subdivisions [illegible] upon surveyed lands [illegible] by the survey and sections on the public survey diagram following [illegible] with respect to the lines of the public surveys as to [illegible] marked, defined, and established on the ground, the words and figures [illegible] and distances being omitted.

Approximately [illegible] N., R. 6 W. of the [illegible] M.

NOTE. Examine [illegible] whether or not there are any conflicting approved mineral surveys [illegible] shown upon the sketch.

Approximately Section [illegible] Township [illegible] N., Range [illegible]

Approximately Section 27, Township 42 N., Range 6 W.



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December 11, 1957

Memorandum

To: Associate Solicitor, Division of Minerals Resources

From: Director, Division of Base Metals

Subject: Property Rights of the Kittimac Mining Company, Kittimac Mine, San Juan County, Colorado, Docket No. DMEA-4549 (Lead-Zinc-Copper)

There is considerable doubt as to whether the Applicant really is in possession of the land on which aid has been requested for exploration.

We requested proof of ownership of the claims by the lessor and Mr. Harshman forwarded a letter, dated December 2, 1957, from an attorney, Mr. Wm. A. Way, concerning the matter.

We would like to have your opinion as to whether this letter proves anything, and also your advice concerning any further procedure on our part. We fail to see where this letter contains any proof that the property is really legally held by the Applicant. The lease may be all right but maybe the lessor has no rights on which to base an agreement.

W. R. Griswold

WRG/er
Copy to: Docket
Chron.

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 6 1957

DATE	INITIAL	CODE
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12/6	[illegible]	500

December 4, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-4549 (Lead-Zinc-Copper) Kittimac Mining Co. (Kittimac mine) San Juan County, Colorado

Enclosed are the original and one copy of an unsigned letter on the stationery of William A. Way, Attorney at Law, Silverton, Colorado, which is in reply to our letter to the Applicant, dated November 7, 1957.

It appears to us that the enclosed letter does not supply the documentary proof of ownership we requested in accordance with your letter to us, dated November 1, 1957.

Will you please advise if the enclosed letter is acceptable to the legal division.

W H King
W. H. King

Enclosure

DMEA
DEPARTMENT OF THE INTERIOR
DEC 3 - 1957
REGION III
DENVER, COLORADO

WMK
HMC

WILLIAM A. WAY
ATTORNEY AT LAW
SILVERTON, COLO.

December 2, 1957.

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 6 1957

DATE	INITIALS	CODE

Mr. E. N. Harshman,
Acting Executive Officer,
Defense Minerals Exploration Administration,
224 New Customhouse,
Denver 2, Colorado.

Re: Docket No. DMEA 4549 (~~Lead-Zinc-Copper~~)
Kittimac Mines, San Juan County, Colorado.

Dear Mr. Harshman:

I have before me your letter of November 7th addressed to Mr. Walter W. Bentley of this place and relative to the above named property, and in answer thereto will say that on August 15, 1910, the Minnie Gulch Mining and Tunnel Company conveyed to the Kittimac Mines Company of Arizona all of the above property by deed recorded in Book 144 at page 90 of the records in the office of the County Clerk and Recorder of San Juan County, Colorado. There were a few additional claims included in this deed but that of course is immaterial for your purposes.

A few years later, the Kittimac Mines Company of Arizona, the Kittimac Mines Company of Wyoming and the Kittimac Mine and Mill Company were all made defendants in a suit brought by Joseph Bordeleau in the District Court of this County, same being numbered 1401, and incidental to such action, Mr. H. E. Curran was appointed Receiver. Later on, Mr. Curran died and I was appointed as Receiver of the property involved, which includes the mining claims mentioned in your letter.

Naturally the sale of mining property --especially a large group like this one-- was difficult to bring about. Several options have been given under which perhaps $30,000 or $40,000 worth of work was done (in fact I think there was more than that amount of work done by the different option holders) but no sale of the property has resulted. During a good many of the years I have held possession of the property as Receiver, it was possible to file declarations of intent and where this could be done, it was done. At this time, I do not remember the years in which such declarations were filed, and the affidavit of labor were not always filed, even during the years when the work was actually performed. The last affidavit of labor, however, was filed last year by Mr. Bentley, who has been working the property for the past two years.

DMEA
DEPARTMENT OF THE INTERIOR
DEC 3 - 1957
REGION III
DENVER, COLORADO

WJK
HNC

WILLIAM A. WAY
ATTORNEY AT LAW
SILVERTON, COLO.

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 6 1957

DATE	INITIALS	CODE

December 2, 1957.

Mr. E. N. Harshman,
Acting Executive Officer,
Defense Minerals Exploration Administration,
224 New Customhouse,
Denver 2, Colorado.

Re: Docket No. DMEA 4549 (~~Lead-Zinc-Copper~~)
Kittimac Mines, San Juan County, Colorado.

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OFFICIAL FILE COPY
DMEA
RECEIVED DEC 6 1957
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WILLIAM A. WAY
ATTORNEY AT LAW
SILVERTON, COLO.

Now as to the connection of Samuel G. Martin with this group, I might say that he was the original locater and promoter of the group. He sold the property to the Minnie Gulch Mining and Tunnel Company and the Minnie Gulch Company made the application for patent, as stated in your letter. I have no abstracts of title on any of these claims, but it is my understanding that the Minnie Gulch Mining and Tunnel Company was divested of all title by the deed I mentioned above and that the Kittimac Mines Company of Arizona has any and all rights the Minnie Gulch Company had before. The Minnie Gulch Company has long been defunct and as far as I know it has no property standing in its name.

In 1929, Mr. Martin was General Manager of a mining company called the Treasure Mountain Gold Mines and Power Company which afterwards lost all its property to a group of creditors, some of whom I represented in the different actions that were brought, and some time later, Mr. Martin died. His estate has never been administered, as far as is known, and in any event no work was ever done on the so called Bear group by anyone. At the time he located this group, I knew nothing about it, but I am quite certain that the necessary work was not done as there would have been current reports among the people of the town as to the work being done in this locality. There was no watchman at the property and Mr. Martin evidently located the ground and adopted the work done by the Kittimac people as being the work he intended to apply on the patent application. He was joined as a defendant in the suit brought against the Treasure Mountain Gold Mines and Power Company and in that way the creditors of the Treasure Mountain Gold Mines and Power Company acquired a Sheriff's deed to his interest in the Bear Group. These creditors and their trustee were not interested to any extent in the unpatented claims and when they finally sold the property, they were many years in default as to the performance of annual labor. In addition to this, the original location was void for the reason that no application was made to the Court for permission to locate the ground then in the possession of the Court through its Receiver. This matter came up later in [illegible] actions where this precise question was involved and that has been the holding of three different District Judges in the District Court here, so I think the matter is well covered by the subsequent actions taken. Without a valid location having been made, the old Minnie Gulch Mining and Tunnel Company title and its successors in interest will stand and the property has never been abandoned and was as well protected as it could be under the cirdumstances. *

There have been a few attempts made to jump these claims, or some of them, at different times. When I knew of these attempts, I have taken appropriate court action to protect them and have been successful

WILLIAM A. WAY
ATTORNEY AT LAW
SILVERTON, COLO.

in all of these actions. The Court (regardless of who was the Judge) has found these trespassers guilty of comtempt of court in their attempts to seize the ground. I did not bring Mr. Martin into Court and have a similar adjudication as to him, for the reason above stated, that I knew nothing about his locations and while I knew he was locating a large number of claims there was nothing in the certificates or any current gossip to inform me that he was trespassing on the Kittimac ground. Whatever enchoate rights he might have believed he had, were abandoned years ago. The creditors of the Treasure Mountain Gold Mines and Power Company never expended any money on these claims and they were only names to them, as I happen to personally know, but none of the unpatented claims had any value to the creditors and they were probably turned over to the buyer of the patented claims as a sort of bonus for this reason. The purchasers, however, have not interfered with my possession of the claims and if they had I would have taken the same action that was taken against the other trespassers.

I trust this gives you an understanding of the situation. I b elieve the property is in the same position it was when the first Receiver was appointed and when I was appointed, and that I have control of it. An order has been entered by the District Court directing the sale of this property in all of the proceedings where a sale was attempted and I hope a sale can be consummated. The creditors, of course, do not want the group of mining properties, but as far as the selling price will suffice, they are anxious to have something paid on their claims. There is no possibility of the full amount of the claims being received for the property and the old companies have no equity in it, regardless of their claims among themselves.

Very truly yours,

Wm. A. Way.

WAW.b
CC: Mr. Walter W. Bentley.

224 New Customhouse
Denver 2, Colorado

11/12 C 220
11/12 WRK 500

November 8, 1957

Memorandum

To: E. N. Harshman) W/enclosures
DMEA/DFC Att: Carl Belzer)

From: DMEA Field Team, Region III

Subject: Docket No. DMEA 4549 (Lead-Zinc-Copper) Kittimac Mining Company (Kittimac Mine) San Juan County, Colorado

Enclosed is a copy of a letter on the subject docket from the Chairman of the Operating Committee dated November 1, 1957, and attached memoranda of review of field examination report by O. M. Bishop and W. P. Williams.

Please review items two and three of the enclosed letter and forward your joint recommendations to this office so that we may reply to the Chairman.

E. N. Harshman
Acting Executive Officer

Enclosures

MAC:eh

cc: Sec. Op. Comm. (2)
Docket
Chron.

224 New Customhouse
Denver 2, Colorado

November 7, 1957

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Mr. Walter W. Bentley
Kittimac Mining Company
P. O. Box 541
Silverton, Colorado

Re: Docket No. DMEA 4549 (Lead-zinc-copper)
Kittimac Mine, San Juan County, Colorado

Dear Mr. Bentley:

Records in the Bureau of Land Management show the following claims were surveyed in November 1900 for the Minnie Gulch Mining and Tunnel Company; were assigned Mineral Survey No. 14544, but did not go to patent:

Home, Home No. 1, Home No. 2, Midnight Sun No. 1, Midnight Sun No. 2, Midnight Sun No. 3, Little Joe, Aurora, Aurora No. 1, Monitor No. 3, Monitor No. 4, Monitor No. 5, Wanda, Camilla, Pursur No. 2, Racine, Pursur No. 1, Michigan, Pursur, Detroit, Caliber, Caliber No. 1, Monitor No. 6, Isabella, Monitor No. 7, Isabella No. 1, Monitor No. 8, Isabella No. 2, Monitor No. 9, Isabella No. 3, Monitor No. 10, Isabella No. 4, Monitor No. 11, Isabella No. 5, Monitor No. 12, Isabella No. 6, Monitor No. 13, Isabella No. 7, Monitor No. 14, Isabella No. 8, Kalamazoo, Grand Rapids, Ann Arbor, Caliber No. 4, Caliber No. 2, Caliber No. 3, New York, Chicago, London, Liverpool, Paris, Globe, Berlin, Baltimore, St. Louis, Boston, Denver, Pittsburgh, Durango, Helena, Lake City and Silverton Lodes

Apparently the annual assessment work was not kept up and Samuel G. Martin staked the Bear Claims through the Minnie Gulch and Tunnel Company Claims. These Bear Claims were surveyed in July 1929 and received Mineral Survey No. 20403, but did not go to patent.

Before further processing of your application can take place, it will be necessary that you supply documentary proof that the claims as listed above under Mineral Survey No. 14544 actually confer ownership of the ground involved, and that the Bear Claims listed under Mineral Survey No. 20403, in which you profess no interest, are not the valid ones.

Please advise the last year that a notice of the completion of annual assessment work was filed on the Bear Claims; also the last year prior to 1929 that a notice of completion of annual assessment work was filed on the claims covered by Mineral Survey No. 14544.

E. N. Harshman

E. N. Harshman
Acting Executive Officer

HMC:eh

cc: Ch. Op. Comm. (2)
Harshman
DMEA/DFC
Docket 4549
Chron.

DMEA Form 7
(12-56)

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Date	Surname	Code
10/31	[illegible]	500
	[illegible]	500
11/1	[illegible]	130
"	[illegible]	110
		~~100~~
		~~HB~~
11/4	[illegible]	225
		500

500

Mr. E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Bldg.
Denver 2, Colorado

NOV 1 1957

Re: Docket No. DMEA-4549 (Lead-Zinc-Copper)
Kittimac Mining Company
Kittimac Mine
San Juan County, Colorado

Dear Mr. Harshman:

We refer to your memorandum, dated October 11, 1957, and the "Joint Engineering and Geologic Report" by W. N. Sharp, Geological Survey, and Carl Belser, Bureau of Mines, dated October 8, 1957.

After a careful study of all the data at hand we would like to bring the following matters to your attention:

1. We have discussed the problem of property rights with our legal division and they state that it will be necessary for Mr. Bentley to supply documentary proof that the claims listed under Survey No. 14,544 actually confer ownership of the ground involved, and that those claims listed under Survey No. 20,403, in which Mr. Bentley has no interest, are not the valid ones. If it is true, as you mentioned in your memorandum, that assessment work was not continued on the optioned claims, it could mean that none of the claims under said Survey No. 14,544 are valid. This matter is of paramount importance and must be cleared up before any further processing of the application can take place. We quite agree that only those claims covered by Mineral Survey No. 14,544 would be of value for the proposed project.

Will you kindly contact Mr. Bentley and clear up the question of property rights as soon as possible.

8623

2. DMEA does not participate in projects which would strictly fall within the classification of development. A winze sunk only 110 feet would permit only a single level interval and would certainly fall in this category. Upwards of 200 feet of sinking would give a better basis for a true exploration project. If the location of the winze were changed to the intersection of the adit with the Kittinac Vein drift, the extra sinking could be done with the funds which are at present allotted to rehabilitation. We try to avoid all rehabilitation we possibly can as we do not consider it as within the scope of our work in most cases. The location of the winze as proposed, practically under the old stope which is broken to the surface, is far from desirable and the tramming and maintenance difficulties and costs would be increased. If there is a certain amount of water to be disposed of from the western end of the workings, this can be done by constructing a small bulkhead near the intersection with the adit, and the water could then be piped out to the surface or into a ditch.

The advance per day given for the sinking operation is only 1.4 feet and this is very little even for one shift operation. The really large item of cost given for all of the work is the equipment rental and with two shift operation this would decrease greatly on a cost per foot basis. The cost of timber given for the winze is $3.64 per foot and we doubt very much if this would be sufficient. There was no method of timbering or size of proposed timber given but for a nearly vertical or vertical winze it would have to be of sufficient size to insure safety.

3. The four hundred feet of drifting and some crosscutting could be very productive of results if carried on at a depth of about 200 feet below the present level. We would suggest drifting on the Kittinac vein for some distance to the west and then crosscutting to the other vein to the north at approximately the position "C" on Fig. 3. Then drift on the north vein through the fault zone, crosscut to the Isabella vein on the west side of the fault and then drift on this vein to the west. In this way we would be doing the maximum amount of useful work and, should the ore continue to this depth, we would be delineating a considerably greater ore reserve.

The cost of drifting as presented by the Field Team is $45.88 per foot. This is somewhat high for this district as most costs in the past have been between $35.00 and $40.00 per foot including the cost of hoisting. The advance per day is about 4 feet on the basis of one shift operation.

We are enclosing copies of memoranda dated October 17 and 22, 1957, by W. P. Williams, Geological Survey and O.M. Bishop, Bureau of Mines, respectively, relating to the project for your information. You will note that Mr. Bishop also disagrees with the proposed location of the winze. Diamond drilling in this case would be very helpful if the rock were not so badly fractured as to make it of little value.

Some preparatory expense will probably be necessary in order to put the adit in readiness. The property certainly looks promising and interesting and we hope that some mutually acceptable plan of exploration may be evolved soon so that we may proceed with the processing of a proposed contract.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SLB)

Enclosures

APPROVED:

P. F. Yopes (SLB)

Member, Bureau of Mines

Thor H. Kiilsgaard (SLB)

Member, Geological Survey

W.P.Klugescheid/er 10/31/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

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OCT 22 1957
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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

October 22, 1957

Re: DMEA 4549; Cu-Pb-Zn;
$43,910
Kittimac Mining Company
Kittimac Mine
San Juan County, Colo.

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM

Subject: Review of field examiner's report of 10/8/57 on application

A mile east of the Animas River and between Edith and Minnie Gulches in the Silverton quadrangle, Colorado, the northwesterly striking Isabella and Caledonia veins intersect to form an ore-shoot that has been stoped from the Little Joe adit level over 200 feet to the surface. The applicant proposes to rehabilitate 300 feet of drift, cutting sill samples; and to explore the veins below the adit level by 150 feet of winzing. The applicant estimated the total cost of his proposal at $50,381.22.

The DMEA field team concurs that development of ore below the adit level is justified, but modifies the proposal with a recommendation that limits the winze to 110 feet of depth and adds four hundred feet of drifting from the winze on the 100-foot level. Costs were estimated at $43,910.63.

In reviewing both the application and the field recommendation, I have questioned whether the work proposed is exploration. The applicant and the field team seem amply satisfied that the structure cut by the adit level is ore at the sill. Since the ore above the level has been extracted the next step in mining is to develop another level at the proper level interval to permit stoping. Such work is preponderantly development - not exploration, and that is the work proposed.

If the program is determined by DMEA to fit its definition of exploration and the work outlined is undertaken it might be well to consider another location for the winze. The site indicated by

the applicant and field team has the disadvantage that it requires rehabilitation of 300 feet of drift at a cost of $12,266 in order to put the winze at the far end of the ore shoot previously mined. This cost might be avoided by placing the winze in the footwall near the intersection of the Little Joe adit with the Kittimac vein. Not only would this save $12,000, but it would place the winze under unmined ground and reduce tramming and servicing costs.

In general the assay data on the stope backs represented by samples 401 to 416 and on the sill represented by samples 25-38 indicate mineable ground providing the operation is properly financed and well run and the ore proves amenable to concentration with good recoveries.

The sample data presented relative to the Syndicate diamond drilling indicates careless work. The location of the holes is not indicated, and the fact that results from Hole 2 were lost and that neither logs nor core were saved from any hole suggests certain gross inadequacies.

I recommend that the application be denied in its present form and that consideration be given to contract diamond drilling from one or more drill stations of the Little Joe crosscut adit. Such holes should be able to explore the section between A and E both above and below the level.

for O. M. Bishop

Copy to: Division of Minerals
Mr. Killsgaard
Mr. Lamb
Mr. Bishop
F I L E S

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

OFFICIAL FILE COPY
DMEA
IN REPLY REFER TO:
RECEIVED OCT 18 1957

DATE	INITIALS	CODE
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Memorandum

October 17, 1957

To: W. R. Griswold, Defense Minerals Exploration Administration

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

Subject: Review of field examination report, DMEA 4549 (copper, lead, zinc), Kittimac Mining Co., Kittimac mine, San Juan County, Colorado.

The examining team report that geologic conditions at the Kittimac mine are favorable for undiscovered base metal ore deposits. They show that several veins in the area are well mineralized, strong and persistent. The Isabella and Caledonia veins have been mined in part; and both show good ore-grade material. The width and grade of the veins are good, by mining standards. The ore deposits are expected to become better with depth as the Burns latite, the main producing unit in the district, is approached and entered.

The examining team recommend approval of a DMEA contract that would provide for mine rehabilitation, winzing, and drifting at a total estimated cost of $43,911. I agree with the recommendations of the Field Team, for the main reason that the proposed project appears to have a good chance for success.

W. P. Williams

W. P. Williams

Explanation of
apparent [illegible]
by Field Team

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

October 11, 1957

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DMEA
RECEIVED OCT 14 1957

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10/14	C	220
10/16	ZB	130
10/17	C	220
10/17	Kley	500

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket DMEA-4549 (Copper-Lead-Zinc) Kittimac Mining Company (Kittimac mine) San Juan County, Colorado - Joint Report of Examination

Enclosed are the original and two copies of a Joint Engineering and Geologic Report by William N. Sharp, USGS, and Carl Belser, USBM.

We note that the John M. French Placer and the Forest Queen claims 6 to 10 inclusive are approximately two miles from the group of claims on which DMEA work is recommended. The whereabouts of the following in the court list of claims is not shown on the Applicant's map or in the records of the Bureau of Land Management:

Slide	Forest Queen
Slide No. 1	Forest Queen No. 1
Iron	Forest Queen No. 2
Iron No. 1	Forest Queen No. 3
Iron No. 2	Forest Queen No. 4
Iron No. 3	Forest Queen No. 5
Iron No. 4	Forest Queen No. 11
Iron Dump	Monitor
Iron Age	Monitor No. 1
Fountain	Monitor No. 2

Records in the Bureau of Land Management reveal that the group of claims where exploration is recommended was assigned Mineral Survey No. 14544 but did not go to patent. Apparently assessment work was not continued on these claims, and the Bear group of claims was located covering much of the same area as shown [redacted] the Connecting Sheet of Sec. 34, T. 42 N., R. 6 W., two copies of w[redacted]h are enclosed. The Bear group was assigned Mineral Survey No. 20403 [redacted] did not go to patent.

R[illegible] by
DMEA O[illegible] CO[illegible]
10-16-57
[illegible]

The Applicant's claims in the proposed exploration area are in conflict with the Bear claims, as follows:

Mineral Survey No. 14544

Applicant's claims	Discovery date
Midnight Sun No. 1	July 21, 1900
Midnight Sun No. 2	October 1, 1900
Little Joe	May 25, 1896
Aurora	August 4, 1896
Monitor No. 3	September 12, 1900
Monitor No. 4	October 1, 1900

Mineral Survey No. 20403

Samuel G. Martin claims	Discovery date
Bear	April 11, 1929
Bear No. 9	April 15, 1929
Bear No. 10	April 14, 1929
Bear No. 11	April 14, 1929
Bear No. 13	April 14, 1929

The Field Team recommends DMEA aid as outlined in the report of examination, provided the Legal Division believes the Applicant has a sufficient interest in the land. While some advantage might result by subordinating the entire group of claims as recommended in the report of examination, we believe that the Government's interest would be protected by subordinating only those claims covered by Mineral Survey No. 14544, which are shown as the east group of claims on Figure 4 of the report of examination.

Enclosed are nine copies each of Figures 3 and 4 for possible use in the contract.

E. N. Harshman

By E. N. Harshman
Acting Executive Officer

Enclosures

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DMEA
RECEIVED OCT 14 1957

DATE	INITIALS	CODE
10-16	JB	130
		220

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA
DEPARTMENT OF THE INTERIOR
OCT 9 - 1957
REGION III
DENVER, COLORADO

ON SITE REPORT

DMEA 4549

Kittimac Mining Company

Kittimac Mine

San Juan County, Colorado

Copper-lead-zinc

Joint Engineering and Geologic Report

by

William N. Sharp, Geologist
Geological Survey

Carl Belser, Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
10-16-57
(date)

October 8, 1957

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DMEA 4549

KITTIMAC MINING COMPANY
KITTIMAC MINE
SAN JUAN COUNTY, COLORADO

INTRODUCTION AND SUMMARY

Walter W. Bentley, d.b.a. Kittimac Mining Company, P. O. Box 541, Silverton, Colorado, on November 17, 1956, submitted an application to Defense Minerals Exploration Administration for aid in a copper-lead-zinc exploration project on six patented claims and 78 unpatented claims in sections 27, 28, 31, 32, 33, 34, and 35, T. 42 N., R. 7 W., NMPM, Minnie Gulch, San Juan County, Colorado. The application called for rehabilitation and sampling of the Isabella and Caledonia drifts to the northwest, crosscutting 50 feet, and sinking 150 feet at a total cost of $50,381.22.

The property was inaccessible until early in July and a field examination was made on July 29, 1957.

Two important veins, the Isabella and the Caledonia, appear to junction in the western part of the mine. Most of the production has been from the area of intersection above the adit level. The total production from the mine amounts to about 25,965 tons of ore valued at $405,395. $15.61/ton.

The examining team believes that the ore zone merits exploration below the adit level and recommends that the adit be cleaned of the cave and that exploration consisting of 110 feet of winze sinking and 400 feet

of drifting on the 100-foot level be approved. The total estimated cost is $43,910.63. Government participation is 50 percent of this amount or $21,955.32.

ACKNOWLEDGMENTS

Walter W. Bentley and George T. McCall, geologist, Superior Oil Company, accompanied the examining team.

Memorandums of George C. Selfridge, N. E. Nelson, and O. M. Bishop were noted.

LOCATION, TOPOGRAPHY, AND CLIMATE

The property consists of two separate blocks containing a total of 84 claims in sections 27, 28, 31, 32, 33, 34, and 35, T. 42 N., R. 7 W., NMPM, San Juan County, Colorado (fig. 1). The claims are on the north side of Minnie Gulch. One block is near the Animas River between Maggie and Minnie gulches at altitudes extending upward to the east from about 9,700 feet at the river.

The other and most important claim group is about 7,000 feet farther to the east. Altitudes range upwards from about 11,000 feet (11,560 feet at the portal of the Kittimac mine) to 13,600 feet at the summit of the divide near the extreme east side of the claim group. Three of the claims are over the ridge in Hinsdale County.

The mine is connected with a fair 3-mile access road to the State Highway 110 in Animas Valley, from whence it is 7 miles south to U. S.

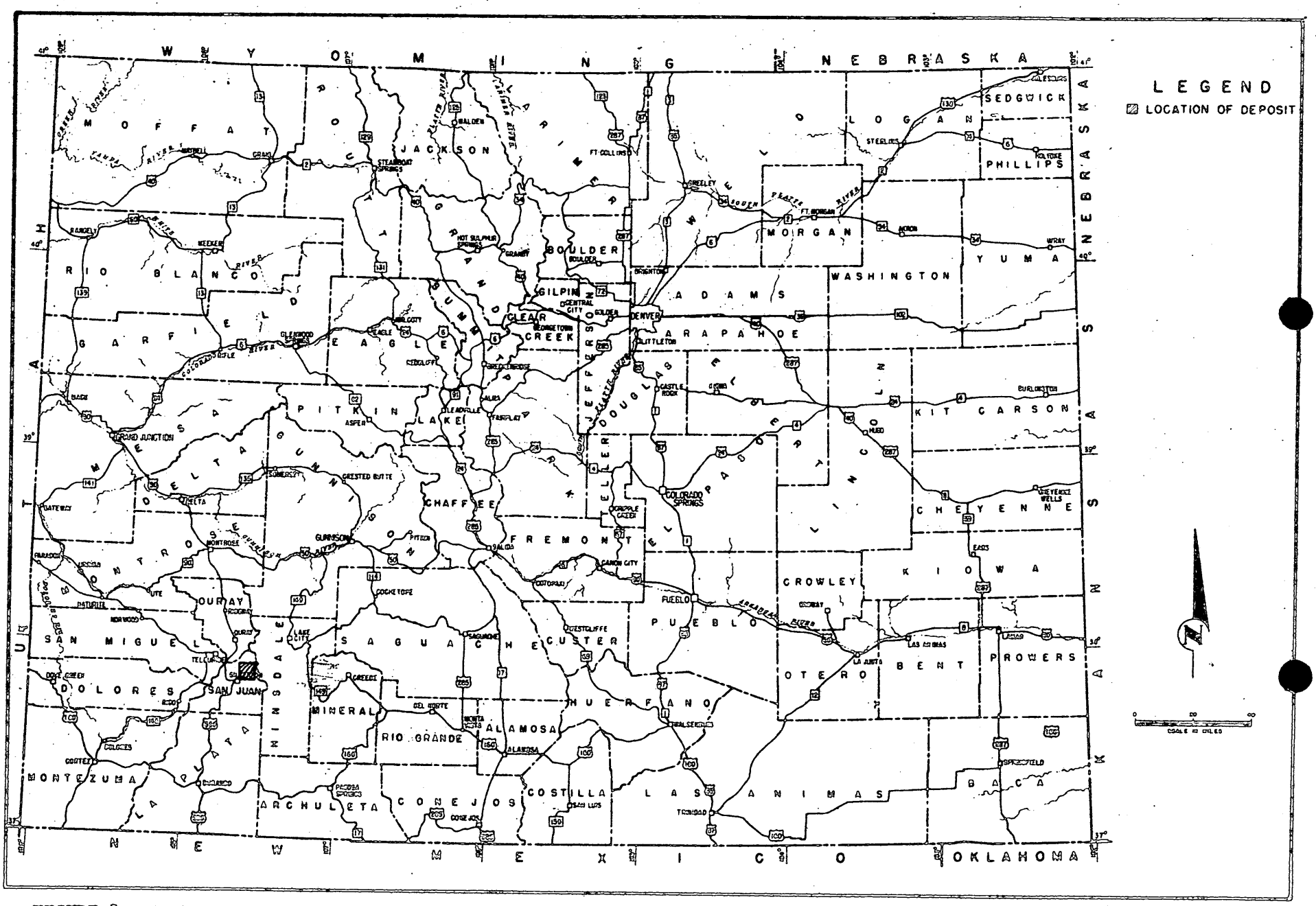


FIGURE 1 - LOCATION MAP, KITTIMAC MINE, KITTIMAC MINING COMPANY, SAN JUAN COUNTY, COLORADO. DMBA 4549

Highway 550 at Silverton. From Silverton it is 53 miles south over U. S. Highway 550 to Durango, 20 miles north to the town of Ouray and 30 miles north to the Denver and Rio Grande Western railroad at Ridgeway, Colorado.

Men and supplies can be obtained from Silverton and Ouray. Water for mining and domestic use runs down a small draw near the mine portal.

The Pride-of-the-West custom mill is 5 miles from the mine by road. From Ridgeway, lead concentrates can be shipped to Leadville, copper concentrates to Tooele, Utah, and zinc concentrates to Great Falls, Montana. Formerly the mine was connected, by a 3.2 mile electric line, to the power lines which now serve the Animas Valley.

HISTORY AND PRODUCTION

The Minnie Gulch area lagged behind much of the San Juan area in mining. The first claim on the Kittimac group was located in 1896. Arthur G. Robin and the Minnie Gulch Mines and Tunnel Company were active around 1900. An adit with about 3,400 feet of drifts was run, and an aerial tramway and mill erected. The mine was closed by the bondholders in 1917. Since then practically no work has been done. The applicant received a lease and bond on the property in 1956 and drilled three underground core holes. The results of the core drilling were very poor.

Total production from 1908 to 1945, inclusive, is estimated as 25,965 tons containing 140.63 oz. gold, 60,439 oz. silver, 363,097

pounds copper, 1,054,190 pounds lead, and 287,630 pounds zinc with a total value of $405,396.44.

OWNERSHIP AND EXTENT

The applicant holds leases on the Kittimac group of 84 claims, two mill sites, and a 76-acre portion of the patented John H. French placer. The Forest Queen Nos. 6 to 10, inclusive, are now being patented, all other claims are unpatented. These claims are in sections 27, 28, 31, 32, 33, 34, and 35, T. 42 N., R. 7 W., NMPM, San Juan County, Colorado. The pertinent claims are shown on figure 4. The claims are recorded in the office of the San Juan County Clerk and Recorder as follows:

Locations

Claim	Book	Page	Date located	Locators
Caliber	97	370	9/1/96	Arthur G. Robin, Louis Ackerman, J. L. Workman
Caliber No. 1	111	142	8/27/99	Arthur G. Robin
Caliber No. 2	111	142	8/28/99	" " "
Caliber No. 3	111	605	10/9/1900	Minnie Gulch Mines and Tunnel Co.
Pursur	97	241	8/2/96	Arthur G. Robin, J. L. and U. G. Workman
Pursur No. 1	111	583	10/9/1900	Minnie Gulch M. and T. Co.
Pursur No. 2	111	584	10/9/1900	" " " " " "
Home	111	480	7/29/1900	S. G. Martin
Home No. 1	111	481	10/1/1900	" " "

Claim	Book	Page	Date located	Locators
Home No. 2	111	482	10/1/1900	S. G. Martin
Slide	111	489	10/5/1900	" " "
Slide No. 1	---	---		---
Detroit	111	599	10/9/1900	Minnie Gulch M. and T. Co.
Globe	111	598	"	" " " " " "
Liverpool	111	597	"	" " " " " "
Michigan	111	600	"	" " " " " "
Grand Rapids	111	601	"	" " " " " "
New York	111	602	"	" " " " " "
Chicago	111	603	"	" " " " " "
Ann Arbor	111	604	"	" " " " " "
Durango	111	585	"	" " " " " "
Pittsburg	111	586	"	" " " " " "
Helena	111	587	"	" " " " " "
Lake City	111	588	"	" " " " " "
Silverton	111	589	"	" " " " " "
Denver	111	590	"	" " " " " "
Berlin	111	591	"	" " " " " "
St. Louis	111	592	"	" " " " " "
London	111	593	"	" " " " " "
Paris	111	594	"	" " " " " "
Baltimore	111	595	"	" " " " " "

Claim	Book	Page	Date located	Locators
Boston	111	596	10/9/1900	Minnie Gulch M. and T. Co.
Iron	114	27	11/1/1900	" " " " " "
Iron No. 1	116	225	1/22/02	S. G. Martin
Iron No. 2	116	226	1/22/02	" " "
Iron No. 3	116	227	1/22/02	" " "
Iron No. 4	116	228	"	" " "
Iron Dump	114	29	11/1/1900	Minnie Gulch M. and T. Co.
Iron Age	114	28	11/1/1900	" " " " " "
Forest Queen	111	267	6/5/1900	S. G. Martin
Forest Queen No. 1	111	268	"	" " "
Forest Queen No. 2	111	269	"	" " "
Forest Queen No. 3	111	270	"	" " "
Forest Queen No. 4	111	271	"	" " "
Forest Queen No. 5	111	272	"	" " "
Forest Queen No. 6	114	35	11/27/1900	Minnie Gulch M. and T. Co.
Forest Queen No. 7	114	36	"	" " " " " "
Forest Queen No. 8	114	37	11/16/1900	" " " " " "
Forest Queen No. 9	114	38	"	" " " " " "
Forest Queen No.10	114	39	"	" " " " " "
Forest Queen No.11	---	---		
Isabella	111	256	5/21/1900	W. Barkov, Andrew Erickson, and J. Bartelle
Isabella No. 1	111	616	10/9/1900	Minnie Gulch M. and T. Co.
Isabella No. 2	111	617	"	" " " " " "

Claim	Book	Page	Date located	Locators
Isabella No. 3	111	618	10/9/1900	Minnie Gulch M. and T. Co.
Isabella No. 4	111	619	"	" " " " " "
Isabella No. 5	111	620	"	" " " " " "
Isabella No. 6	111	621	"	" " " " " "
Isabella No. 7	111	622	"	" " " " " "
Isabella No. 8	111	623	"	" " " " " "
Monitor	114	24	11/1/1900	" " " " " "
Monitor No. 1	114	25	"	" " " " " "
Monitor No. 2	114	26	"	" " " " " "
Monitor No. 3	111	483	9/12/1900	S. G. Martin
Monitor No. 4	111	484	10/1/1900	" " "
Monitor No. 5	111	485	10/1/1900	" " "
Monitor No. 6	111	606	10/9/1900	Minnie Gulch M. and T. Co.
Monitor No. 7	111	607	"	" " " " " "
Monitor No. 8	111	608	"	" " " " " "
Monitor No. 9	111	609	"	" " " " " "
Monitor No. 10	111	610	"	" " " " " "
Monitor No. 11	111	611	"	" " " " " "
Monitor No. 12	111	612	"	" " " " " "
Monitor No. 13	111	613	"	" " " " " "
Monitor No. 14	111	614	"	" " " " " "
Aurora	97	369	8/4/96	A. G. Robin, J. L. and U. G. Workman
Aurora No. 1	111	144	8/27/99	Arthur G. Robin

Claim	Book	Page	Date located	Locators
Little Joe	97	63	5/25/96	J. L. and U. G. Workman
Wanda	111	633	9/2/1900	Minnie Gulch M. and T. Co.
Fountain	111	479	7/27/1900	S. G. Martin
Camilla	111	634	9/13/1900	Minnie Gulch M. and T. Co.
Midnight Sun No. 1	111	486	8/10/1900	S. G. Martin
Midnight Sun No. 2	111	487	10/1/1900	" " "
Midnight Sun No. 3	111	488	10/1/1900	" " "
Forest Queen M. S.	D-2	109	11/30/1900	Minnie Gulch M. and T. Co.
Monitor M. S.	D-2	110	"	" " " " " "
J. H. French Placer	137	266	6/23/98	(Sur. No. 45) Division of French Placer with Tom Moore

The book and page of recording of Slide No. 1 and Forest Queen No. 11 were not found in the official records, neither are they given in the application.

Amendments

Claim	Book	Page	Date amended	Amendor
Caliber	92	461	10/15/1900	Minnie Gulch M. and T. Co.
Caliber No. 1	92	462	"	" " " " " "
Caliber No. 2	92	463	"	" " " " " "
Pursur	92	202	7/2/97	A. G. Robin and U. G. Workman
Pursur	111	582	10/9/1900	Minnie Gulch M. and T. Co.
Isabella	111	615	10/9/1900	" " " " " "
Aurora	97	369	8/4/96	A.G.Robin, J.L. and U.G.Workman
Little Joe	92	449	10/1/1900	S. G. Martin

Bijou water right Book D-2 page 56 dated 6/20/1900 by S. G. Martin

Estey water right Book D-2, page 61 and Book D-2, page 83.

These claims have been kept in a group by the court in settling several disputes and liens and the claims listed above appear to be in good standing.

An agreement to lease and purchase was made October 10, 1956, between the Kittimac Mines Company, lessor, and Walter W. Bentley, lessee.

The Pursur No. 2, partly in Hinsdale County, is recorded in San Juan County. The Caliber No. 4, Racine, and Kalamazoo are in Hinsdale County (fig. 4) and are not recorded in San Juan County, nor are they included in the court lists. These three unpatented claims are not considered important to the project, and are not included on the list Bentley received as lessee, and were not checked.

The entire Bentley list of claims (court list) should be subordinated.

PRESENT STATUS

Exploration and development

The mine has been opened by two adits. The small upper adit is caved. The lower adit (Little Joe) contains 3,400 feet of drifting and crosscutting and one large stope that extends upward to the surface. Several small stopes are scattered along the drifts. There are no workings below the main adit level.

Mining and milling machinery and other facilities

The mill and tramway are wrecked and are not an asset. The following mining equipment was noted:

1,200 feet 30-lb. track

3-inch air line in poor condition - no asset

8 - 16-cu. ft. ore cars

600 feet 12-lb. track

Small number of hand tools

A fair access road connects the adit dump with the State Highway 110 in Animas Valley.

GEOLOGY

The Kittimac mine, in the northwestern part of the San Juan Mountains, Colorado, is in a region of metasedimentary and sedimentary rocks overlain by a very thick sequence of flows, tuffs, and volcanic breccias. The volcanic sequence of middle Tertiary age includes the San Juan tuff unit, the Silverton volcanic series, and the Potosi volcanic series. The bedded rocks of the region, including the volcanic rocks, are intruded by stocks and dikes of granitic and andesitic material, and the whole interval of interrelated rock units is extensively faulted and veined.

The regional geology and the geology in the vicinity of Kittimac mine is shown on the areal geology map of the Silverton quadrangle by

Cross and Howe USGS Folio 120, 1901, a part of which is used in figure 2. In the Silverton quadrangle an oval area 7 to 10 miles across has dropped relative to the surrounding country. This sunken block bounded by curved or ring faults, forms the Silverton caldera. The caldera is bounded physiographically by Red Mountain Creek and Mineral Creek on the west and the Animas River on the east. The whole region of the caldera has been extensively mined and prospected.

The Kittimac mine is outside the Silverton sunken block but near the eastern boundary which is marked by a ring fault system along the Animas River (fig. 2). The mine is near the head of Minnie Gulch drainage which enters the Animas River near Eureka. Unfortunately, the area is one that has not been mapped or studied in detail.

Almost a complete section of the Silverton volcanic series is exposed in Minnie Gulch from the Animas River reentrant to the divide crest eastward above the Kittimac mine. Eureka rhyolite, Burns latite, and pyroxene-quartz latite units totaling more than 3,000 feet in thickness are all well exposed (fig. 2). The Eureka rhyolite, the oldest unit of the exposed Silverton volcanic series, outcrops on the east side of the Animas River. It is several hundred feet in thickness above the river and forms a belt along the east side of the valley at the mouth of Minnie Gulch.

Overlying the Eureka rhyolite, on an irregular erosion surface, is the thick sequence of latite flows and tuffs of the Burns latite unit. The upper limit of this unit is apparently just below the

Kittimac mine adit (Cross & Howe, 1901). Pyroxene-quartz latite (Larson & Cross, 1956, p. 79) overlies Burns latite on an erosion surface and forms craggy steep-walled outcrops around the head of Minnie Gulch under the divide crest. The Kittimac mine workings appear to be in pyroxene-quartz latite.

In the vicinity of the Kittimac mine the units of the Silverton volcanic series are broken and offset by several prominent faults. At least two faults trend northward roughly paralleling the Animas River fault system (fig. 2). The dropped component of each of these two faults is on the west side towards the Silverton caldera. The movement on these faults must be closely related to the movement of the Silverton block, and the faults must represent boundaries of step-fault blocks that are subsidiary to the Silverton caldera block. The fault that trends northward a short distance east of the Kittimac mine portal appears to be a fault that cuts principal veins in the Kittimac mine workings. This fault is called the "Kittimac fault" for convenience.

At least three and possibly four major veins fill fracture systems in Burns latite and pyroxene-quartz latite units in the vicinity of the Kittimac mine. The major veins include the Caledonia, Isabella, and Caliber veins. The Caledonia vein, trending about N 75° W, is explored and mined in the Caledonia mine which is situated half a mile west and several hundred feet below the Kittimac mine. This vein can be traced eastward from the Caledonia mine to the Kittimac mine where it makes a junction at a small angle with the Isabella vein which trends about

N 65° W (fig. 3). The Caliber vein trends about N 40° W across the eastern and northeastern claims of the Kittimac group of claims. The vein has not been completely explored or investigated.

Several smaller veins are evident in the vicinity of the Kittimac mine. One of these--the Little Joe vein trending N 70° E--is followed by the main Kittimac mine adit (called the Little Joe adit, fig. 3) to its junction underground with the Isabella-Caledonia veins. A number of small veins appear in the southeast workings of the mine. They may be extensions of the main veins of the mine or they may be branch veins. Besides the Caledonia vein, several small veins appear to crop out near the Caledonia mine. Without doubt there are other veins in the vicinity that are poorly exposed and have not been mapped.

All of the principal veins of the Kittimac mine stand nearly vertical or dip at high angles. The Caledonia dips about 85° southward. The Isabella vein dips about 85° northward. These two veins, in the northwestern part of the mine, approach one another at a small angle and, with opposing dips, apparently converge. The vein zone of convergence was mined out between the adit level and the surface. The Little Joe vein is vertical, and the "Kittimac" vein (or eastward extension of the Caledonia or Isabella vein beyond the fault zone) is nearly vertical. Some of the smaller veins cut by the eastern workings of the mine dip at angles of about 40 degrees. The Caliber vein appears to be a vertical vein because of its almost straight outcrop pattern across the slope of the Minnie Gulch head-wall.

The Isabella vein may flatten in dip below the present drift level. The scanty hole data available from the Syndicate drilling in 1956 suggest that the Isabella vein could possibly flatten in dip from 85° to 70°. The downward projection of the vein, on the basis of its dip in the stope above the level, does not coincide with its presumed position as determined from the previous Syndicate drill holes. However, the poor core recovery and incomplete logs kept on the holes make this interpretation inconclusive. The interval of core indicated as vein may represent a small subsidiary vein to the Isabella vein.

A fault zone is cut in the western workings of the Kittimac mine that is tentatively joined with the "Kittimac" fault shown on the surface geology map (fig. 2). Underground the zone is 8 to 10 feet wide, trends a few degrees east of north, and appears to dip about 85° westward. If the underground fault and the "Kittimac fault" are the same, then the western component is probably down-faulted as much as 100 feet relative to the eastern component. The fault does not appear to be mineralized and by the nature of its relationship to the veins is a younger structure.

The veins in the Kittimac mine area are all fracture-filling veins of white quartz gangue. All contain sulfide minerals of copper, lead, zinc, and iron. Silver is present in moderate amounts but probably occurs in the vein altogether in the mineral galena. Gold, although present, is generally a minor product of milling and is not seen in the vein rock.

The common ore minerals are galena, sphalerite, enargite (?), and chalcopyrite. Pyrite and quartz are the principal gangue minerals. The vein content of any particular metal sulfide may change noticeably in a short distance horizontally and vertically. This feature of the veins in the Kittimac mine is expressed in the noticeable changes in metal content of samples along a vein. Some zones in the Isabella vein of the Kittimac mine, for example, are essentially of sphalerite. A few feet distant from a sphalerite-rich zone the vein may be rich in galena, chalcopyrite, and enargite (?).

SAMPLING AND ORE RESERVES

Sixteen samples were taken by the American Smelting and Refining Company from below the track on the adit level on the "Kittimac" vein from the Caledonia-Isabella junction to the southeast for 200 feet (fig. 3). Sample No. 40 is at the junction, No. 39 is 40 feet to the southeast, No. 38 is under the track 30 feet southeast. Samples No. 37 to No. 25 continue at 10-foot intervals to the southeast below the track. Bentley has sampled the exposed back above the level for the last 70 feet to the southeast of the area that was sampled by A. S. & R. on the level. The examining team took one sample (CB-144) as a rough check of Bentley's No. 402 (fig. 3). Three holes were also drilled by a Syndicate organized to reopen the mine in 1956. These holes cut the Isabella (?) vein at depths of 168 to 196 feet below the adit level. Core recovery on Hole No. 1 was reported as 75 percent and on Hole No. 3

about 50 percent. The results from Hole No. 2 were lost. Neither geologic logs were made of the cores nor were the cores preserved. Sample data follows:

Sample	Width in feet	Au oz.	Ag oz.	Pb (percent)	Cu (percent)	Zn (percent)	Combined sulfides
25	6.0	Tr.	0.8	0.3	0.05	0.07	1.05
26	4.0	Tr.	1.6	1.4	1.22	2.5	5.12
27	4.2	Tr.	2.0	2.7	1.78	4.3	8.78
28	4.8	Tr.	3.1	7.8	7.34	5.9	21.08
29	4.8	Tr.	3.0	1.8	2.75	7.5	12.05
30	4.0	Tr.	2.2	1.9	1.78	4.9	8.58
31	7.0	0.07	3.8	2.2	2.04	4.9	9.14
32	8.0	0.29	3.1	2.2	2.98	6.9	12.08
33	7.3	0.5	3.6	2.9	1.88	3.9	8.68
34	5.5	Tr.	2.3	2.4	1.17	4.1	7.67
35	8.2	Tr.	1.4	0.4	0.91	0.8	2.11
36	5.5	Tr.	1.6	1.4	0.91	2.3	4.61
37	5.2	0.01	6.4	3.7	3.16	4.1	10.96
38	9.5	Tr.	5.6	5.0	3.46	8.2	16.66
39	2.0	Tr.	7.0	5.2	1.17	2.6	8.97
40	8.3	0.03	20.4	6.5	1.70	1.7	9.90
Arithmatical average	5.89	0.028	4.24	2.99	2.14	4.08	9.21

Samples above level (stope back)

Sample	Width in feet	Au oz.	Ag oz.	Pb (percent)	Cu (percent)	Zn (percent)	Combined sulfides
401	1.5	Tr.	5.2	3.7	2.50	2.7	8.90
402	1.6	Tr.	5.4	6.6	2.00	6.0	14.60
403	2.1	0.01	12.7	7.4	4.80	11.3	23.50
404	1.1	0.03	28.8	17.6	4.80	12.1	34.50
405	1.2	0.01	13.1	12.0	3.10	7.7	22.80
406	0.8	0.02	33.9	20.5	3.45	21.1	45.05
407	0.5	0.01	23.6	24.3	3.95	20.5	48.75
408	1.0	0.01	12.8	15.8	5.20	22.6	43.60
409	1.0	0.01	15.0	15.2	6.10	23.8	45.10
410	1.0	0.01	8.9	10.2	6.50	25.0	41.70
411	1.2	0.01	7.6	7.7	6.55	17.6	31.85
412	1.7	0.02	7.6	10.4	6.80	16.1	33.30
413	1.0	0.01	22.6	12.6	5.00	22.2	39.80
414	0.8	0.01	5.3	5.1	3.95	14.3	23.35
416	4.0	Tr.	0.5	0.5	0.05	--	0.55
CB 144	3.1	0.05	3.4	9.8	2.10	4.6	9.50
Arithmatical average	1.48	0.01	12.90	11.21	4.18	14.23	29.62
Drill Hole No. 1	21.1 on slope	0.01	1.00	0.60	0.83	2.37	3.80
Drill Hole No. 3	5.0 on slope	0.01	0.90	2.00	0.28	3.05	5.33

The clearing up of the cave would permit sampling and exploration of an additional 290 feet of drift west of the cave. No attempt was made to analyze the sample data except in a very rough way.

From data at hand a block of ore 5.89 feet wide, 200 feet long, and 100 feet high is indicated to be just to the southeast of the Caledonia-Isabella junction. The block is calculated to contain about 10,000 tons of ore roughly averaging Au 0.02 oz., Ag 4.24 oz., Pb 3.00 percent, Cu 2.10 percent, Zn 4.1 percent. If the Isabella vein northwest of the cave is of equal quality the indicated ore estimate should be increased about six times.

APPLICANT'S ESTIMATED COST OF PROJECT

The applicant proposes a two-phase exploration project. Phase A is to rehabilitate and sample the Isabella drift northwest and Phase B provides for sinking 150 feet. The applicant's estimated costs follow:

Phase A

<u>Independent contracts</u>		
None		
<u>Labor and supervision</u>		
229 man-shifts of labor at $16.00/day	$ 3,264.00	
3 man-shifts mechanic at $24.00/day	72.00	
2-1/2 months supervisor at $800.00/mo.	2,000.00	
Total labor and supervision ($5,736.00)		$ 5,936.00

Operating material and supplies

3½ tons 30 lb. rail at $260.00/ton	$ 910.00
32 prs. 30 lb. rail splices at $1.35/pr.	43.20
2 - track bolt wrenches at $2.95 each	5.90
100 lb. track spikes at $0.21/pound	21.00
110 ties for track at $0.65 each	71.50
100 lb. track bolts at $0.34/pound	34.00
1 - 30 lb. switch	50.00
1 - rail bender	65.00
1,913 feet 2-inch pipe at $0.59/foot	1,138.70
10 - 2-inch unions at $2.70 each	27.00
10 - 2-inch Ts at $1.80 each	18.00
10 - 2- to 1-inch reducing bushings at $0.39/ea.	3.90
10 - 1-inch by 30-inch pipe at $0.26½ per foot	79.50
10 - 1-inch valves at $2.85 each	28.50
3 - 2-inch valves at $13.50 each	40.50
16 - C.P. Quick hose couplers at $1.15 each	18.40
100 feet 1-inch air hose	138.00
500 lineal feet round stull timber at $0.40/ft.	200.00
1,000 feet 3-inch by 12-inch by 5-foot lagging	80.00
12 pieces 4- by 4-inch spiling 12 feet long	12.80
100 lb. nails and spikes at $15.50/100	15.50
200 lb. carbide at $10.00/100	20.00
Hauling charges	100.00

1,650 gals. diesel fuel at $0.19/gal.	$ 313.50	
60 gals. gasoline at $0.30/gal.	18.00	
5 sets fuel and oil filters at $5.40 each ($27.00)	28.00	
30 sample sacks (ore sacks) at $1.50 each	45.00	
60 gals. motor oil at $0.95/gal.	57.00	
60 gals. compressor oil at $0.75/gal.	45.00	
Fuel pump for compressor	20.00	
Grease, oil, gas, and repairs for two jeeps for 2,160 miles at $0.25/mile	1,085.00	
Price increase since quotation	283.51	
Total operating material and supplies		$ 5,026.31

Operating equipment (Rentals)

365 c.f.m. compressor 2½ months at $561/mo.	1,402.50	
Eimco 12-B mucker 2½ months at $275.00/mo.	637.50	
Air trammer 2½ months at $150.00/mo.	375.00	
High pressure pump 1 month at $100.00/mo.	100.00	
2 jeeps 2½ months at $72.00/mo. each	166.00	
Freight to mine or rental equipment	500.00	
Total operating equipment		$ 3,375.00

Rehabilitation and repairs

None

New buildings, improvements, installations

None

Miscellaneous

State Workmen's compensation deposit	$ 100.00	
Workmen's compensation (3% of payroll)	178.08	
Liability insurance	50.00	
State unemployment insurance (3.1% of payroll)	183.01	
F.I.C.A. tax (2% of payroll)	118.72	
Comprehensive and $50.00 deductible and medical payment; insurance on jeeps	200.00	
Sales tax (2%)	170.09	
		$ 999.90
Total estimated cost of Phase A		$15,237.21
29 assays for Au, Ag, Cu, Pb, Zn at $6.00 each		174.00
1 cadmium assay		25.00
1 spectrographic analysis		15.00
Total cost of Phase A		$15,551.21

Phase B

Labor and supplies

Sinking, labor and supplies 150 feet at $85.00/ft.	12,750.00	
Supervision 4 months at $800.00/mo.	3,200.00	
Crosscutting 50 feet at $40.00/ft.	2,000.00	
Total labor and supplies		17,950.00

Operating materials and supplies

None

Operating equipment

To be purchased

2 - Jackhammers complete with hoses and fittings	$ 2,400.00	
1 - Grinder for insert bits	340.00	
3,000 BM Timber and lumber for head frame & bin	225.00	
1 - Sheave wheel	55.00	
250 feet hoisting cable at $32.60/100	81.50	
150 feet vent fan tubing at $1.00/ft.	150.00	
Total to be purchased		$ 3,251.50

To be rented

365 c.f.m. Compressor 4 mos. at $561.00/mo.	2,244.00	
Eimco 12-B mucker 1/2 month at $275.00/mo.	137.50	
Air trammer 4 months at $150.00/mo.	600.00	
Pump 4 months at $100.00/mo.	400.00	
Hoist 4 months at $100.00/mo.	400.00	
Ventilation fan 4 months at $75.00/mo.	300.00	
Total to be rented		4,081.50
Total operating equipment		$ 7,333.00

Rehabilitation and repairs

None

New buildings, improvements, installations

None

Miscellaneous

Workmen's compensation (3%)	$ 306.00	
State unemployment (3.1%)	334.60	
F.I.C.A. (2%)	204.00	
Sales tax (2%)	67.77	
Surveyor 6 days at $40.00/day	240.00	
Geologist 4 days at $100.00/day	400.00	
Accounting 6 months at $50.00 month	300.00	
Total miscellaneous		$ 1,852.37
Total estimated cost of Phase B ($27,135.37)		$30,335.37
Estimated cost of project		$45,886.58
Contingencies		$ 4,494.65
Total estimated cost of project		$50,381.23

A number of mistakes in addition were noted. Some costs are too high, especially supervision and transportation to and from the mine.

RECOMMENDED PROGRAM OF EXPLORATION

The program proposed by the applicant to explore the Isabella vein in the Kittimac mine in San Juan County, Colorado, is fundamentally sound. It is essentially a part of the exploration program proposed by Scott Hazen of the U. S. B. M. in 1949. However, modifications are suggested that would make the applicant's program a better balanced operation and more justifiable to DMEA. The modifications consist of deleting

sampling and the necessary preparations for sampling and proceeding directly with exploration by winzing and drifting on the vein. The winze would be sunk a maximum of 110 feet (including 10 feet for sump) and be the site, at 100 feet depth, for drifting a maximum of 400 feet on the vein. It is recommended that a minimum of 100 feet of drifting be in either direction from the winze. The remaining 200 feet of drift could be in a direction justified by results and data from the first 200 feet of drifting. This final drifting would be Stage II.

Several programs of the many possible to explore the Isabella vein were considered. The preliminary work of core drilling below the drift level as well as sampling along the drift floor was considered and dropped. Sampling and drilling prior to the actual exploratory work by winzing and drifting is dropped from the program because adequate data on the character of the vein can be developed from exposures in the mine workings. Sampling of the Isabella vein is not considered necessary because the quality and character of the vein at adit level is adequately expressed by the stope above the adit level as well as by remnants of the vein left in place. With so much of the vein space exposed from which can be determined, with good assurance, the attitude, width, and ore-bearing quality, it appears an unnecessary time and expense to DMEA to undertake additional preliminary exploration.

The recommended program will consist of rehabilitation, winzing, and drifting. The rehabilitation is necessary to provide access to the underground work site. Rehabilitation will consist of clean-up in the

drift up to Station B, the removal of the caved material in the interval between Stations B and C (fig. 3), retimbering this section of the mine drift, removal of water and mud from the Isabella drift, O to H, impounded by the cave at B to C, repairing track, and laying air and water lines to the winze site. Access from Station B to C can now be made over the top of the cave so no spiling will be required.

A site near Station G (fig. 3) is recommended for the winze. It should follow the vein to a depth of not less than 110 feet below the present drift level and be at least 4 feet by 8 feet in size. At 100 feet below the present drift level, drifts along the vein both ways (northwestward and southeastward) are recommended to extend at least 100 feet.

Stage II to the program, if warranted, would be the extension of this drifting not over 200 feet in a direction considered appropriate from character of the vein exposed by drifting in Stage I.

Justification of program

The program for exploration in the Kittimac mine appears justifiable from both geologic as well as economic aspect. The area appears to contain well mineralized veins. The several veins that outcrop in the general area of Kittimac mine are strong and persistent. The Isabella, the Caledonia, and the Caliber veins all may be traced on the surface for more than a mile. The Isabella and Caledonia veins have been mined in part, and both show good ore-grade material. The

Caliber vein has not been explored underground; the surface outcrop, however, is reported to be of a strong, wide ore-bearing vein. The Kittimac mine is situated at the junction of at least three veins. The Isabella vein, the Caledonia vein, and the Little Joe vein all come together in approximately the same location in the Kittimac mine. The upward convergence of the Isabella and Caledonia veins has produced the principal ore-shoot so far exploited in this mine.

The various veins exposed in workings of the mine show fair to good width of vein and fair to good sulfide-mineral content. The drifts, northwest of the Little Joe adit intersection, expose veins from 2 to 10 feet wide. The Isabella vein appears to be from 2 to 10 feet in width while the Caledonia vein is probably 2 to 4 feet wide. The "Kittimac" vein averages 5.5 feet in width.

Sample material from along the"Kittimac" vein as well as what can be seen of the Isabella and "Kittimac" veins left in the back of the stope show that good ore-grade material exists in the mine. The stope-cut to the surface on the Isabella vein shows that this vein for 200 feet vertically has produced ore-grade material. Without much doubt most of the total production of the mine came from this stope. On the basis of the width, vertical height, and length of the Isabella stope it seems reasonable to assume that this vein will continue downward and be of such character to produce ore-grade material. It is significant that the Kittimac mine situated apparently in the pyroxene-quartz latite unit of the Silverton volcanic series has had its production apparently

from this upper unit of the Silverton volcanic series. The greatest production of the region from lode deposits has been from the Burns latite unit that immediately underlies the pyroxene-latite. Burbank has stated that the Burns latite unit appears to have fracture qualities that in part cause the best lode deposits of the region to be in this unit (Burbank, 1933, p. 150). The exploration of the veins of the Kittimac mine downward into the Burns latite appears to be based on sound reasoning. If these veins are ore-bearing veins in pyroxene-quartz latite host rock, then their character could be equal or better as ore producers in Burns latite.

The exploration program at Kittimac mine after the mine clean-up will proceed with a winze to be sunk on the vein. The location for this winze is recommended to be at station G (fig. 5) on the Isabella vein. This position of the winze is at a manway at the edge of the large stope-out to the surface and would allow exploration of the ore-shoot downward. The principal reason for the winze to be located in the Isabella drift is to avoid the fault zone at Station D (fig. 5). If the winze is located east of this fault, say at the adit intersection where access and haulage would be better, then exploration of the Isabella vein, which possibly represents the best potential source of ore, would not be available until the fault were penetrated and its offset determined. The fault may have at least 100 feet of throw which would be nearly normal to the strike of the Isabella vein. Locating the offset portion of the vein along this fault could be a costly problem at 100 feet below the adit level.

A further advantage in placing the winze at Station G lies in its position at the edge of the ore shoot expressed by the stope. A winze at Station G and the drifting at 100 feet depth is exploration in the best possible area based on mine geology. No "dead work" is involved.

ESTIMATED COST OF PROPOSED PROJECT

Considering the location most of the applicant's estimates are reasonable and will be adopted. Rental prices for equipment should not increase in 1957.

Stage I--Clean-up and rehabilitation
(Time required - 2½ months)

Independent contracts		
None		
Labor and supervision		
Miners 125 shifts at $16/shift 40 shifts (to clean up mud) 165	$ 2,640.00	
Mechanic 3 shifts at $24/shift	72.00	
Supervision 2½ mos. at $600/mo.	1,500.00	
Survey 6 days at $40.00/day	240.00	
Total labor and supervision		$ 4,452.00
Operating materials and supplies		
3½ tons 30 lb. rail at $260.00/ton	910.00	
32 pairs 30 lb. rail splices at $1.35/pr.	43.20	
2 track bolt wrenches at $2.95 each	5.90	

100 lbs. track spikes at $0.21/lb.	$ 21.00
100 lbs. track bolts at $0.34/lb.	34.00
1 - 30 lb. track switch	50.00
1 rail bender	65.00
110 track ties at $0.65 each	71.50
1,930 feet 2-inch air pipe at $0.59/ft. 0.50	1,138.70
10 - 2-inch unions at $2.70 each	27.00
10 - 2-inch tees at $1.80 each	18.00
10 - 2-inch to 1-inch reducing bushings at $0.39 ea.	3.90
3 - 2-inch valves at $13.50 each	40.50
300 feet 1-inch pipe at $0.26½/ft. 0.22	79.50
10 - 1-inch valves at $2.85 each	28.50
100 feet 1-inch air hose at $1.38/ft.	138.00 ✓
16 C.P. Quick hose couplings at $1.15 each	18.40
500 feet round stull timber at $0.40/ft.	200.00 ✓
1,000 feet B.M. 3" x 12" x 5' lagging and 2" x 6" staging at $80.00/BM	80.00 ✓
10 pcs. 4" x 4" x 12' spiling at $80.00/BM	12.80 ✓
100 lbs. nails and spikes at $15.50/C	15.50
200 lbs. carbide at $10.00/C	20.00
	$ 3,021.40
Plus 10 percent price increase	302.14
Hauling charges	100.00 ✓
5 sets fuel and oil filters at $5.40 each	27.00

1 fuel pump	$ 20.00	
1,650 gals. diesel fuel at $0.19/gal.	313.50	
60 gals. gasoline at $0.30/gal.	18.00	
60 gals. motor oil at $0.95/gal.	57.00	
60 gals. compressor oil at $0.75/gal.	45.00	
Oil, gas, repairs for 2 Jeeps 2½ months at $100.00/mo.	250.00 ?	
Total operating equipment		$ 4,154.04

Operating equipment (Rental, 90 percent to apply)

365 c.f.m. compressor-diesel 2½ months at $561.00/mo.	1,402.50	
6 h.p. air trammer 2½ months at $150.00 per mo.	375.00	
Eimco 12-B mucker 2½ months at $275.00 per mo.	687.50	
High pressure pump 1 month at $100.00/mo.	100.00	
Freight on above rental equipment	500.00	
2 jeeps 2½ months at $60.00/mo. (not to apply)	150.00	
Total operating equipment		3,215.00

Rehabilitation and repairs

None

New buildings, improvements, installations

None.

Miscellaneous

Bookkeeping 2½ months at $50.00/mo.	125.00	
Workmen's compensation and liability insurance and payroll tax 7% of $4,577.00	320.39	
Total miscellaneous		$ 445.39

Total estimated cost of Stage I--Clean-up and rehabilitation $12,266.43

Stage I--Sinking winze
(Time required 3 months)

Sink 110 feet (10-foot sump) on vein. Minimum size 4 feet by 8 feet in the clear--2 compartment. Erect headframe and loading chute.

Independent contracts

None

Labor and supervision

300 man shifts at $16.00/day	$ 4,800.00	
Supervision 3 months at $600.00/mo.	1,800.00	
		$ 6,600.00

Operating materials and supplies

Explosives	240.00	
Bits 8 insert at $17.50 each	140.00	
Caps - wire (560 caps)	120.00	
Stulls 600 feet at $0.40	240.00	
Lumber 2,000 BM at $80.00	160.00	
Hand tools	50.00	
2,200 gals. diesel fuel at $0.19/gal.	418.00	
100 gals. gasoline at $0.30/gal.	30.00	
100 gals. motor oil at $0.95/gal.	95.00	
100 gals. compressor oil at $0.75/gal.	75.00	
100 lbs. nails $15.50/100	15.50	
1 fuel pump	20.00	
Oil, gas, & repairs 2 jeeps 3 mos. at $100/mo.	300.00	
Total operating materials and supplies		$ 1,903.50

Operating equipment		
Rentals		
Compressor 3 months at $561.00/mo.	$ 1,683.00	
Air trammer 3 months at $150.00/mo.	450.00	
Pump 3 months at $100.00/mo.	300.00	
Hoist 3 months at $100.00/mo.	300.00	
Ventilation fan 3 months at $75.00/mo.	225.00	
2 sinker drills complete 3 months at $150.00/mo.	450.00	
Mine bucket 3 months at $20.00/mo.	60.00	
2 jeeps 3 months at $60.00/mo.	180.00	
Purchased		
1 sheave wheel	55.00	
200 feet hoisting cable at $32.60/100	65.20	
100 feet ventilation tubing at $1.00/ft.	100.00	
Total operating equipment		$ 3,868.20
Rehabilitation and repairs		
None		
New buildings, improvements, installations		
None		
Miscellaneous		
Bookkeeping 3 months at $50.00/month	150.00	
Workmen's compensation and Employers liability insurance and payroll taxes (7% of $6,750.00)	472.50	
Total miscellaneous		$ 622.50
Estimated cost of Stage I--winzing 110 feet		$12,994.20

Estimated cost per foot $118.13		
10 analyses for Au, Ag, Pb, Cu, Zn at $6.00 each		$ 60.00
Total estimated cost Stage I--sinking winze		$13,054.20

Stage I--Drifting, 200 feet of 5' x 7' drift
(Time required 2 months)

Independent contracts		
None		
Labor and supervision		
200 man shifts at $16/day	$ 3,200.00	
Supervisor 2 mos. at $600.00/mo.	1,200.00	
Total labor and supervision		$ 4,400.00
Operating materials and supplies		
Explosives (1,200 lbs.)	288.00	
Caps and fuse	184.00	
12 Bits (insert) at $17.50 each	210.00	
1,200 gal. diesel fuel at $0.19/gal.	228.00	
40 gal. motor oil at $0.95/gal.	38.00	
40 gal. compressor oil at $0.75/gal.	30.00	
Oil, gas, and repairs 2 jeeps 2 mos. at $100/mo.	200.00	
Total operating materials and supplies		$ 1,178.00
Operating equipment (rentals)		
Compressor 2 months at $561/mo.	1,122.00	
Air trammer 2 months at $150/mo.	300.00	
Mucking machine 2 months at $275/mo.	550.00	

Pump 2 months at $100/mo.	$ 200.00	
Hoist 2 months at $100/mo.	200.00	
Ventilation fan 2 months at $75/mo.	150.00	
2 drills 2 months at $150/mo.	300.00	
Mine bucket 2 months at $20/mo.	40.00	
2 jeeps 2 months at $60/mo.	120.00	
Purchase		
200 feet ventilation pipe at $1.00/ft.	200.00	
Total operating equipment		$ 3,182.00
Rehabilitation and repairs		
None		
New buildings, improvements, installations		
None		
Miscellaneous		
Bookkeeping 2 months at $50/mo.	100.00	
Workmen's compensation and employees liability insurance and payroll taxes (7% of $4,500)	315.00	
Total miscellaneous		415.00
Estimated cost of Stage I--Drifting (200 feet)		$ 9,175.00
Estimated cost per foot $45.88		
20 analyses for Au, Ag, Pb, Cu, Zn at $6 each		120.00
Total estimated cost of Stage I--Drifting		$ 9,295.00
Total estimated cost of Stage I--of project (Clean-up-winzing-drifting)		$34,615.63
Time required for Stage I $7\frac{1}{2}$ months		

Ninety percent of the following accumulated rentals would apply on purchases, less token payment in winter:

365 c.f.m. diesel-driven compressor	$ 4,207.50
6 h.p. trammer	1,125.00
Eimco 12-B mucker	1,237.50
High pressure pump (air driven)	500.00
Air hoist	500.00
Air driven ventilation fan	375.00
	$ 7,945.00

Stage II--Drifting

Drifting additional 200 feet - 5' x 7' drift cost will duplicate previous drifting. (time required 2 mos.)

Independent contracts

None

Labor and supervision

Same as for Stage I drifting

Total $ 4,400.00

Operating materials and supplies

Same as for Stage I drifting

Total 1,178.00

Operating equipment (rentals)

Same as for Stage I drifting

Total 3,182.00

Miscellaneous

Bookkeeping 2 mos. at $50/mo.	$ 100.00	
Workmen's compensation and employees liability insurance and payroll tax (7% of $4,500)	315.00	
Estimated cost of Stage II--Drifting (200 ft.)		$ 9,175.00
Estimated cost per foot $45.88		
20 analyses for Au, Ag, Pb, Cu, Zn at $6.00 each		120.00
Total estimated cost of Stage II--Drifting		9,295.00
Total estimated cost of project including Stage II drifting		$43,910.63
Government participation, 50 percent or		$21,955.32

Time required for project including Stage II drifting - 9½ months

CONCLUSIONS

The Kittimac mine in San Juan County, Colorado, DMEA 4549, appears to have sufficient production potential of mixed base metal ores (lead, zinc, copper, and silver) to justify the exploration program proposed in this report. The proposed program, if successful, could show data from which to calculate measured ore reserves of 20,000 to 25,000 tons.

The program which includes clean-up and rehabilitation of the mine, winzing, and drifting on the Isabella vein at depth should adequately explore the best potential ore-bearing zone in the mine.

Sampling along the floor of the present drift as well as core-drilling, preliminary to the winzing and drifting, is considered not necessary. Sufficient justification to proceed directly to winzing is deductible from mine geology.

RECOMMENDATIONS

The Kittimac Mining Company's application for DMEA assistance in an exploration program is recommended for approval. The original program requested by the applicant should be modified in accordance with the recommendations made in this report.

REFERENCES CITED

Burbank, W. S., 1933, Vein systems of the Arrasture Basin and regional geologic structures in the Silverton and Telluride quadrangles, Colorado: Proceedings of Colo. Sci. Soc., vol. 13, no. 5.

Cross, W., Howe, E., and Ransome, F. F., 1905, U. S. Geol. Survey Atlas, Silverton folio No. 120.

Larsen, Jr., E. S., and Cross, W., 1956, Geology and petrology of the San Juan region, southwestern Colorado: U. S. Geol. Survey Prof. Paper 258.

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

EXAMINATION REPORT
DMEA 4549

PREPARED FOR
DEFENSE MINERALS
EXPLORATION ADMINISTRATION

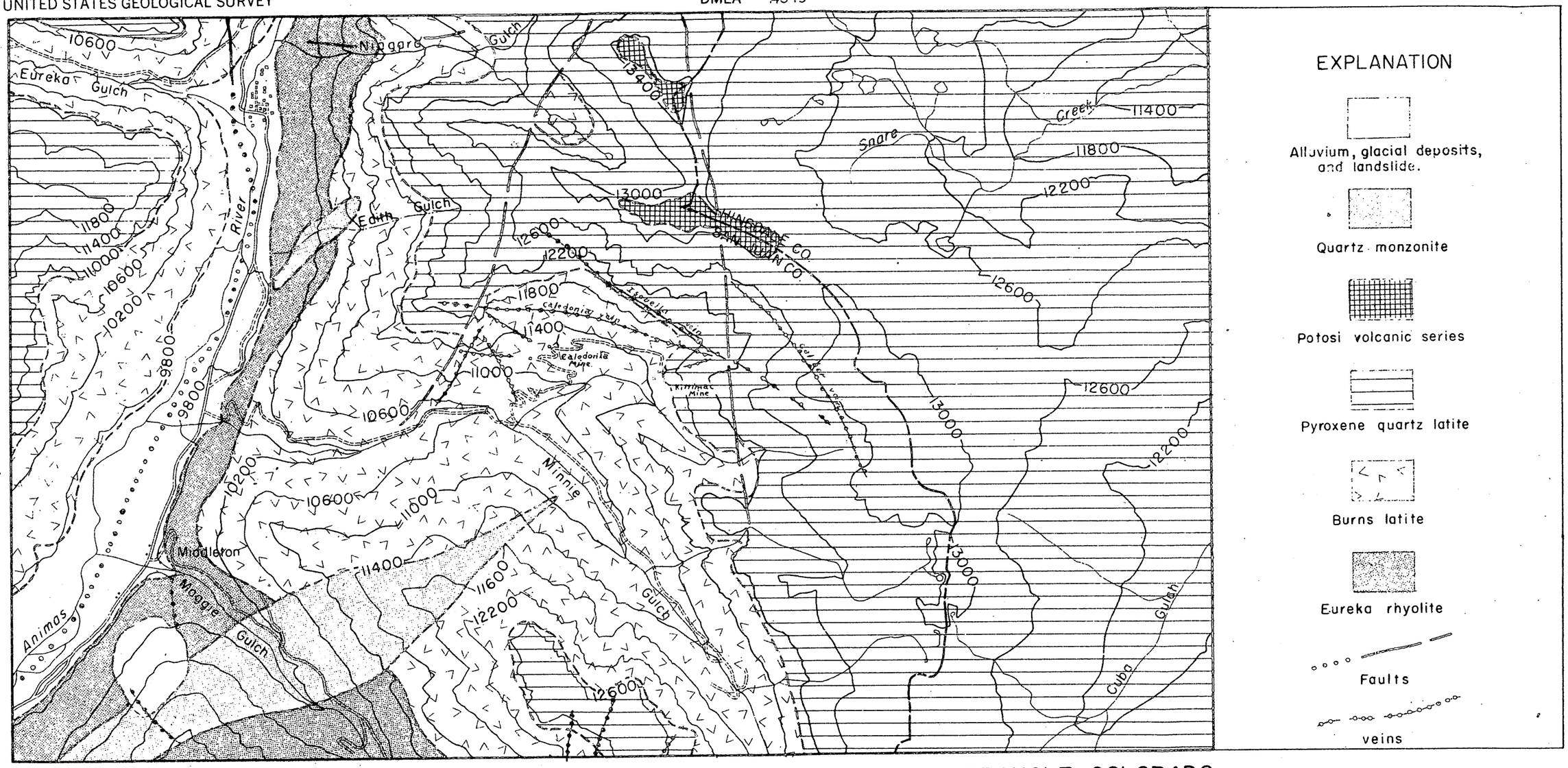
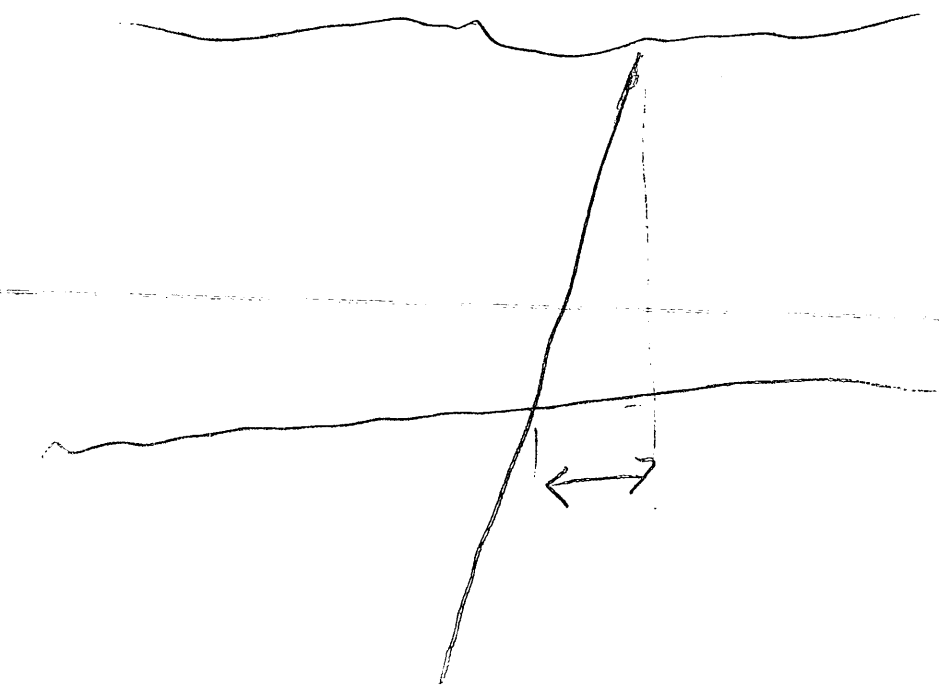


Figure 2 GEOLOGY IN VICINITY OF KITTIMAC MINE, SILVERTON QUADRANGLE, COLORADO

SCALE: 1:24,000

1 1/2 0 1 MILE



OFFICIAL FILE COPY
D M E A
RECEIVED OCT 14 1957

DATE	INITIALS	CODE

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

July 31, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 5 1957

DATE	INITIALS	CODE
8/5	P.K.	220
8/5	Klug.	500

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: DMEA Docket-4549 (Lead-Zinc-Copper)
Walter W. Bentley, d/b/a Kittimac Mining Company,
(Kittimac Mine) San Juan County, Colorado

This is in response to your letter of July 26, 1957, requesting the present status of the subject docket.

Two weeks ago this property was inaccessible because of snow drifts. On July 25, 1957, the applicant advised that the property was now accessible and arrangements were made with him to accompany our examiners on July 30, 1957, for a field examination of the property.

E. N. Harshman

E. N. Harshman

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7/24	Klugescheid	500
	Thiemer	500
7/26	Martin	130
"	Johnson	110
"	Butterworth	100
7/29		225
		500

500

JUL 26 1957

Mr. W. H. King
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. DMEA-4549 (Lead-Zinc-Copper)
Walter W. Bentley d.b.a.
Kittimac Mining Company
Kittimac Mine
San Juan County, Colorado

Dear Mr. King:

We refer to a memorandum of W. P. Pratt and E. W. Buel, dated January 14, 1957, in which they stated that the mine could not be examined on account of snow. The monthly reports lately have given the status of this project as "examination waiting for accessibility".

Kindly advise us what the latest information is concerning this property and if we may expect an examination report in the near future.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (245)
WPKlugescheid/er 7/24/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

APPROVED:

Frank D. Lamb (245)
Member, Bureau of Mines

Thor H. Kiilsgaard (245)
Member, Geological Survey

8623

Sec. Op. Comm.

IN REPLY REFER TO:

DMEA

DEPARTMENT OF THE INTERIOR

JAN 15 1957

REGION III

DENVER, COLORADO

UNITED STATES

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

Docket

January 14, 1957

Betty

Memorandum

To: Executive Officer, DMEA Field Team, Region III
Through: E. N. Harshman
John F. Shaw

From: W. P. Pratt
E. W. Buel

Subject: DMEA Docket 4549 (Lead-zinc-copper), Kittimac Mining Company (Kittimac mine), San Juan County, Colorado

A trip was made to Silverton, Colorado, on January 10, 1957, by W. P. Pratt, U.S. Geological Survey, and E. W. Buel, U.S. Bureau of Mines, for the purpose of making a field examination of the Kittimac mine to evaluate the application for DMEA assistance. We were able to confer briefly with the applicant, Walter W. Bentley, in Silverton, but the mine could not be examined because of snow; a wait of several days would have been necessary before the road could be cleared.

The applicant will notify us if the mine again becomes accessible during the winter, on the chance that an examination might be worked into the schedule at that time.

W.P. Pratt
W. P. Pratt
Geologist

E. W. Buel
E. W. Buel
Mining Engineer

WPPratt:mp

Sec. Op. Com. (4)

FILE COPY
DMEA
RECEIVED JAN 18 1957

DATE	INITIALS	CODE
1-18	C	220
1/17	WBK	500

Betty

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

224 New Customhouse
Denver 2, Colorado

December 20, 1956

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 4549 (lead-zinc-copper) Kittimac Mining Company (Kittimac Mine) San Juan County, Colorado

Enclosed is a copy of a letter from Walter W. Bentley, dated December 19, 1956, in which he requests the subject application be amended to read Walter W. Bentley, DBA Kittimac Mining Company instead of a partnership as it now appears.

Will you please place the Applicant's letter with your copy of the brochure. Copies of this letter are being forwarded to the engineer and the geologist to be included with the copies of the brochure they now hold. One copy of the letter is being included with our copy of the brochure.

W. M. Traver

Enclosure

RECEIVED
DEC 31 1956
D.M.E.A.

Silverton, Colorado.
December 19, 1956.

Mr. W. M. Traver,
Executive Officer, D.M.E.A.,
Field Team, Region III,
224 New Customhouse,
Denver 2, Colorado.

Re: Docket D.M.E.A. 4549

Dear Sir:

This is to inform you that the status of the Kittimac Mine has changed since the D.M.E.A. application was filed.

Because of the death of my brother Charles in Seattle, it has become necessary for my brother Owen to drop his interest in the Kittimac, in order to manage estate matters. Therefore, the Kittimac is now restored to the undersigned as an individual. The lease is made to me as an individual, and by this letter the application should now be amended to read Walter W. Bentley, d.b.a. Kittimac Mining Company, instead of a partnership as it now appears.

Very truly yours,

Walter W. Bentley

Walter W. Bentley.

WWB.G

DMEA
DEPARTMENT OF THE INTERIOR
DEC 20 1956
REGION III
DENVER, COLORADO

Klung.

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

224 New Customhouse
Denver 2, Colorado

December 19, 1956

RECEIVED DEC 26 1956 D.M.E.A.

Memorandum

To: W. H. King (w/brochure)
E. N. Harshman (w/brochure)

From: DMEA Field Team, Region III

Subject: Docket DMEA 4549 (lead-zinc-copper) Kittimac Mining Company (Kittimac Mine) San Juan County, Colorado

Enclosed is the subject application in the amount of $50,381.22. A field examination and suitable report are required.

Enclosed for your further information is a copy of a letter from the Chairman of the Operating Committee, dated December 14, 1956 with memoranda of review of the application by N. E. Nelson and O. M. Bishop.

We are advised that four copies of a letter will be forthcoming, concerning a possible change in the present partnership; and upon receipt by this office, one copy will be forwarded to be included with each copy of the brochure. We are also advised that the property is now accessible for a field examination.

Will you please return the brochure with your Report of Examination.

DMEA Field Team, Region III

Original signed by
W. M. TRAVER

By W. M. Traver
Executive Officer

Enclosures

HMC:ytl

cc: Sec. Op. Comm. (2)
4549 Docket
Chron.

Region III

Building 20
Denver Federal Center
Denver 2, Colorado

DMEA
DEPARTMENT OF THE INTERIOR
DEC 21 1956
REGION III
DENVER, COLORADO

December 20, 1956

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Reg. III

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4549 (lead-zinc-copper) Kittimac Mining Company (Kittimac Mine) San Juan County, Colorado

The application for Kittimac Mining Company, Docket DMEA 4549 in the amount of $50,381.22 was received in this office on December 20, 1956.

A field examination will be made and suitable report prepared by an engineer from the Denver office.

W. H. KING

W. H. King

cc: W. M. Traver (2)
E. N. Harshman
J. F. Shaw
Sec. Op. Con (2)

RECEIVED
DEC 1956
D.M.E.A.

File Copy
Surname
Klugescheid
Vinzvolf
Selfridge
Kjerman
Matthews

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

500

December 14, 1956.

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-4549 (Lead-Zinc-Copper)
Kittimac Mining Company
Kittimac Mine
San Juan County, Colorado

Dear Mr. Traver:

The cited application for exploration assistance is being referred to your office for consideration, a field examination of the property if warranted, and recommendations.

If the project is favorably considered by the Field Team, the following points should be taken into consideration.

(1) Phase "A" (Parts 1-3) consists entirely of rehabilitation, cleanup and sampling. The total cost of this phase is $15,551.00 and the immediate objective is the taking of about thirty samples. If the sampling were not to disclose ore, no further work would be done. It is not the policy of DMEA to participate in rehabilitation and cleanup for the purpose of sampling. The mud and water poses quite a problem for their sampling plans.

(2) The shaft sinking phase is the best feature of the project. It would really show what the Applicant wants to find out and would give it a point of attack for drifting on a lower level. The tunnels are reasonably clean to the proposed starting point between O and B on Fig. 5 and waste work would not be necessary. The complete cost of sinking is high.

RGK

(3) The driving of the crosscut to the Isabella vein without any drifting on the vein does not seem to be of any great value.

(4) Three claims shown on the map do not appear in the list given with the lease. They are: Caliber No. 4; Racine, which adjoins the Purser No. 2; and another claim which adjoins the Grand Rapids but of which the name is illegible.

(5) The samples taken by the Bureau of Mines gave some very encouraging results both as to width of vein and metal content. It may be that with a field examination it would be possible to plan some other method of attack that would be acceptable to the Applicant.

(6) The partnership agreement which you requested will be necessary and the assignment of the lease to the partnership will also be a prerequisite to a contract.

It is unfortunate that the drilling results have been so unsatisfactory as they would have given the quickest and cheapest results.

This referral is being made with the hope that any necessary examination work may be done before the property becomes inaccessible for the winter.

Copies of memoranda dated December 3 and 4, 1956, by N. E. Nelson, Geological Survey, and O. M. Bishop, Bureau of Mines, respectively, relating to the project are enclosed for your information.

We are enclosing two copies of the application for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (2/B)

WPKlugescheid/er 12/11/56

Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Hiilsgaard, USGS
Chron.

Enclosures

APPROVED:

Frank D. Lamb (2/B)

Member, Bureau of Mines

Thor H. Kiilsgaard (2/B)

Member, Geological Survey

File Copy
Surname
Klugescheid
Grisinski
Kiilsgaard
Lamb
Selfridge
Johnson

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

DEC 14 1956

Mr. Walter W. Bentley
Kittimac Mining Company
Post Office Box 541
Silverton, Colorado

Re: Docket No. DMEA-4549 (Lead-Zinc-Copper)
Kittimac Mining Company
Kittimac Mine
San Juan County, Colorado

Dear Mr. Bentley:

Your application for Government assistance to explore the cited property has been reviewed by the Base Metals Division of the Defense Minerals Exploration Administration and has been referred to:

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

If the Field Team requires additional information concerning your application, they will contact you at an early date.

Sincerely yours,

G. O. Mittendorf

Administrator

WPKlugescheid/er 12/11/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region III (2)
Ch

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

224 New Customhouse
Denver 2, Colorado

December 10, 1956

RECEIVED
DEC 12 1956
D.M.E.A.

Docket

Kittimac Mining Company
c/o Mr. Walter W. Bentley
P. O. Box 541
Silverton, Colorado

Re: Docket DMEA 4549 (lead-zinc-copper) Kittimac Mining Company (Kittimac Mine) San Juan County, Colorado

Dear Mr. Bentley:

You delivered the application on the captioned docket to this office on November 19, 1956, stating that you would furnish four copies of a Partnership Agreement pertaining thereto by November 26, 1956.

You were also requested by letter of November 20th to furnish four copies of an Assignment of the Mining Lease covering the property, from you as an individual, to the partnership.

As of today neither of these documents has been received for transmittal to Washington, and in the meantime, they are unable to process the application. Please advise when we may expect to receive both documents.

Yours very truly,

Original signed by
W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

WMT:ytl
cc
Sec. Op. Comm. (2)
Shaw (2)
Harshman
Docket 4549
Chron.

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

RECEIVED DEC 4 1956 D.M.E.A.

December 4, 1956

Re: DMEA 4549; Pb-Zn-Cu;
$50,381.22
Walter W. Bentley, d.b.a.
Kittimac Mining Co.
Silverton, Colorado
Kittimac Claims
San Juan County, Colorado

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, Branch of Base Metals

Subject: Subject application, dated November 17, 1956, received by DMEA November 23, 1956

The applicant has a 5-year lease with purchase option to the 84-claim Kittimac Group, 10 miles to the northeast of Silverton, Colorado. The property has been the subject of many examinations, and several exploration campaigns. Total production from 1908 through 1945 has totaled about 24,000 short tons of ore which yielded 0.06 ounces gold, 2.5 ounces silver per ton, and 0.82 percent copper, 2.2 percent lead, and 0.6 percent zinc. The value of concentrate produced prorated back to the ore would average about $8.00 per ton and would clearly be non-commercial with the costs that would have pertained in mining and milling.

The assays given in exhibit V suggest that average value are considerably higher than recovered values, but there are no data by which to judge whether this is owing to poorer grade, poor metallurgy or refractory ores.

The applicant proposes a two stage program. The first stage is to provide for rehabilitation, clean up, and sampling at about $15,551. The second stage contingent on the first would consist of winzing on the vein to a depth of 150 feet; and crosscutting about 50 feet through the Isabella vein at a total cost of some $29,395.37.

I recommend that the application be referred to the field for review and examination. On the basis of the past production I would judge the ores to be marginal and would

suggest that unless there is reason to think further development will prove ore of better quality or of a nature more amenable to successful concentration, the application should be denied.

O. M. Bishop.

O. M. Bishop

Copy to: Division of Minerals
Mr. Kiilsgaard
Mr. Lamb
Mr. Bishop
Files

IN REPLY REFER TO:

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

RECEIVED DEC 5 1956 D.M.E.A.

December 3, 1956

Re: DMEA 4549
Walter W. Bentley
Kittimac Mine
San Juan Co., Colo.
$50,381.22, Lead, Zinc, Copper

Memorandum

To: W. R. Griswold, Defense Minerals Exploration Administration

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

Subject: Review of application.

The applicant requests assistance in reopening, revamping and drift floor sampling of an old mine. The sampling would test a vein which has been mined above. If the results of sampling are satisfactory, shaft sinking (winze), crosscutting and drifting would be undertaken as Stage II of the proposed work program.

The vein has been stoped for a length of nearly 500 feet. Diamond drilling to test the vein below the drift was inconclusive but suggestive of the vein existence. If the sampling shows the sinking is warranted the results of such exploration should be conclusive.

Referral of the application to the Field Team for appropriate action is recommended.

N. E. Nelson

N. E. Nelson

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

November 23, 1956

Kittimac Mining Company
c/o Mr. Walter W. Bentley
P. O. Box 541
Silverton, Colorado

Subject: DMEA-4549

Gentlemen

Your application for exploration assistance, dated November 17, 1956 submitted to our office at Denver, has been assigned Docket Number DMEA-4549 and referred to the Base Metals Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

(Sgd) Allen S. Dakan

Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to:

Region III. Denver 2, Colorado

Code 500

5416

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

RECEIVED NOV 23 1956 D.M.E.A.

224 New Customhouse
Denver 2, Colorado

November 20, 1956

Memorandum

To: Secretary of the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA Aid (Lead-Zinc-Copper), Walter W. Bentley, d/b/a Kittimac Mining Company (Kittimac mine) San Juan County, Colorado

Enclosed are three copies of the subject application in the amount of $50,381.22 delivered to this office November 19, 1956 by Mr. Bentley in person.

Mr. Bentley's attention was called to his answer to 1 (d) and requested to furnish a copy of the partnership agreement. He states the partners are brothers and at the moment the agreement is verbal. However, he is having a written agreement prepared, signed, and delivered to this office by November 26. Copies will be forwarded to you immediately upon their receipt. He should probably also assign the lease to the partnership.

The applicant's proposed project has merit, if as he states, core drilling is out of question. He is an experienced operator in the San Juan Region and cost estimates appear reasonable.

If the lease requires legal review, it can be deferred until it is determined whether a project is to be recommended.

Processing of the application through Washington to the field should be expedited if an examination is to be made before winter sets in. Bentley expects the mine road will be kept open by the County about to January 1 due to operation of the adjoining Caledonian mine.

W. M. Traver

Enclosures

W. M. Traver

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

224 New Customhouse
Denver 2, Colorado

November 20, 1956

Walter W. Bentley
P. O. Box 541
Silverton, Colorado

Dear Mr. Bentley:

In reviewing the application on the Kittimac mine which you delivered to this office yesterday, I find the lease is made out to you as an individual, whereas the application is in the name of a partnership.

Besides the partnership agreement you are furnishing, you should also provide four copies of an assignment of the lease from you to the partnership.

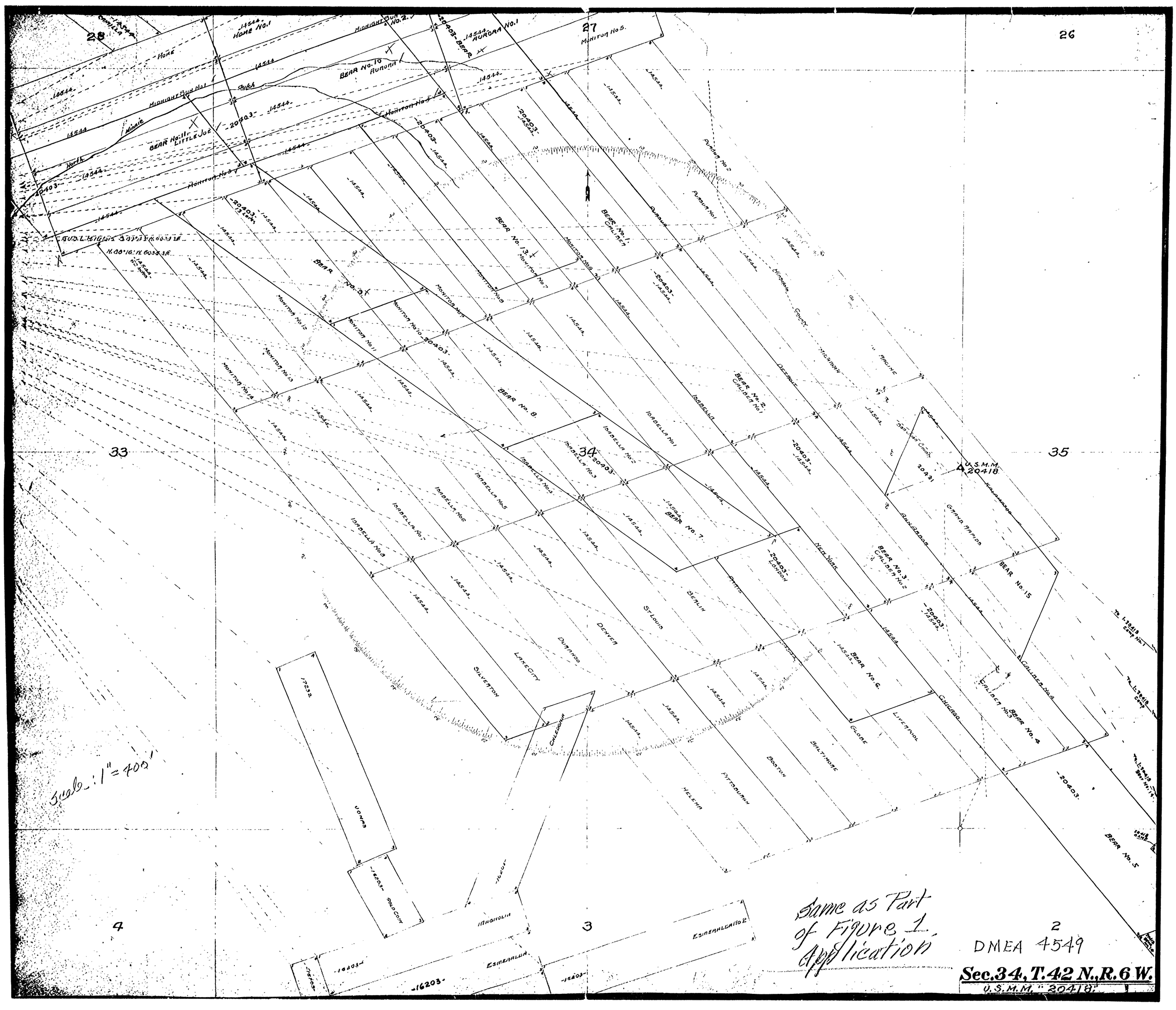
Very truly yours,

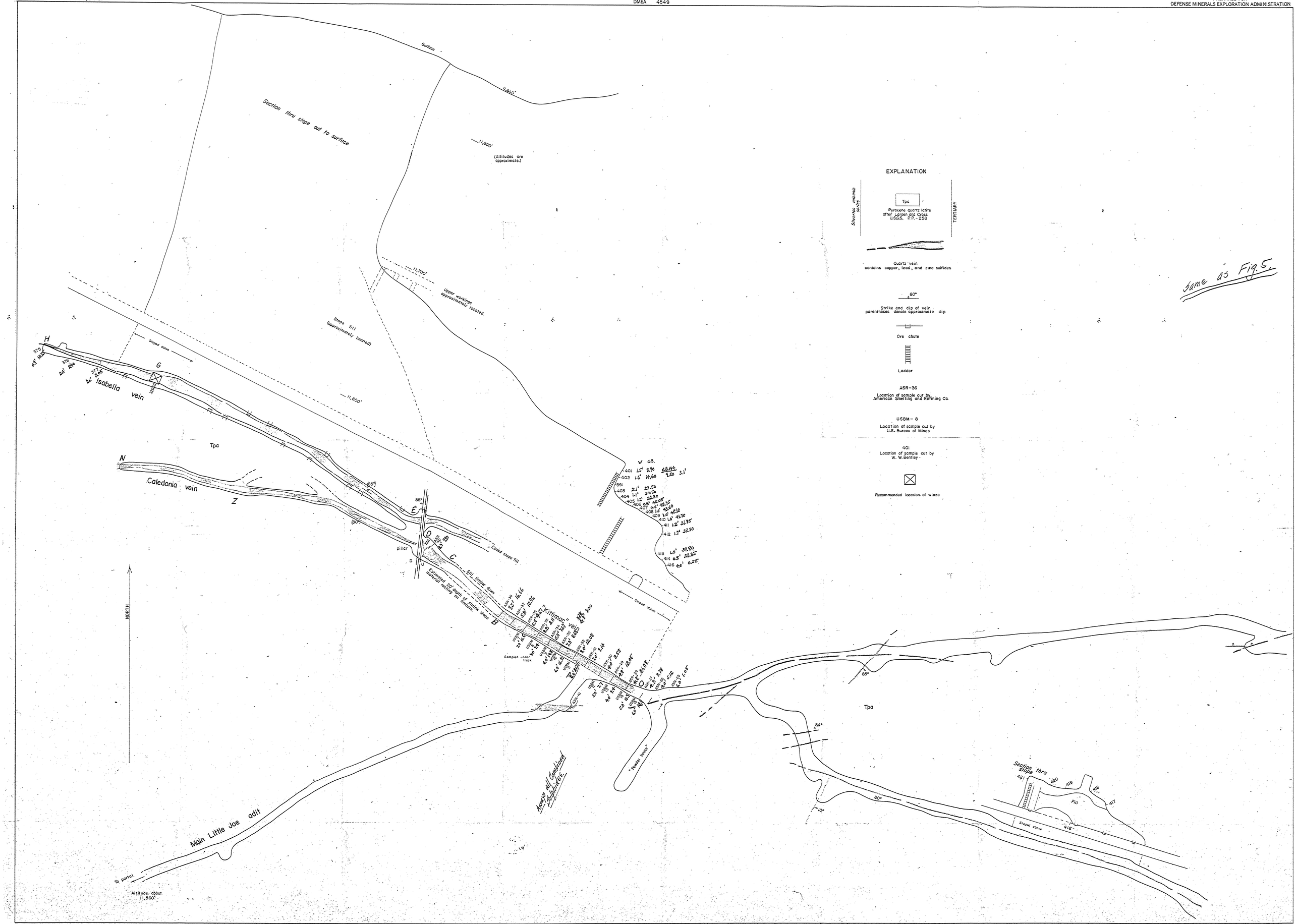
Original signed by
W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

WMT/pw

cc: Sec.Op.Comm. (2)
Shaw (2)
Harshman
Subject
Chron


Scale: 1" = 400'
Same as Part of Figure 1. Application
DMEA 4549
Sec. 34, T. 42 N., R. 6 W.
U.S.M.M. "20418"
26
27
28
33
34
35
4
3
2
Home No. 1
Midnight Sun No. 2
Aurora No. 1
Monitor No. 5
Bear No. 10 Aurora
Midnight Sun No. 1
Monitor No. 4
Bear No. 11 Little Joe
Monitor No. 3
Bear No. 13
Monitor No. 7
Monitor No. 8
Bear No. 9
Monitor No. 12
Monitor No. 11
Monitor No. 10
Monitor No. 13
Monitor No. 14
Bear No. 1 Caliber
Pursue No. 2
Pursue No. 1
Pursue
Hinsdale County
Michigan
Detroit
Bear No. 2 Caliber No. 1
Isabella
Isabella No. 1
Isabella No. 2
Isabella No. 3
Isabella No. 4
Isabella No. 5
Isabella No. 6
Isabella No. 7
Isabella No. 8
Bear No. 8
Bear No. 7
Bear No. 3 Caliber No. 2
New York
Paris
London
Berlin
St. Louis
Denver
Durango
Lake City
Silverton
Bear No. 6
Chicago
Liverpool
Globe
Baltimore
Boston
Pittsburgh
Helena
Chicago
Caliber No. 3
Bear No. 4
Caliber No. 2
Bear No. 15
San Juan County
Grand Rapids
Bauxbaos
Jacquelyn
U.S.M.M. 20418
20421
Chicago
Jones
Solo Coin
Magnolia
Esmeralda
Esmeralda No. 2
Bear No. 5
Bear No. 14
Camp No. 1
Camp
20403
14544
16203
17232



Mine map taken from Brunton and tape survey by W. Bentley, and other sources.

William N. Sharp
August 1957

Figure 3. KITTIMAC MINE, SAN JUAN CO., COLORADO
SHOWING ASPECTS OF SAMPLING 1946-1949, AND PROPOSED EXPLORATION PROGRAM - 1957

Scale 1" = 20'
0 20 40 60 80 100 ft.

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

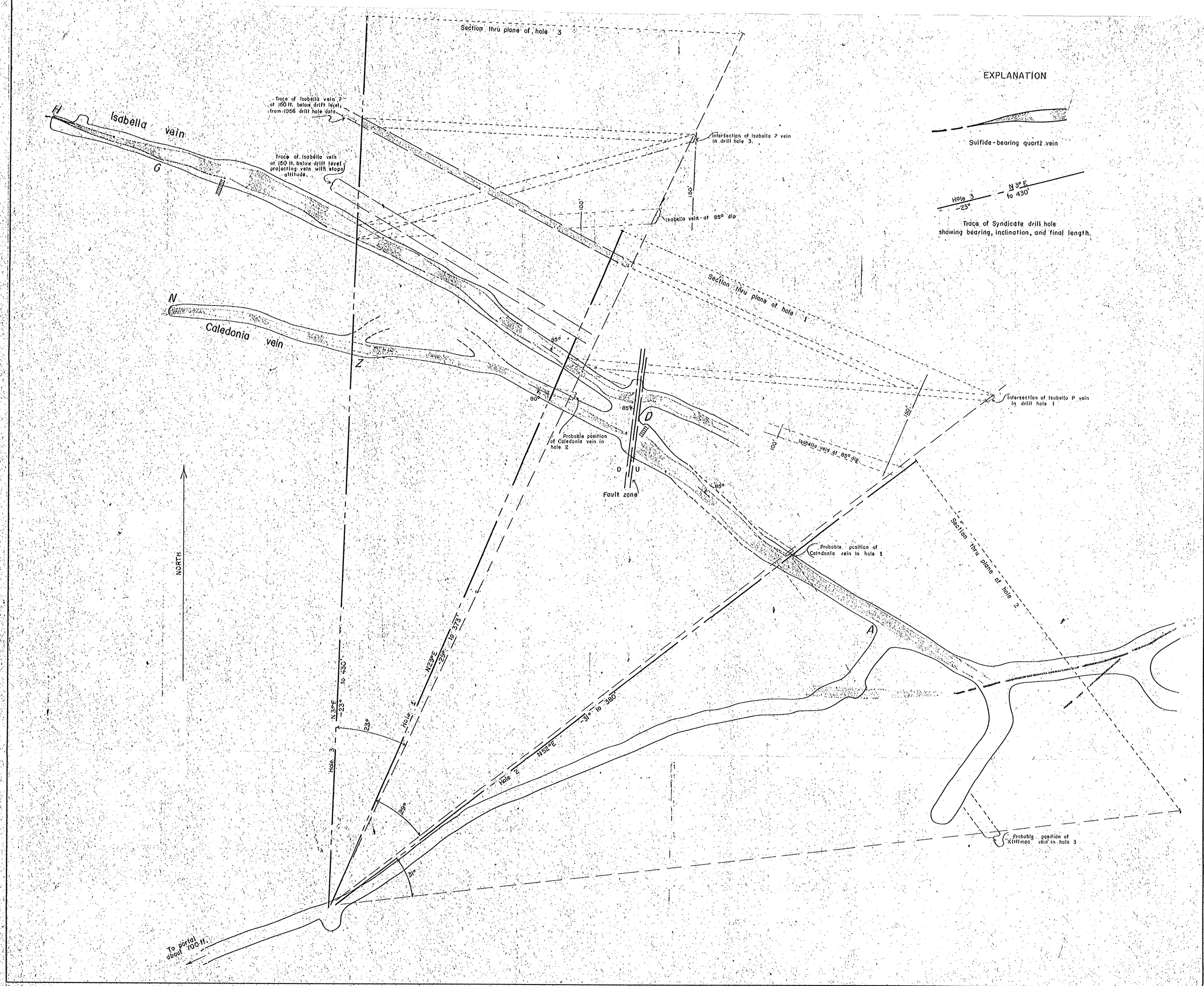


Figure 4. KITTIMAC MINE, SAN JUAN CO., COLORADO
SHOWING ASPECTS OF EXPLORATORY HOLES DRILLED 1956

William N. Sharp
August 1957

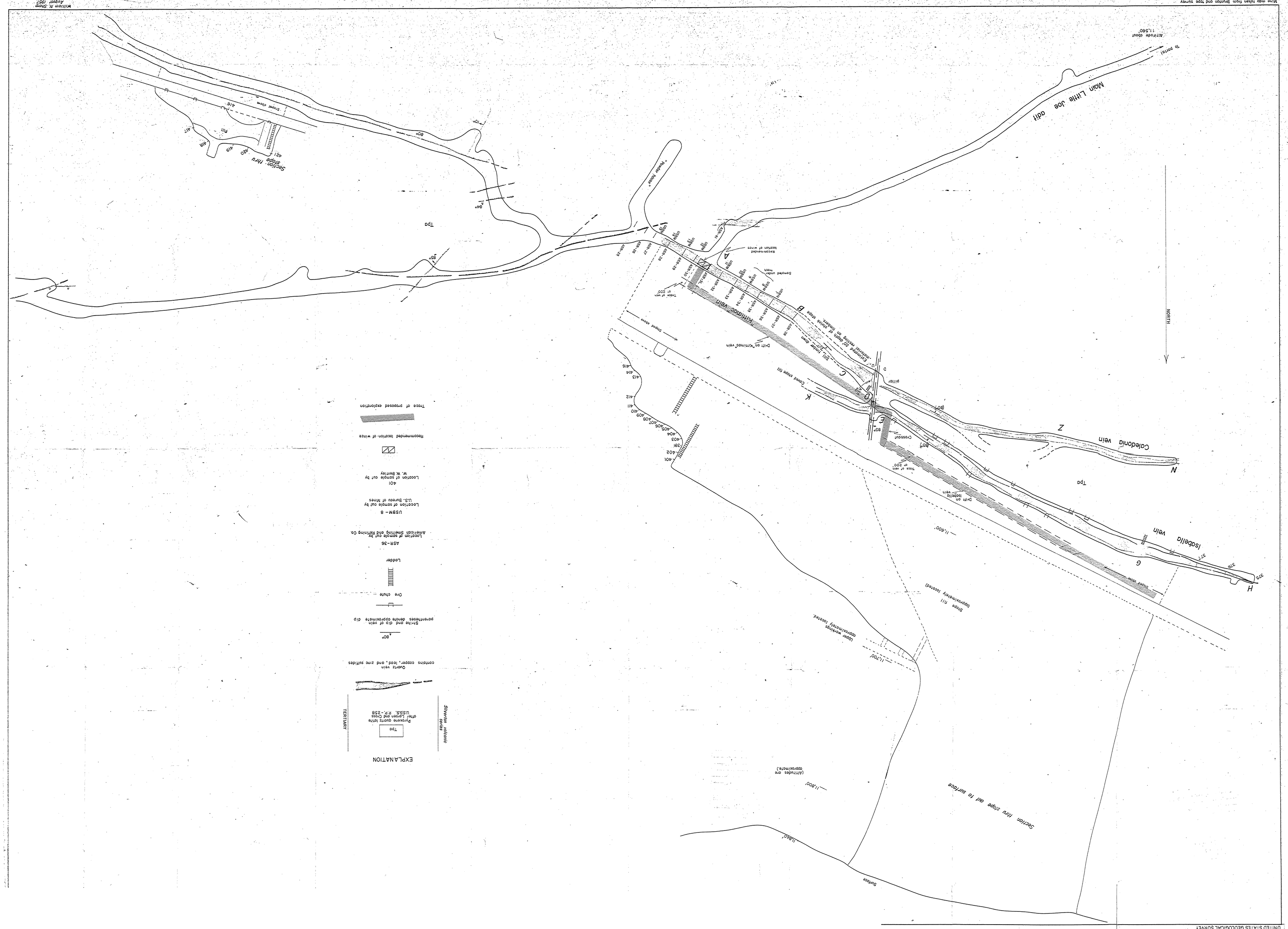


Figure 30. KITTIMAC MINE, SAN JUAN CO., COLORADO
SHOWING ASPECTS OF SAMPLING 1946-1949, AND PROPOSED EXPLORATION PROGRAM - 1957

Scale 1"= 20'

Mine map taken from Burnham and tape survey by W. Bentley, and other sources.

William N. Sharp
August 1957

EXPLANATION

Tpd	Pyroxene quartz latite after Larsen and Cross USGS. P.P.-258
Silverton volcanic group	TERTIARY

Quartz vein contains copper, lead, and zinc sulfides

Strike and dip of vein parentheses denote approximate dip

Ore chute

Ladder

ASR-36
Location of sample cut by American Smelting and Refining Co.

USBM-8
Location of sample cut by U.S. Bureau of Mines

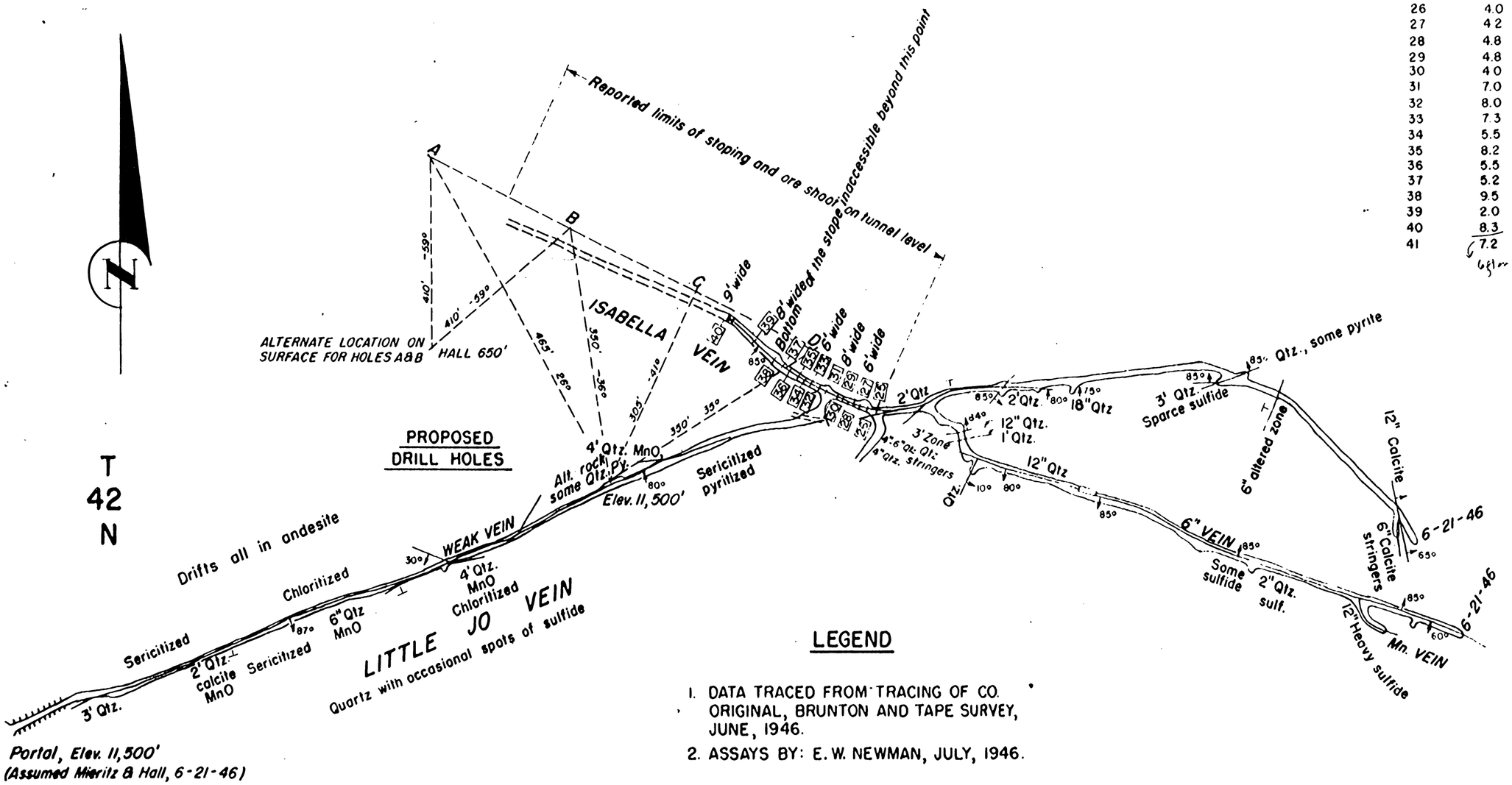
401
Location of sample cut by W. W. Bentley

Recommended location of winze

Trace of proposed exploration

R 6 W

T 42 N



ASSAYS

SAMPLE NO.	WIDTH FT.	Au oz	Ag oz	Pb %	Cu %	Zn %	Combined Sulf. %
25	6.0	Tr	.8	.3	.05	.7	1.05
26	4.0	"	1.6	1.4	1.22	2.5	5.12
27	4.2	"	2.0	2.7	1.78	4.3	9.78
28	4.8	"	3.1	7.8	7.34	5.9	21.08
29	4.8	"	3.0	1.8	2.75	7.5	12.05
30	4.0	"	2.2	1.9	1.78	4.9	8.58
31	7.0	.07	3.8	2.2	2.04	4.9	9.14
32	8.0	.29	3.1	2.2	2.98	6.9	12.08
33	7.3	.05	3.6	2.9	1.88	3.9	8.68
34	5.5	Tr.	2.3	2.4	1.17	4.1	7.67
35	8.2	"	1.4	.4	.91	.8	2.11
36	5.5	"	1.6	1.4	.91	2.3	4.61
37	5.2	.01	6.4	3.7	3.16	4.1	10.96
38	9.5	Tr.	5.6	5.0	3.46	8.2	16.66
39	2.0	"	7.0	5.2	1.17	2.6	8.97
40	8.3	.03	20.4	6.5	1.70	1.7	9.9
41	7.2	.17					9.28

LEGEND

1. DATA TRACED FROM TRACING OF CO. ORIGINAL, BRUNTON AND TAPE SURVEY, JUNE, 1946.
2. ASSAYS BY: E. W. NEWMAN, JULY, 1946.

0 100 200 300 400
SCALE OF FEET

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

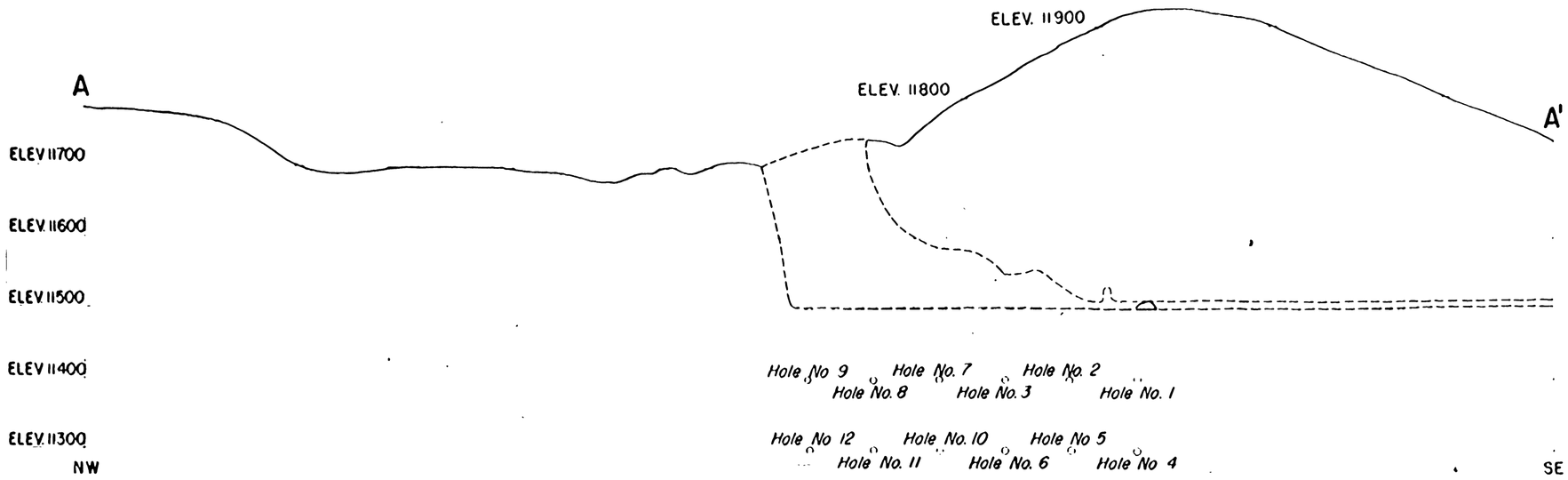
Fig. 3 Proj. No.

Geologic and Assay Plan of Tunnel Level

KITTIMAC MINE

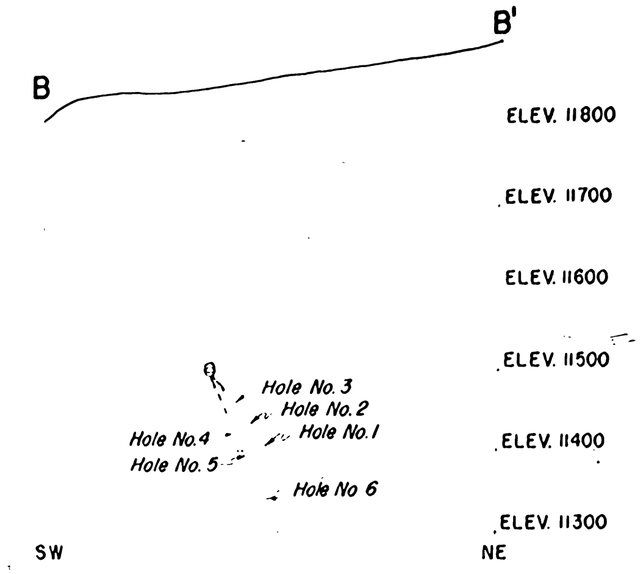
EUREKA MINING DISTRICT
SAN JUAN COUNTY, COLORADO

ENGINEER:	DATE: Sept. 12, 1949
TRACED: SEPT., 1949, BY: A.P.T.S.	1500-799-D
CHECKED:	



Section A-A'

along Isabella Vein

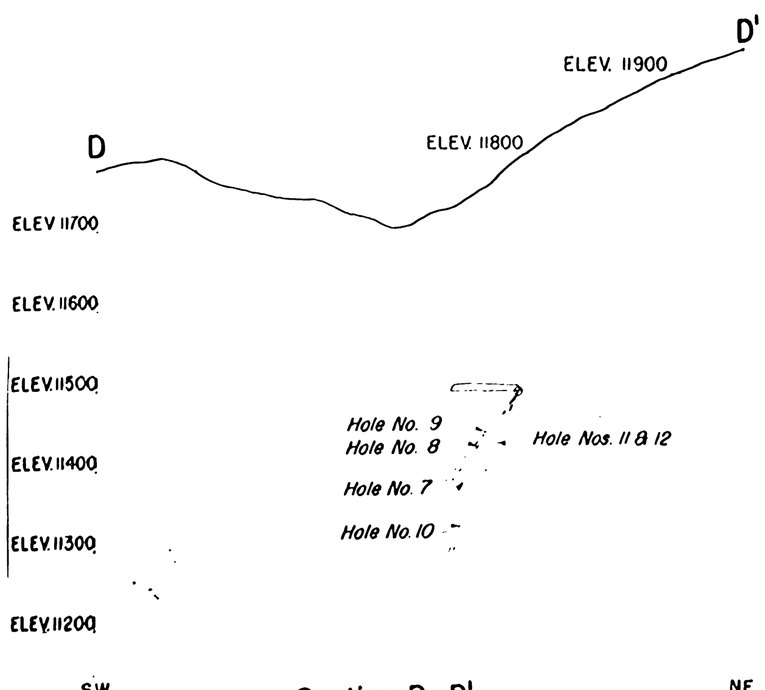


Section B-B'

Bearing N 18° E

HOLE DISCRIPTION:

HOLE NO.	DIP	DEPTH	BEARING
1	37°	190'	N70°E
2	48°	150'	N38°E
3	41°30'	170'	N30°W
4	56°30'	260'	N70°E
5	65°30'	240'	N38°E
6	60°	250'	N30°W

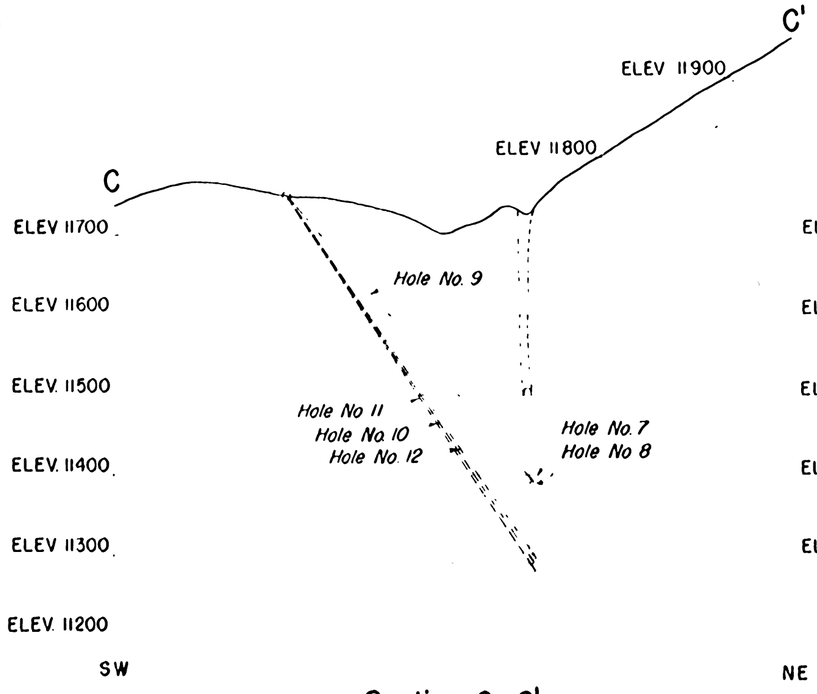


Section D-D'

Bearing N 18° E

HOLE DISCRIPTION:

HOLE NO	DIP	DEPTH	BEARING
7	36°	190'	S32°E
8	48°35'	145'	S15°W
9	37°30'	180'	S65°W
10	55°10'	260'	S32°E
11	66°	225'	S15°W
12	57°05'	250'	S65°W

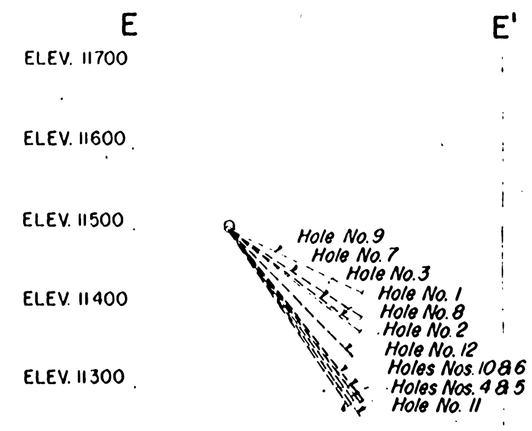


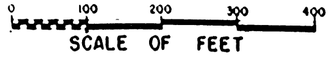
Section C-C'

Bearing N 18° E

HOLE DISCRIPTION:

HOLE NO.	DIP	DEPTH	BEARING
7	46°10'	500'	N38°E
8	47°30'	490'	N21°E
9	47°	490'	N04°E
10	53°10'	580'	N38°E
11	55°	570'	N21°E
12	54°	580'	N04°E





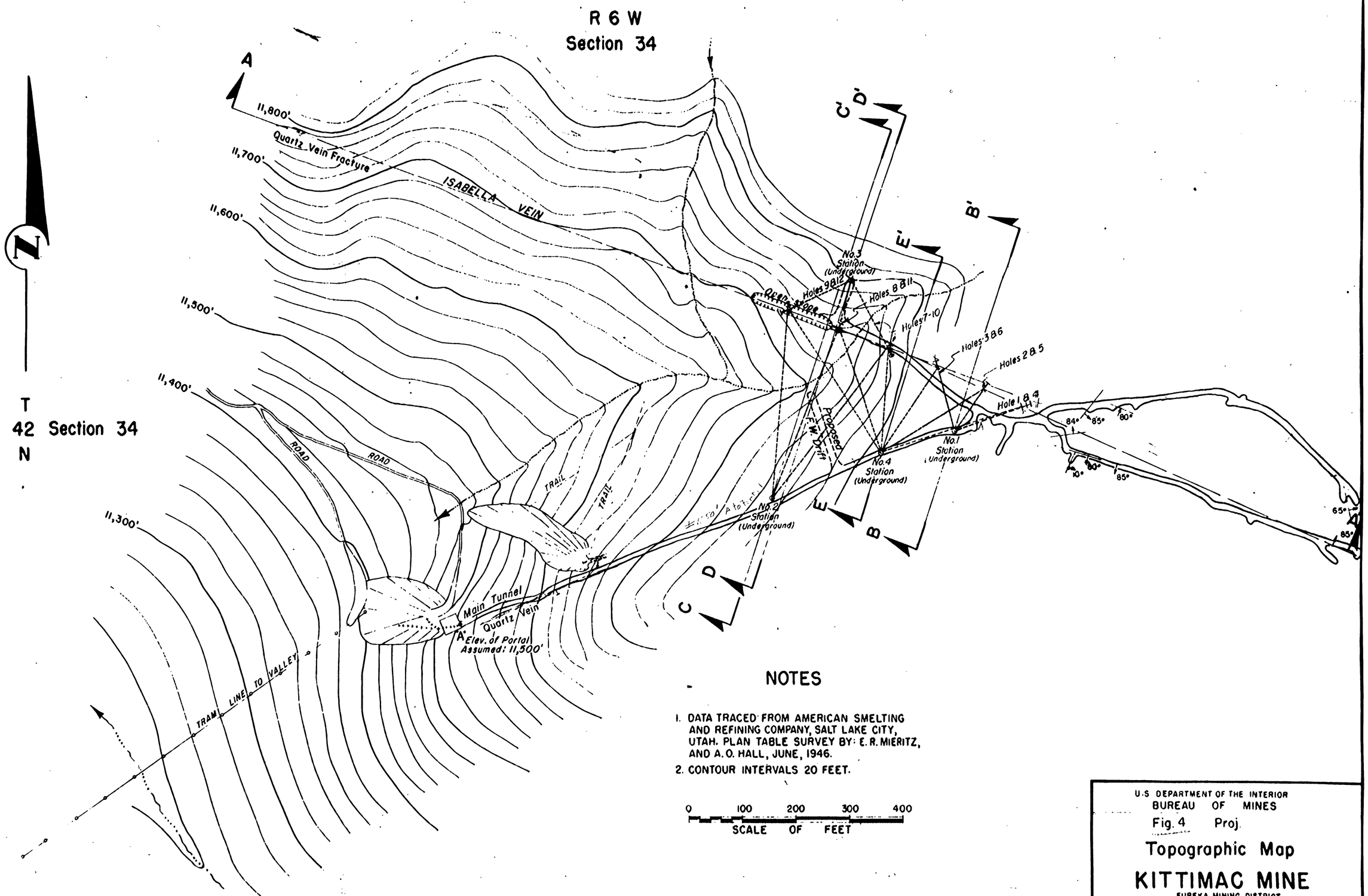
Section E-E'

Bearing N 18° E

HOLE DISCRIPTION:

HOLE NO.	DIP	DEPTH	BEARING
1	19°40'	320'	N72°E
2	24°	270'	N59°E
3	29°	225'	N35°E
4	35°20'	360'	N72°E
5	41°30'	320'	N59°E
6	47°50'	285'	N35°E
7	28°40'	225'	N04°E
8	23°30'	280'	N21°E
9	13°30'	345'	N35°30W
10	47°10'	290'	N04°E
11	41°	330'	N21°W
12	33°35'	390'	N35°30'W

Kittimac Mine
San Juan Co, Colo.
Fig. 2



NOTES

1. DATA TRACED FROM AMERICAN SMELTING AND REFINING COMPANY, SALT LAKE CITY, UTAH. PLAN TABLE SURVEY BY: E. R. MIERITZ, AND A. O. HALL, JUNE, 1946.
2. CONTOUR INTERVALS 20 FEET.

U.S DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 4 Proj.

Topographic Map

KITTIMAC MINE

EUREKA MINING DISTRICT
SAN JUAN COUNTY, COLORADO.

ENGINEER:
TRACED: SEPT. 1949, BY D.R.N.
CHECKED:

DATE: REVISED NOV. 8, 1949

1500-800-C