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3670

APPLICATION FOR AID
IN AN EXPLORATION PROJECT
near Canon City
Fremont County, Colorado

Pursuant to DMEA Order 1,
Under the Defense Production Act of
1950 - As Amended

by
BENALAN MINING COMPANY
1117 Washington Ave.
Golden, Colorado

-

February 1, 1955

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
FEB 7 1955

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. 3670
Metal or Mineral Uranium
Date Received 2-7-55
Estimated Cost $188,101.33
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: Benalan Mining Company
1117 Washington
Golden, Colorado
(Incorporated in the State of Pennsylvania - see attached)

(*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

(see attached application)

(*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 [x] 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 February 1, 1955, 195...

BENALAN MINING COMPANY
(Applicant)

By W. Alan Stewart
W. Alan Stewart - Vice-President
and General Manager

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

Benalan Mining Co.
1117 Washington Ave.
Golden, Colorado

D. M. E. A. LOAN APPLICATION

1 - NAME OF APPLICANT

(a) Benalan Mining Company
P. O. Box 509
Golden, Colorado

(b) A Pennsylvania Corporation

(c) President	Mr. J. R. Wylie, Jr. Benedum-Trees Building Pittsburgh, Pa.
Vice-President	Mr. Paul G. Benedum Benedum-Trees Building Pittsburgh 22, Pa.
Vice-President	Mr. O. D. Robinson Benedum-Trees Building Pittsburgh 22, Pa.
Vice-President and General Manager	Dr. W. Alan Stewart 1117 Washington Avenue Golden, Colorado
Secretary	Mr. David D. Johnson Benedum-Trees Building Pittsburgh 22, Pa.
Treasurer	Mr. Edward Kelley Benedum-Trees Building Pittsburgh 22, Pa.

(d) - - - -

2 - GENERAL

3 - APPLICANT'S PROPERTY RIGHTS

(a) The property consists of forty three standard 600 by 1500 foot lode claims and thirteen fractional claims located in Sections 7, 8, 17 and 18, Town-

ship 17 South, Range 70 West, 6th. Principal Meridian, Fremont County, Colorado. The claims are named COLEXCO NOS. 1 through 56.

(b) None

(c) Owner

(d) - - -

(e) No liens or encumbrances.

(f) The land consists of unpatented claims. The following documents are of record in the recorder's office at Canon City, Fremont County, Colorado:

Location Certificates:

Name of Claim	Locator	Date of Location	Book	Page
Colexco No. 1	Colo. Expl. Co.	11-17-53	333	475
Colexco No. 2	"	"	333	475
Colexco No. 3	"	"	333	476
Colexco No. 4	"	"	333	476
Colexco No. 5	"	"	333	477
Colexco No. 6	"	"	333	477
Colexco No. 7	"	"	333	478
Colexco No. 8	"	"	333	478
Colexco No. 9	"	"	333	479
Colexco No. 10	"	"	333	479
Colexco No. 11	"	"	333	480
Colexco No. 12	"	"	333	480
Colexco No. 13	"	"	333	481
Colexco No. 14	"	11-19-53	333	481
Colexco No. 15	"	"	333	482
Colexco No. 16	"	"	333	482
Colexco No. 17	"	"	333	483
Colexco No. 18	"	"	333	482
Colexco No. 19	"	"	333	484
Colexco No. 20	"	"	333	484
Colexco No. 21	"	"	333	485
Colexco No. 22	"	"	333	485
Colexco No. 23	"	"	333	486
Colexco No. 24	"	11-25-53	333	486
Colexco No. 25	"	"	333	487
Colexco No. 26	"	"	333	487
Colexco No. 27	"	"	333	488
Colexco No. 28	"	11-24-53	333	499
Colexco No. 29	"	"	333	499
Colexco No. 30	"	"	333	500

Colexco No. 31	Colo. Expl. Co.	11-24-53	333	488
Colexco No. 32	"	"	333	489
Colexco No. 33	"	"	333	501
Colexco No. 34	"	"	333	500
Colexco No. 35	"	"	333	501
Colexco No. 36	"	11-26-53	333	503
Colexco No. 37	"	"	333	502
Colexco No. 38	"	"	333	502
Colexco No. 39	"	"	333	504
Colexco No. 40	"	"	333	503
Colexco No. 41	"	"	333	505
Colexco No. 42	"	"	333	504
Colexco No. 43	"	"	333	505

Amended Location Certificates

		Amended Notice of Location		
Colexco No. 41	*Colo. Expl. Co.	1-15-54	333	539
Colexco No. 41	"	"	333	539
Colexco No. 42	"	"	333	540

*A trade name affidavit was filed in the recorder's office of Fremont County, Canon City, Colorado on September 25, 1954, certifying that Walter Alan Stewart is the full name of the person doing business under the name - Colorado Exploration Company, at 1117 Washington Avenue, Golden, Jefferson County, Colorado.

Quit Claim Deed (between Colorado Exploration Company and Benalan Mining Company, a Pennsylvania Corporation with offices in Golden, Colorado.)

This deed was filed for record September 25, 1954 and was recorded in Book 339, Page 12, Fremont County, Colorado, conveying all right and title to the Colexco Nos. 1 through 43 claims to the Benalan Mining Company.

Location Notices for the Colexco Nos. 44 through 56 claims have been posted on the ground by the Benalan Mining Company with a posting date of January 15, 1955.

Affidavit of Labor & Improvements

Colexco Nos. 1 through 43 (expenditure made at the expense of the Benalan Mining Company for assessment work at the rate of $100.00 per claim from July 1, 1954 to July 1, 1955) filed for record December 17, 1954.

Benalan Mining Co.
1117 Washington
Golden, Colorado

4 - PHYSICAL DESCRIPTION

(a) No mining operations have been or are now being conducted upon the land. There are no existing mine workings or production facilities.

All exploration work performed on these claims was for the purpose of obtaining data for use in preparing this DMEA application. The following operations were performed in gathering this data:

(1) A triangulation network was established over the claims area. The network was used as control for subsequent mapping operations.

(2) A topographic contour map was first prepared, as shown on Plate 1. In addition to topography, this Plate shows the claim outlines, access roads built by the Benalan Mining Company and triangulation stations.

(3) During the plane table mapping of the claims the rod man carried a scintillometer and shots were taken on and along the extensive radioactive sandstone outcrops in the area. Plate 2 contains all the features of the map shown on Plate 1 and in addition it has plotted on it the radioactive sandstone outcrops detected throughout the claims area. No radioactive outcrops were mapped in which the radiation was less than five times normal background. On the 43 standard lode claims and the thirteen fraction claims included in this lean application, a total of nearly 15,000 linear feet of radioactive outcrop was mapped.

(4) A structure contour map was prepared using the top of the black mudstone unit of the Dakota formation as the mapping surface. A number of outcrops of this horizon were mapped during the plane table surveying and additional control points were available from wildcat exploration drilling throughout the claims. A rotary air drill was used in obtaining subsurface data.

The top of the black mudstone unit of the Dakota was chosen as the surface for structure contouring as a consequence of information gained from exploration drilling. In a number of holes throughout the claims a zone of uranium mineralization was detected in the 10 to 12 foot zone stratigraphically above this lithologic unit. All of the radioactive sandstone

or uranium mineralized sandstone detected within the claims, either on the surface or in the drill holes is in the sandstone section above the black mudstone. This sandstone section would corelate with the Dakota sandstone member of the Dakota group. It was therefore decided to bottom all future drill holes at the top of the black mudstone. This unit is tentatively correlated with the Fusen shale of the Dakota group.

Plate 3 is the structure contour map prepared by combining the surface control data with that obtained in the drill holes. A 100 foot coordinate grid is drawn on this Plate. Grid lines are shown on this map in the areas where erosion has cut down through the black mudstone and where no drilling is contemplated. Within the area of the Dakota sandstone outcrop the coordinate positions of the 100 foot centers are shown by dots. These are the proposed drilling locations included in this DMEA loan application.

(5) The topographic contour map shown on Plate 1 and the structure contour map of Plate 3 were combined and a depth line map prepared as shown on Plate 4. This depth line map contours the thickness of Dakota sandstone between the surface of the ground and the top of the black mudstone unit. From this map it was possible to determine an anticipated drilling depth for each of the drill locations included in this application.

Appendix A is a tabulation by coordinate lines of the drilling depths for all proposed holes. Drill holes with thin sand sections or in particularly inaccessable places were eliminated from the proposed exploration project. In addition, a potential ore body was discovered during exploration drilling in the east half of Claim No. 2 in an area which has been named "The Apex". A number of development drill holes were put down in this area. The 100 foot centers falling close to this development drilling have also been eliminated. The resulting proposed exploration project consists of 1,997 locations with an anticipated drilling footage of 116,575 or an average of 58.4 feet per hole.

(b) There has been no past and is no current production from any of the claims.

The development drilling around The Apex on Claim No. 2 has partially blocked out a possible ore body

in that area. A small reserve of commercial grade ore might be considered to exist there. Plates No. 5 and 6 are drawn to represent the subsurface conditions encountered by several holes drilled in uranium mineralized sandstone. Plate 6 is an isometric drawing of the potential ore body. Plate 5 is a cross section through the ore body into which the drill holes encountering ore have been projected on strike. The holes were probed by a Babbel Geiger Counter calibrated against a standard sample. Wet assays were made of a number of cutting samples from different holes. The values of the wet assays are plotted for comparison with a curve representing the probe data. By comparing wet assays with probe readings it was determined that a probe reading of 40 units corresponded closely to a wet assay of .10 percent from cuttings. Some coring was then attempted to determine what percentage loss in values was incurred when the fines of the cuttings were lost out the stack of the sample catcher. As nearly as could be determined a core will assay about 18% higher than cuttings for the corresponding interval. It is felt that there is at least 1,500 tons of mineralized sandstone in an area 150 ft. long by 30 feet wide which will average an assay of .10 percent or better. The most continuously mineralized zone averages about 4.4 feet in thickness.

(c) Geologic Features:

General Setting

The Colexco group of claims is located about 9 miles north of Canon City, Fremont County, Colorado. With respect to the regional geology of south central Colorado, they lie at the northwestern extremity of the Canon City embayment. This embayment is a large synclinal feature lying between the south plunging nose of the Front Range arch and the flank of the anticlinal Wet Mountains which lie to the west and en echelon to the Front Range.

The claims are laid out over a prominent mesa of Dakota sandstone. This mesa is part of a small synclinal extension of the Canon City embayment into the crystaline rocks of the pre Cambrian complex. The contact of the sediments around the mesa with the crystallines is largely a fault contact on both sides of the claim area. There are two major normal faults which, if extended on trend, are roughly radial to the Cripple Creek igneous center. The town of Cripple Creek is roughly 12 miles north and east of the claims area. It is possible that the intrusives of the Cripple Creek district are the genetic source of the initial or primary mineralizing fluids which moved

radially out toward the claims location through the fault complex mentioned above. The claims area was originally flown with a scintillometer because of the juxtaposition of the Dakota sandstone to Cripple Creek and the radial fault system.

Structure

The Colexco group of claims occupy a synclinally down folded mesa of Dakota sandstone. In the central part of the claims area the beds in the trough of the syncline are essentially flat. The dips increase to as high as 30 degrees on flanks of the syncline in the extremities of the claims. Plate 3 is the structure contour map prepared by combining surface elevations on the black mudstone unit of the Dakota formation with elevations on the same datum from the exploratory drill holes. As shown by this map the syncline is a closed structure with a possible structural relief of as much as 200 feet or more. The axial trend of the structure is about North 35 to 40 degrees East.

Stratigraphy

Mineralization within the claims area is restricted to the upper sandstone unit of the Dakota formation. Three lithologic units are recognized in the area, belonging to the Dakota formation. The upper unit shall be hereinafter referred to as the Dakota sandstone. The intermediate unit is a dark gray to black massive mudstone and could be properly correlated with the fire clay unit of the Dakota or the Fusen shale. The lower unit of the Dakota may be correlated with the Lakota sandstone.

The Dakota unit in general is a massive to cross-bedded, friable, creamy white to gray, sandstone. The molds, casts and impressions of tree trunks, branches and limbs are commonly found throughout this unit and at times concentrations of carbonaceous material. The Fusen material is a typical fire clay, being a rather uniform, massive, black claystone or mudstone. The lower part of the Dakota unit is transitional into the Fusen with a 20 to 25 foot zone containing interbedded sandstones and laminated gray shales. The basal unit of the Dakota formation or Lakota is coarse grained with numerous conglomeritic streaks. Pebbles of white chert become increasingly abundant toward the base of this unit. No radioactivity was

discovered in the Lakota and mineralization seems to be restricted to the Dakota unit.

Mineralization

As previously mentioned, the ground was staked as the result of an aerial scintillometer survey of the Canon City embayment. Using the proper precautions in this type of surveying, it would have been impossible to have missed this extensively uranium mineralized area. Plate 2 shows the extent of linear outcrop of radioactive Dakota sandstone on the claims. No radioactive outcrops were plotted on this map which showed a radiation of less than 5 times normal background. There is a total of slightly less than 15,000 of radioactive outcrop shown on the Plate.

There are at least three zones in the upper Dakota sandstone unit which were amenable to uranium mineralization. No attempt has been made on Plate 2 to correlate surface radioactive outcrops throughout the area with these zones. Drill holes Nos. 24 and 29 shown on Plate 5 detected mineralization in all three zones. These drill holes are part of the Apex area possible ore body.

In the surface outcrop uranium mineralized sandstone can normally be detected without the use of a radiation counter. In general uranium mineralization is associated with a high concentration of iron and manganese minerals. Radioactive outcrops are often a deep brick red from hematite or nearly black from some manganese mineral. Using surface samples, some correlation has been found between the concentration of uranium and a high iron assay. Some outcrops are a deep orange due to the limonite content. In other exposures a rhythmic banding of limonite and manganese minerals has been observed.

In a similar fashion mineralized zones may be detected in the subsurface by the change in color of the cuttings without the necessity of a geiger counter or scintillometer. The unweathered Dakota sandstone in drill holes is normally very light gray to white in color. As the mineralized zone is topped in the drill hole the cuttings turn light orange in color, becoming deeper orange as the radioactive part of the section is approached. The ore zone is normally a deep brownish purple in color. The base of the mineralized zone below the ore is a limonite color and the unmineralized sandstone below it is again light gray to white.

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In general the concentration of iron and manganese is so dense in the mineralized sandstone that it is impossible to detect or identify the uranium mineral present. It is believed that the uranium minerals are disseminated throughout the iron and manganese minerals. Two uranium minerals have been identified both in surface outcrops and in drill cuttings. Uranophane is the mineral most commonly present and small amounts of carnotite have been detected. Wet assays on a number of samples have yielded a trace of vanadium oxide and occasionally some thorium is detected also as a trace. There is very little thorium present and it is not known in what mineralogical species it may exist. The best assay of thorium oxide obtained was .04 percent.

Of special note is the thickness of the radioactive interval in a number of the drill holes. In eleven of the holes drilled there was continuous radioactivity of from 39 to as much as 64 feet of the section. Rim exposures with as much as 40 feet of radioactive mineralization have been discovered on the surface of the claims. In addition to the build-up to commercial grade of uranium in some of the drill holes, the claims apparently contain a very large tonnage of low grade material. Assays of as high as .29 percent have been found in both drill cuttings and surface samples. Because of the small traces of vanadium and thorium so far detected in wet assays, it appears that uranium will be the only recoverable element from the claims.

Conclusions

The geologic reasons for wishing to explore the Colexco group of claims are as follows:

(1) It is believed that the Colexco group of claims represents the best possibility for economic uranium mining operations in an area extending from south of Colorado Springs around the nose of the Front Range arch, along the flanks of the Canon City embankment to Canon City, and south along the flank of the Wet Mountains. The above described area was flown by the Colorado Exploration Company with an airborne scintillometer. At least six other airborne radioactive anomalies were detected. A ground check of all anomalies resulted in the staking of the Colexco group of claims. It was felt that this group had by far the best possibilities for commercial ore bodies.

No attempt was made to stake or lease the other mineralized areas detected during the survey.

(2) A limited amount of exploration drilling on the Colexco group of claims has resulted in the discovery of a potential ore body on the Colexco No. 2 claim, as shown diagramatically on Plates 5 and 6. It is felt that this discovery vindicates the decision to stake the claims and indicates the possibilities for deposits of larger tonnage or higher grade within the claims area.

(3) The large cumulative total in linear feet of continuously radioactive outcrop shown on Plate 2 suggests possibilities for blanket type ore bodies of considerable areal extent.

(4) In some of the drill holes gamma radiation is logged over as much as 40 to 60 feet of the Dakota sandstone section. There are possibilities for a very large tonnage of low grade material which could not be mined and shipped at present AEC price schedules but which could be processed locally at a profit. One of the prime reasons for making this DMEA loan application is to determine if there is a large enough tonnage of low grade material to justify a small mill's construction. It is felt that several hundred thousand tons of uranium mineralized sandstone assaying between .05 and .07 percent may exist in the Colexco claims.

(5) Considering the geologic setting of the Colexco group of claims, it is felt that it lies in an excellent position with respect to igneous source areas of primary mineralizing fluids. The Colexco claims lie between the Cripple Creek igneous center in the southern end of the Front Range and the Rosita Hills igneous center along the axis of the Wet Mountains. They are in a position to receive mineralization from telethermal solution moving out of these centers and into the favorable Dakota sandstone host rock.

(6) Analysis of the stratigraphy along the east flank of the Rocky Mountains and particularly in the Canon City embayment area reveals that the Dakota formation contains the most favorable lithology for uranium deposition. It is a sandstone of continental origin containing petrified logs and carbonaceous material. It is a continuous sandstone deposit permitting migration of mineralizing fluids to a point of favorable deposition. It is sufficiently compacted to restrict mineralizing fluids to certain permeable channels so

that there will not be the dissipation of the uranium minerals so common in less compacted Tertiary continental formations.

(d) The Colexco group of claims lie 9 airline miles and about 14 road miles from Canon City, Colorado. The first 3 road miles are on U. S. Highway 50 going west from Canon City. From this point a graded and graveled county road leads to within 2 miles of the claims. The remaining 2 miles of road have been improved by bulldozer work into a passable access road. As shown on Plates 1 and 2 a network of drill access roads has been bulldozed in over the Colexco claims. Canon City is on the Denver & Rio Grande Western Railroad and would be the supply and residence center for the proposed exploration project.

(e) Canon City is the center of a residential area containing around 15,000 people. Material, supplies and equipment required by an exploration project could be readily obtained there or brought in by railroad from Pueblo or Denver. The Arkansas River flows through the city providing an ample supply of water, should a mill be considered for the area. There is very little water available at or near the claims. It is anticipated, however, that virtually all of the drilling will be dry air drilling and a close water supply to the claims is not critical. There is an ample supply of electrical power at Canon City and a power line comes within one mile to the east of the Colexco claims.

In the event that an exploration drilling program turned up enough ore to justify a mill, two sites could be considered. The first site would be at Canon City. There is ample frontage available along the Arkansas River and adjacent to the railroad tracks for industrial construction such as a uranium mill. During the original locating of the Colexco claims and subsequently during mapping and exploration drilling there was no difficulty in obtaining local labor. It is believed that any non-technical labor required either during the drilling program or mining operations or in milling could be readily obtained from the Canon City area. A second site which might be considered for a uranium mill would be in Parkdale, 9 miles west of Canon City on U. S. Highway 50. There is a mill at Parkdale which was formerly used to process feldspar, quartz, mica and other minerals mined from a pegmatite quarry about 5 miles to the west near the Royal Gorge of the Arkansas River. This mill is in excellent physical condition, is located

on the railroad and on the Arkansas River, and might readily be converted into a uranium processing mill.

5 - THE EXPLORATION PROJECT

(a) Uranium is that mineral to be explored for which is eligible for aid under the DMEA program.

(b) The work proposed to be done under the applied for exploration project loan will consist of a drilling program on 100 foot coordinate centers. Plate 2 is a topographic map of the Colexco claims, showing the orientation of the proposed coordinate grid with respect to topography, claim boundries, access roads, radioactive sand outcrops and the exploration drill holes completed in gathering data for this loan application. Plate 4 is a depth line map with the coordinate grid plotted with respect to the thickness of the Dakota sandstone to be drilled in the project. Each one of the proposed drill holes is plotted on this map at its correct coordinate position. As previously mentioned, the drilling depth for each coordinate location was determined from this depth line map and a tabulation of drill holes is included in this application as Appendix A. A cumulative total of 116,575 feet for 1,997 drill holes is proposed.

From the drilling exploration done by the Benalan Mining Company on these claims it was determined that there is not an excessive amount of water in the subsurface sands. The initial drill holes were put down with a rotary air drill, using a Duclone sample collector. It is felt that a satisfactory determination can be made of the thickness and grade of mineralized sandstone in the subsurface by combining gamma ray probe data with assays of cuttings supplemented by some coring. It is anticipated that about 1 hole will be cored for every 100 holes drilled with a rock bit. This type of exploration drilling is recommended for the following reasons:

(1) Speed and economy of dry hole, non-core, air drilling.

(2) Dry ground which permits a high recovery of cuttings by using a Duclone dust collector.

(3) Adequate data for complete evaluation of any ore bodies discovered during the drilling

may be obtained by continuous sampling in mineralized zones augmented by some coring and by radiometric logging of all holes. Lithologic logs will be made of all holes and the information obtained will be used to guide later development work and dictate the areas in which closer spacing of air holes in the more favorable mineralized ground will be placed.

(c) Work will start within 60 days and be completed within 13 months from the date of exploration project contract.

(d) The Benalan Mining Company is a recently formed Pennsylvania corporation, created for the purpose of exploring for uranium on certain properties assigned to the Company. It is at present engaged in an exploration drilling program, using rotary air drills on some of its properties in southwestern Colorado near Uravan. The Company has been engaged in exploration drilling for uranium deposits for seven months.

The Colexco claims were assigned to the Benalan Mining Company by W. Alan Stewart, then doing business under the name of the Colorado Exploration Company. Dr. Stewart is now Vice-President and General Manager of the Benalan Mining Company and is directly responsible for the supervision of the proposed exploration project for the Colexco claims.

Background on Supervisory Personnel

Dr. W. Alan Stewart will be the chief geological engineer in charge of directing the exploration drilling project. He has a Doctor of Science degree in geology from the Colorado School of Mines and taught for five years in the geology department of that institution. During his teaching tenure he was also a consulting geologist. For example, during the 1950 field season he was resident consulting engineer for the Monsanto Chemical Company on a joint exploration project conducted by that company and the J. R. Simplot Company for phosphate in Idaho. This project involved reconnaissance mapping, laying out a drilling program and supervising drilling operations for phosphate.

From June 1, 1952 to the present time he has done business under the name 'Colorado Exploration Company', a mining geophysical contract company. This Company has conducted geophysical surveys for the Colorado Fuel & Iron Corporation, the Bear Creek Mining Company, the Lewis Exploration Company and others. The Colorado Exploration Company has carried out uranium exploration programs on its own account since February 1953. These activities include ground radiometric surveying and geologic mapping, aerial scintillometer surveying and drilling. In addition to these company activities, Dr. Stewart has acted as a consultant in the uranium field to a number of individuals and companies.

Mr. Adam M. Thomas will serve as resident geological engineer for the project. Mr. Thomas graduated from the Colorado School of Mines in 1952 with an engineering degree in mining geology. From August 1, 1952 to the present time he has been employed by the Colorado Exploration Company. Mr. Thomas has had a varied experience in geological and geophysical prospecting. During the period of August 1952 to August 1953 he was a member of a geophysical crew prospecting for iron ore in the Hartville Uplift area of southeastern Wyoming. In the early fall of 1953 he was in charge of a geophysical crew prospecting for copper and other minerals in the Bonanza Mining District of south central Colorado. In November 1953 he was assigned to the aerial scintillometer prospecting team which discovered the radioactive outcrops now covered by the Colexco claims and included in this application. During the spring and summer of 1954 he was engaged in surveying, mapping and laying out drilling patterns for mining claims in the uranium belt of southwestern Colorado. During the fall of 1954 he supervised all of the mapping and drilling in preparation for this loan application.

6 - ESTIMATE OF COSTS

(a) Independent Contracts - None

(b) Labor, Supervision, Consultants:

1 Chief Geological Engineer (11-month salary @ $500/mo.)	$ 5,500.00
1 Resident Geological Engineer (11 months @ $575.00 mo.) -	6,325.00
1 Surveyor-Foreman (4 months @ $350.00 mo.) -	1,400.00

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1 Surveyor-Helper (4 months @ $300.00 mo.)	$ 1,200.00
1 Utility Man (Surveyor-Bulldozer Help.) (11 months @ $300.00 mo.)	3,300.00
1 Bulldozer Operator (11 months @ $425.00 mo.)	4,675.00
1 Superintendent Driller (11 months @ $525.00 mo.)	5,775.00
1 Driller (11 months @ $400.00 mo.)	4,400.00
2 Driller's helpers (11 months @ $300.00 mo. each)	6,600.00
	$39,175.00

(c) Operating Materials and Supplies:
(Fuel, Oil, etc.)

Automotive -	
50 miles per day for 232 days; 2 vehicles @ 3¢/mile (2x50x232x3)	$ 696.00
Drills - (232 days)	
1 Diesel Engine - 40 gal/day @ 17¢ gal.	1,577.60
1 Gas. Engine - 50 gal/day @ 28¢ gal.	3,248.00
Bulldozer - (232 days)	
40 gal./day @ 17¢ gal.	1,577.60
Miscellaneous -	
Grease & oil for dozer & drills (est)	600.00
Oil filters, air cleaners, etc.	400.00
Misc. Equipment -	
Log Sheets (10,000 @ 1¢ per sheet)	100.00
Maps, paper, etc.	100.00
Note books	40.00
Misc. supplies (pencils, etc.)	50.00
Paper for probe records (8,000 @ 1¢)	80.00
Blueprints	100.00
Hole plugs to preserve collar @ 40¢ ea.	800.00
Stakes for markers & fillers @ 20¢ ea.	400.00
	$9,769.20

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(d) Operating Equipment:

Suggested Use Allowance -

Automotive (1 jeep & 1 pickup truck (@ 5¢ mile - 2x50x232x5) -	$ 1,160.00
Bulldozer - 232 da. @ $88/day -	20,416.00
Drills - 75¢/ft. x 116,575 -	87,431.25
Babble Counter & Probe -	300.00
	$109,307.25

(e) Rehabilitation & Repairs - None	.00

(f) New Bldgs, Improvements, Etc.:

Equipment Storage Shack	600.00
Engineering Shack - 12x12 Prefab -	750.00

(g) Miscellaneous:

Assaying (wet) 50 samples @ $5/ea. -	250.00
Radiometric logging (cost $150.00 moving & 5¢/ft. - logged) -	5,828.75
Accounting - 2 da/wk. for 46 weeks @ $12.00/day -	1,104.00
Use allowance - Lab. Autoscaler 10,000 samples @ 10¢/sample -	1,000.00
Workman's Compensation	1,157.20
Employer's FICA	670.00
Liability Insurance	1,389.81
	12,749.76
SUB-TOTAL	$171,801.21

(h) Contingencies:
(Includes cost of labor for unavoidable delay time due to accidents and breakdowns, maintenance of equipment & breakage of items not covered by insurance; allowance for drilling wet ground not amenable to air drilling; allowance for

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core drilling in mineralized sections, etc.);

10% of $171,001.21 (sub-total)	$ 17,100.12
TOTAL	$188,101.33

COST SUMMARY -

Total Cost	$188,101.33
Total Footage	116,575
Cost per Foot	$ 1.61

7 - (a) Yes.

(b) The Benalan Mining Company owns two rotary air drills, one D-8 bulldozer, one water truck, two field vehicles, a radiation probe and other equipment aggregating a total initial value of $100,000.00. All of this equipment is to be allocated for use on the project. In addition, the Company has trained and experienced geological engineers to supervise the project and any part of the Company's share of the costs not covered by use allowance on equipment will be paid out of it's treasury.

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- - APPENDIX A - -

- DRILLING DEPTHS -

COORDINATES North	COORDINATES East		DEPTH	
4	40		63	
"	41	2	61	124
5	37		93	
"	38		78	
"	39		65	
"	40		59	
"	41	5	47	342
6	30		91	
"	31		112	
"	32		113	
"	33		111	
"	34		114	
:	35		111	
"	36		91	
"	37		73	
"	38		61	
"	39		48	
"	40		42	
"	41	12	33	1,900
7	27		107	
"	28		107	
"	29		111	
"	30		117	
"	31		112	
"	32		103	
"	33		112	
"	34		118	
"	35		94	
"	36		73	
"	37		60	
"	38		48	
"	39		34	
"	40		31	
"	41		22	
"	42	16	9	1,258

COORDINATES North	COORDINATES East		DEPTH	
8	23		74	
"	24		96	
"	25		102	
"	26		103	
"	27		103	
"	28		102	
"	29		103	
"	30		96	
"	31		84	
"	32		103	
"	33		121	
"	34		114	
"	35		79	
"	36		58	
"	87		43	
"	38		32	
"	39		31	
"	40		33	
"	41		26	
"	42	20	23	1,526
9	20		116	
"	21		107	
"	22		93	
"	23		89	
"	24		89	
"	25		91	
"	26		95	
"	27		96	
"	28		94	
"	29		86	
"	30		79	
"	31		95	
"	32		113	
"	33		130	
"	34		101	
"	35		73	
"	36		47	
"	37		19	
"	38		27	
"	39		33	
"	40		37	
"	41		35	
"	42	23	31	1,776

COORDINATES			DEPTH	
North	East			
10	16		128	
"	17		138	
"	18		133	
"	19		125	
"	20		117	
"	21		100	
"	22		87	
"	23		84	
"	24		84	
"	25		85	
"	26		83	
"	27		84	
"	28		79	
"	29		81	
"	30		92	
"	31		104	
"	32		126	
"	33		127	
"	34		97	
"	35		66	
"	36		28	
"	37		18	
"	38		27	
"	39		34	
"	40		40	
"	41		41	
"	42	27	37	2,245
11	15		110	
"	16		135	
"	17		141	
"	18		135	
"	19		115	
"	20		110	
"	21		96	
"	22		81	
"	23		84	
"	24		86	
"	25		82	
"	26		76	
"	27		64	
"	28		83	
"	29		100	
"	30		112	
"	31		125	
"	32		138	
"	33		133	
"	34		100	
"	35	21	63	2,169

COORDINATES			DEPTH	
North	East			
12	14		62	
"	15		97	
"	16		113	
"	17		134	
"	18		131	
"	19		115	
"	20		100	
"	21		93	
"	22		74	
"	23		83	
"	24		83	
"	25		78	
"	26		66	
"	27		63	
"	28		98	
"	29		114	
"	30		129	
"	31		137	
"	32		146	
"	33		143	
"	34		107	
"	35	22	65	2,231
13	14		65	
"	15		81	
"	16		96	
"	17		114	
"	18		123	
"	19		110	
"	20		98	
"	21		83	
"	22		70	
"	23		79	
"	24		79	
"	25		67	
"	26		58	
"	27		87	
"	28		111	
"	29		113	
"	30		118	
"	31		132	
"	32		146	
"	33		149	
"	34		119	
"	35	22	75	2,173

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COORDINATES North	East		DEPTH	
14	13		40	
"	14		54	
"	15		73	
"	16		87	
"	17		100	
"	18		119	
"	19		113	
"	20		103	
"	21		88	
"	22		71	
"	23		66	
"	24		61	
"	25		47	
"	26		66	
"	27		80	
"	28		87	
"	29		90	
"	30		100	
"	31		127	
"	32		144	
"	33		150	
"	34		138	
"	35	23	93	2,097

COORDINATES North	East		DEPTH	
16	14		32	
"	15		48	
"	16		62	
"	17		77	
"	18		91	
"	19		103	
"	20		93	
"	21		80	
"	22		70	
"	23		60	
"	24		44	
"	25		44	
"	26		48	
"	27		43	
"	28		34	
"	29		42	
"	30		46	
"	31		54	
"	32		84	
"	33		124	
"	34		118	
"	35		110	
"	36	23	85	1,682

15	13		15	
"	14		40	
"	15		60	
"	16		76	
"	17		89	
"	18		106	
"	19		120	
"	20		101	
"	21		87	
"	22		74	
"	23		60	
"	24		49	
"	;25		52	
"	26		62	
"	27		63	
"	28		60	
"	29		55	
"	30		59	
"	31		77	
"	32		124	
"	33		134	
"	34		146	
"	35		125	
"	36	24	63	1,897

17	13		16	
"	14		38	
"	15		55	
"	16		64	
"	17		74	
"	18		84	
"	19		96	
"	20		90	
"	21		80	
"	22		70	
"	23		60	
"	24		45	
"	25		30	
"	26		21	
"	32		46	
"	33		87	
"	34		93	
"	35		79	
"	36	19	51	1,179

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COORDINATES North	East		DEPTH	
18	13		27	
"	14		52	
"	15		65	
"	16		60	
"	17		71	
"	18		79	
"	19		92	
"	20		93	
"	21		80	
"	22		69	
"	23		57	
"	24		30	
"	25		35	
"	26		54	
"	27		55	
"	28		44	
"	29	17	40	1,003
19	13		29	
"	14		53	
"	15		64	
"	16		62	
"	17		62	
"	18		74	
"	19		82	
"	20		91	
"	21		78	
"	22		63	
"	23		52	
"	24		49	
"	25		56	
"	26		77	
"	27		91	
"	28		87	
"	29		72	
"	30	18	60	1,202
20	13		18	
"	14		30	
"	15		40	
"	16		44	
"	17		46	
"	18		62	
"	19		76	

COORDINATES North	East		DEPTH	
20	20		84	
"	21		70	
"	22		66	
"	23		65	
"	24		61	
"	25		66	
"	26		87	
"	27		103	
"	28		105	
"	29		102	
"	30		84	
"	31		70	
"	32	20	12	1,291
21	14		17	
"	15		21	
"	16		42	
"	17		58	
"	18		68	
"	19		79	
"	20		92	
"	21		88	
"	22		82	
"	23		75	
"	24		72	
"	25		71	
"	26		95	
"	27		107	
"	28		115	
"	29		111	
"	30		105	
"	31		88	
"	32		70	
"	33		39	
"	34	21	24	1,519
22	14		14	
"	15		34	
"	16		65	
"	17		74	
"	18		82	
"	19		86	
"	20		100	

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COORDINATES North	East		DEPTH	
22	21		95	
"	22		88	
"	23		84	
"	24		80	
"	25		83	
"	26		98	
"	27		115	
"	28		120	
"	29		121	
"	30		122	
"	31		113	
"	32		98	
"	33		84	
"	34		76	
"	35		82	
"	36	23	64	1,978
23	14		21	
"	15		58	
"	16		84	
"	17		85	
"	18		87	
"	19		88	
"	20		99	
"	21		98	
"	22		91	
"	23		88	
"	24		88	
"	25		88	
"	26		104	
"	27		115	
"	28		120	
"	29		121	
"	30		123	
"	31		126	
"	32		129	
"	33		123	
"	34		114	
"	35		114	
"	36		108	
"	37		89	
"	38	25	54	2,414
24	14		28	
"	15		67	
"	16		75	
"	17		80	
"	18		85	
"	19		88	

COORDINATES North	East		DEPTH	
24	20		97	
"	21		101	
"	22		95	
"	23		93	
"	24		91	
"	25		96	
"	26		103	
"	27		114	
"	28		119	
"	29		121	
"	30		122	
"	31		127	
"	32		133	
"	33		128	
"	34		122	
"	35		124	
"	36		129	
"	37		118	
"	38	25	66	2,522
25	14		24	
"	15		43	
"	16		58	
"	17		70	
"	18		81	
"	19		87	
"	20		94	
"	21		104	
"	22		95	
"	23		95	
"	24		93	
"	25		101	
"	26		108	
"	27		114	
"	28		119	
"	29		117	
"	30		117	
"	31		119	
"	32		121	
"	33		119	
"	34		122	
"	35		130	
"	36		129	
"	37	24	104	2,364
26	15		21	
"	16		40	
"	17		56	
"	18		69	
"	19		82	

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COORDINATES North	East		DEPTH	
26	20		89	
"	21		90	
"	22		94	
"	23		91	
"	24		92	
"	25		97	
"	26		103	
"	27		110	
"	28		116	
"	29		115	
"	30		112	
"	31		112	
"	32		109	
"	33		113	
"	34		118	
"	35		119	
"	36		112	
"	37	23	90	2,166
"				
27	16		17	
"	17		36	
"	18		56	
"	19		63	
"	20		70	
"	21		82	
"	22		85	
"	23		86	
"	24		90	
"	25		96	
"	26		100	
"	27		106	
"	28		117	
"	29		123	
"	30		121	
"	31		102	
"	32		80	
"	33		104	
"	34		111	
"	35		106	
"	36		87	
"	47		21	
"	48	24	18	2,070
28	17		18	
"	18		30	
"	19		44	
"	20		60	
"	21		68	
"	22		69	

COORDINATES North	East		DEPTH	
28	23		74	
"	24		82	
"	25		89	
"	26		94	
"	27		101	
"	28		115	
"	29		122	
"	30		126	
"	31		90	
"	32		71	
"	33		78	
"	34		86	
"	35		76	
"	36		62	
"	46		37	
"	47		40	
"	48		29	
"	49	24	13	1,674
29	18		29	
"	19		55	
"	20		67	
"	21		66	
"	22		58	
"	23		51	
"	24		48	
"	25		56	
"	26		71	
"	27		82	
"	28		90	
"	29		96	
"	30		90	
"	31		70	
"	32		46	
"	33		54	
"	34		56	
"	35		54	
"	46		71	
"	47		74	
"	48		49	
"	49		28	
"	50	23	14	1,375
30	18		47	
"	19		74	
"	20		70	
"	21		62	
"	22		51	
"	23		39	

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COORDINATES North	East		DEPTH	
30	24		34	
"	25		36	
"	26		19	
"	27		32	
"	28		43	
"	29		55	
"	30		56	
"	31		46	
"	46		90	
"	47		94	
"	48		76	
"	49		49	
"	50		27	
"	51	20	12	1,012
31	17		32	
"	18		70	
"	19		83	
"	20		75	
"	21		53	
"	22		38	
"	23		23	
"	24		13	
"	38		32	
"	46		87	
"	47		96	
"	48		87	
"	49		72	
"	50		45	
"	51	15	29	835
32	16		26	
"	17		62	
"	18		80	
"	19		86	
"	20		68	
"	21		35	
"	22		14	
"	37		41	
"	38		46	
"	46		87	
"	47		91	
"	48		86	
"	49		80	
"	50		74	
"	51	15	52	928

COORDINATES North	East		DEPTH	
33	15		18	
"	16		58	
"	17		60	
"	18		72	
"	19		74	
"	20		46	
"	32		46	
"	33		62	
"	34		65	
"	35		59	
"	36		62	
"	37		68	
"	38		25	
"	45		90	
"	46		93	
"	47		92	
"	48		85	
"	49		76	
"	50		77	
"	51	20	58	1,286
34	16		26	
"	17		34	
"	18		37	
"	19		34	
"	29		62	
"	30		53	
"	31		46	
"	32		65	
"	33		86	
"	34		96	
"	35		95	
"	36		85	
"	37		58	
"	44		93	
"	45		106	
"	46		104	
"	47		97	
"	48		83	
"	49		75	
"	50	20	44	1,379

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COORDINATES North	East		DEPTH	
35	16		20	
"	17		28	
"	18		42	
"	19		41	
"	20		16	
"	27		28	
"	28		69	
"	29		93	
"	30		75	
"	31		67	
"	32		83	
"	33		107	
"	34		111	
"	35		92	
"	36		73	
"	37		48	
"	43		96	
"	44		96	
"	45		99	
"	46		98	
"	47		87	
"	48		76	
"	49		63	
"	50	24	43	1,651
36	17		12	
"	18		25	
"	19		21	
"	25		44	
"	26		57	
"	27		68	
"	28		90	
"	29		101	
"	30		87	
"	31		95	
"	32		113	
"	33		132	
"	34		107	
"	35		81	
"	36		63	
"	37		25	
"	44		72	
"	45		75	
"	46		74	
"	47		72	
"	48		59	
"	49		45	
"	50		20	
"	57		21	

COORDINATES North	East		DEPTH	
36	58		28	
"	59	26	16	1,602
37	25		53	
"	26		71	
"	27		80	
"	28		92	
"	29		99	
"	30		98	
"	31		108	
"	32		127	
"	33		130	
"	34		104	
"	35		72	
"	36		52	
"	37		42	
"	38		31	
"	39		24	
"	44		29	
"	45		38	
"	46		46	
"	47		45	
"	48		37	
"	49		28	
"	54		26	
"	55		57	
"	56		42	
"	57		40	
"	58		43	
"	59		33	
"	60		29	
"	61	29	10	1,685
38	24		35	
"	25		67	
"	26		78	
"	27		88	
"	28		91	
"	29		94	
"	30		100	
"	31		111	
"	32		120	
"	33		123	
"	34		98	
"	35		67	
"	36		35	
"	37		42	
"	38		46	

Benalan Mining Co.
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COORDINATES North	East		DEPTH	
38	39		43	
"	40		40	
"	41		11	
"	46		23	
"	47		29	
"	48		26	
"	49		13	
"	52		11	
"	53		27	
"	54		47	
"	55		71	
"	56		64	
"	57		66	
"	58		54	
"	59		48	
"	60		33	
"	61		35	
"	62	33	35	1,871
39	24		62	
"	25		74	
"	26		83	
"	27		87	
"	28		90	
"	29		95	
"	30		100	
"	31		106	
"	32		120	
"	33		107	
"	34		86	
"	35		61	
"	36		59	
"	37		55	
"	38		61	
"	39		61	
"	40		64	
"	41		40	
"	47		17	
"	48		18	
"	49		12	
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"	53		38	
"	54		60	
"	55		45	
"	56		44	
"	57		34	
"	58		28	
"	59		34	
"	60		49	

COORDINATES North	East		DEPTH	
39	61		29	
"	62		31	
"	63	33	31	1,902
40	24		78	
"	25		80	
"	26		83	
"	27		87	
"	28		90	
"	29		94	
"	30		96	
"	31		98	
"	32		97	
"	33		79	
"	34		65	
"	35		52	
"	36		44	
"	37		58	
"	38		71	
"	39		75	
"	40		66	
"	45		40	
"	46		37	
"	48		24	
"	49		17	
"	50		15	
"	51		11	
"	52		21	
"	53		33	
"	54		35	
"	55		21	
"	56		8	
"	57		18	
"	58		25	
"	59		28	
"	60		30	
"	61		32	
"	62		30	
"	63	33	28	1,766
41	23		66	
"	24		88	
"	25		88	
"	26		88	
"	27		89	
"	28		88	
"	29		91	

Benalan Mining Co.
1117 Washington
Golden, Colorado

COORDINATES North	East		DEPTH	
41	30		87	
"	31		89	
"	32		72	
"	33		65	
"	34		54	
"	35		33	
"	36		34	
"	37		64	
"	38		81	
"	39		66	
"	40		23	
"	46		30	
"	47		29	
"	48		22	
"	49		20	
"	50		10	
"	51		9	
"	52		8	
"	53		11	
"	54		13	
"	55		12	
"	56		12	
"	57		23	
"	58		25	
"	59		22'	
"	60		42	
"	61		38	
"	62		27	
"	63		30	
"	64	37	22	1,669
42	23		64	
"	24		89	
"	25		90	
"	26		89	
"	27		90	
"	28		79	
"	29		92	
"	30		85	
"	31		67	
"	32		63	
"	33		57	
"	34		48	
"	35		40'	
"	36		41	
"	37		71	
"	38		91	
"	39		68	
"	40		15	

COORDINATES North	East		DEPTH	
42	42		47	
"	43		55	
"	44		58	
"	45		57	
"	46		45	
"	47		48	
"	48		42	
"	49		30	
"	50		16	
"	56		11	
"	57		20	
"	58		13	
"	59		13	
"	60		17	
"	61		23	
"	62		25	
"	63		26	
"	64	36	28	1,812
43	23		62	
"	24		80	
"	25		86	
"	26		88	
"	27		86	
"	28		90	
"	29		93	
"	30		90	
"	31		76	
"	32		55	
"	33		51	
"	34		44	
"	35		36	
"	36		38	
"	37		83	
"	38		79	
"	39		53	
"	40		11	
"	44		23	
"	45		31	
"	46		46	
"	47		60	
"	48		62	
"	49		51	
"	50		29	
"	51		11	
"	53		8	
"	54		8	
"	55		16	
"	56		19	
"	57		33	

Benalan Mining Co.
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COORDINATES North	East		DEPTH	
43	58		26	
"	59		16	
"	60		16	
"	61		20	
"	62		20	
"	63		25	
"	64		25	
"	65	39	11	1,757
44	23		59	
"	24		69	
"	25		74	
"	26		80	
"	27		86	
"	28		86	
"	29		91	
"	30		93	
"	31		80	
"	32		56	
"	33		43	
"	34		38	
"	35		29	
"	36		36	
"	37		91	
"	38		97	
"	39		82	
"	40		30	
"	41		12	
"	42		8	
"	46		19	
"	47		46	
"	48		73	
"	49		73	
"	50		50	
"	51		23'	
"	54		15	
"	55		31	
"	56		42	
"	57		47	
"	58		37	
"	59		26	
"	60		22	
"	61		24	
"	62		28	
"	63		27	
"	64		27	
"	65	38	25	1,875

COORDINATES North	East		DEPTH	
45	23		45	
"	24		54	
"	25		62	
"	26		70	
"	27		78	
"	28		84	
"	29		86	
"	30		89	
"	31		89	
"	32		58	
"	33		42	
"	34		35	
"	35		20	
"	36		37	
"	37		87	
"	38		110	
"	39		74	
"	40		55	
"	41		46	
"	42		44	
"	43		47	
"	44		41	
"	45		22	
"	47		45	
"	48		81	
"	49		91	
"	50		76	
"	51		43	
"	52		18	
"	55		25	
"	56		45	
"	57		47	
"	58		33	
"	59		15	
"	60		21	
"	61		24	
"	62		31	
"	63		30	
"	64		32	
"	65	40	26	2,058
46	23		29	
"	24		37	
"	25		45	
"	26		60	
"	27		67	
"	28		67	
"				

Benalan Mining Co.
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COORDINATES North	East	DEPTH	
46	29	79	
"	30	81	
"	31	82	
"	32	55	
"	33	37	
"	34	30	
"	35	22	
"	36	48	
"	37	93	
"	38	112	
"	39	92	
"	40	74	
"	41	60	
"	42	48	
"	43	62	
"	44	39	
"	45	15	
"	46	18	
"	47	55	
"	48	83	
"	49	92	
"	50	85	
"	51	65	
"	52	39	
"	53	18	
"	56	14	
"	57	20	
"	58	22	
"	59	13	
"	60	14	
"	61	16	
"	62	24	
"	63	32	
"	64	31	
"	65	29	
"	66 41	22	1,961
47	23	16	
"	24	14	
"	25	27	
"	26	35	
"	27	58	
"	28	62	
"	29	69	
"	30	76	
"	31	74	
"	32	28	
"	33	31	

COORDINATES North	East	DEPTH	
47	34	25	
"	35	26	
"	36	68	
"	37	99	
"	38	113	
"	39	112	
"	40	110	
"	41	81	
"	42	57	
"	43	41	
"	44	40	
"	45	8	
"	46	34	
"	47	65	
"	48	85	
"	49	92	
"	50	89	
"	51	78	
"	52	61	
"	53	40	
"	54	20	
"	55	8	
"	61	8	
"	62	37	
"	63	45	
"	64	37	
"	65	34	
"	66 39	35	2,042
48	26	19	
"	27	35	
"	28	48	
"	29	56	
"	30	72	
"	31	61	
"	32	34	
"	33	25	
"	34	20	
"35	35	34	
"	36	86	
"	37	110	
"	38	111	
"	39	112	
"	40	112	
""	41	86	
"	42	58	
"	43	30	
"	44	9	

Benalan Mining Co.
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COORDINATES North	East	DEPTH	
48	45	13	
"	46	44	
"	47	69	
"	48	83	
"	49	87	
"	50	84	
"	51	80	
"	52	73	
"	53	64	
"	54	55	
"	55	42	
"	56	30	
"	57	18	
"	58	9	
"	61	19	
"	62	38	
"	63	39	
"	64	24	
"	65	26	
"	66	18	
"	67 40	14	2,048
49	28	16	
"	29	25	
"	30	30	
"	31	24	
"	32	17	
"	33	18	
"	34	28	
"	35	44	
"	36	88	
"	37	110	
"	38	114	
"	39	115	
"	40	114	
"	41	79	
"	42	51	
"	43	27	
"	45	14	
"	46	44	
"	47	50	
"	48	77	
"	49	81	
"	50	81	
"	51	79	
"	52	75	
"			

CORRDINATES North	East	DEPTH	
49	53	63	
"	54	59	
"	55	55	
"	56	58	
"	57	48	
"	58	35	
"	59	19	
"	62	12	
"	63	16	
"	64	25	
"	65	20	
"	66	26	
"	67	31	
"	68 37	17	1,884
50	31	12	
"	32	17	
"	33	23	
"	34	25	
"	35	42	
"	36	78	
"	37	103	
"	38	111	
"	39	114	
"	40	112	
"	41	76	
"	42	47	
"	43	23	
"	47	16	
"	48	30	
"	49	64	
"	50	72	
"	51	73	
"	52	71	
"	53	73	
"	54	72	
"	55	72	
"	56	70	
"	57	65	
"	50	54	
"	59	36	
"	60	14	
"	64	24	
"	65	34	
"	66	41	
"	67	51	

Benalan Mining Co.
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COORDINATES North	East		DEPTH	
50	68		61	
"	69	33	46	1,822
51	31		30	
"	32		38	
"	33		32	
"	34		25	
"	35		34	
"	36		67	
"	37		96	
"	38		113	
"	39		116	
"	40		109	
"	41		72	
"	42		44	
"	43		17	
"	44		3	
"	45		15	
"	46		8	
"	47		16	
"	48		23	
"	49		32	
"	50		41	
"	51		42	
"	52		48	
"	53		62	
"	54		71	
"	55		77	
"	56		79	
"	57		75	
"	58		66	
"	59		54	
"	60		27	
"	61		31	
"	62		23	
"	63		10	
"	64		35	
"	65		45	
"	66		46	
"	67		52	
"	68		58	
"	69		49	
"	70	39	37	1,923
52	30		30	
"	51		78	
"	35		26	
"	36		42	

COORDINATES North	East		DEPTH	
52	37		85	
"	38		110	
"	39		113	
"	40		115	
"	41		62	
"	42		36	
"	43		11	
"	44		12	
"	45		48	
"	46		40	
"	47		9	
"	49		8	
"	50		15	
"	51		18	
"	52		19	
"	53		35	
"	54		66	
"	55		65	
"	56		79	
"	57		85	
"	58		78	
"	59		66	
"	60		58	
"	61		49	
"	62		45	
"	63		31	
"	64		36	
"	65		47	
"	66		47	
"	67		25	
"	68		25	
"	69		45	
"	70	37	36	1795
53	30		52	
"	31		63	
"	34		27	
"	35		23	
"	36		38	
"	37		71	
"	38		102	
"	39		109	
"	40		103	
"	41		68	
"	42		31	
"	43		8	
"	44		44	
"	45		70	
"	46		57	

Benalan Mining Co.
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COORDINATES North	East	DEPTH	
53	47	32	
"	48	8	
"	49	8	
"	53	17	
"	54	40	
"	55	65	
"	56	75	
"	57	86	
"	58	87	
"	59	82	
"	60	68	
"	61	66	
"	62	65	
"	63	45	
"	64	47	
"	65	46	
"	66	44	
"	67	37	
"	68	29	
"	69	22	
"	70	22	
"	71	23	1,878
54	30	33	
"	31	38	
"	33	23	
"	34	36	
"	35	27	
"	36	25	
"	37	54	
"	38	80	
"	39	104	
"	40	104	
"	41	69	
"	42	37	
"	43	7	
"	44	47	
"	45	87	
"	46	75	
"	47	42	
"	48	20	
"	49	38	
"	50	46	
"	51	28	
"	54	21	
"	55	44	
"	56	68	
"	57	80	
"	58	92	

COORDINATES North	East	DEPTH	
54	59	98	
"	60	92	
"	61	84	
"	62	78	
"	63	66	
"	64	55	
"	65	46	
"	66	36	
"	67	24	
"	68	16	
"	69	7	
"	70	15	
"	71	23	1,975
55	30	34	
"	31	25	
"	32	28	
"	33	58	
"	34	64	
"	35	36	
"	36	17	
"	27	40	
"	38	74	
"	39	100	
"	40	102	
"	41	83	
"	42	39	
"	43	11	
"	44	33	
"	45	84	
"	46	85	
"	47	51	
"	48	31	
"	49	49	
"	50	66	
"	51	42	
"	52	10	
"	55	24	
"	56	45	
"	57	61	
"	58	76	
"	59	84	
"	60	78	
"	61	70	
"	62	72	
"	63	53	
"	64	36	
"	65	27	
"	66	18	

Benalan Mining Co.
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COORDINATES North	East		DEPTH	
55	69		10	
"	70		26	
"	71		30	
"	72	39	37	1,909
56	31		18	
"	32		46	
"	33		78	
"	34		75	
"	35		50	
"	36		22	
"	37		25	
"	38		58	
"	39		87	
"	40		101	
"	41		96	
"	42		52	
"	43		18	
"	44		10	
"	45		59	
"	46		82	
"	47		57	
"	48		36	
"	49		61	
"	50		60	
"	51		43	
"	52		18	
"	56		18	
"	57		38	
"	58		46	
"	59		49	
"	60		47	
"	61		44	
"	62		34	
"	63		22	
"	64		13	
"	69		25	
"	70		26	
"	71		35	
"	72		40	
"	73	35	35	1,578
57	31		24	
"	32		56	
"	33		79	
"	34		77	
"	35		47	
"	36		25	

COORADINATES North	East		DEPTH	
57	37		15	
"	35		42	
"	39		78	
"	40		94	
"	41		95	
"	42		63	
"	43		28	
"	44		7	
"	45		46	
"	46		67	
"	47		66	
"	48		46	
"	49		51	
"	50		55	
"	51		47	
"	52		26	
"	57		7	
"	58		24	
"	59		31	
"	60		23	
"	61		14	
"	69		22	
"	70		37	
"	71		40	
"	72		40	
"	73	32	40	1,412
58	31		18	
"	32		56	
"	33		73	
"	34		66	
"	35		37	
"	36		26	
"	37		8	
"	38		24	
"	39		57	
"	40		87	
"	41		92	
"	42		84	
"	43		36	
"	44		19	
"	45		38	
"	46		66	
"	47		69	
"	48		58	
"	49		56	
"	50		55	
"	51		45	
"	52		30	

Benalan Mining Co.
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COORDINATES North	East		DEPTH	
58	70	23	28	1,128
59	31		23	
"	32		55	
"	33		64	
"	34		50	
"	35		19	
"	38		8	
"	39		32	
"	40		70	
"	41		83	
"	42		82	
"	43		46	
"	44		15	
"	45		35	
"	46		63	
"	47		70	
"	48		65	
"	49		59	
"	50		57	
"	51		52	
"	52	20	40	988
60	31		23	
"	32		47	
"	33		49	
"	34		33	
"	39		9	
"	40		48	
"	41		75	
"	42		80	
"	43		52	
"	44		17	
"	45		28	
"	46		59	
"	47		80	
"	48		67	
"	49		64	
"	50		62	
"	51		59	
"	52		50	
"	53		21	
"	56		28	
"	57		23	
"	58		28	
"	59		36	
"	60		39	
"	61		41	
"	62		39	
"	63		32	
"	64		27	

COORDINATES North	East		DEPTH	
60	65		20	
"	66	30	9	1,245
61	31		10	
"	32		28	
"	33		26	
"	34		8	
"	40		32	
"	41		64	
"	42		73	
"	43		61	
"	44		21	
"	45		21	
"	46		54	
"	47		68	
"	48		71	
"	49		68	
"	50		69	
"	51		66	
"	52		60	
"	53		33	
"	54		14	
"	57		45	
"	58		51	
"	59		47	
"	60		46	
"	61		48	
"	62		49	
"	63		46	
"	64		45	
"	65		46	
"	66		40	
"	67	30	17	1,827
62	40		21	
"	41		56	
"	42		67	
"	43		64	
"	44		29	
"	45		12	
"	46		48	
"	47		68	
"	48		74	
"	49		75	
"	50		73	
"	51		62	
"	52		67	
"	53		57	
"	54		38	
"	55		11	

Beualar Mining Co.
1117 Washington
Golden, Colorado

COORDINATES North	East		DEPTH	
62	57		31	
"	58		40	
"	59		44	
"	60		48	
"	61		50	
"	62		48	
"	63		49	
"	64		50	
"	65		51	
"	66		51	
"	67	27	29	1,313
63	36		12	
"	37		8	
"	40		28	
"	41		54	
"	42		66	
"	43		52	
"	44		34	
"	46		39	
"	47		65	
"	48		75	
"	49		79	
"	50		77	
"	51		79	
"	52		74	
"	53		67	
"	54		56	
"	55		24	
"	57		10	
"	58		34	
"	59		32	
"	60		46	
"	61		46	
"	62		47	
"	63		47	
"	64		50	
"	65		53	
"	66		54	
"	67	29	40	1,356
64	35		11	
"	43		62	
"	44		34	
"	46		32	
"	47		60	
"	48		75	
"	49		81	
"	50		81	
"	51		78	
"	52		74	

COORDINATES North	East		DEPTH	
64	53		65	
"	54		68	
"	55		31	
"	58		29	
"	59		38	
"	60		41	
"	61		44	
"	62		44	
"	63		46	
"	64		46	
"	65		48	
"	66		53	
"	67		41	
"	70		16	
"	71	30	28	1,408
65	34		9	
"	35		11	
"	36		7	
"	37		7	
"	39		14	
"	40		39	
"	41		52	
"	42		52	
"	43		45	
"	44		27	
"	46		26	
"	47		57	
"	48		77	
"	49		77	
"	50		76	
"	51		76	
"	52		74	
"	53		64	
"	54		53	
"	55		32	
"	57		8	
"	58		25	
"	59		31	
"	60		34	
"	61		37	
"	62		37	
"	63		44	
"	64		45	
	65		46	
"	66		50	
"	67		44	
"	68		17	
"	70		46	
"	71		48	
"	72	35	32	1,419

Benalan Mining Co.
1117 Washington
Golden, Colorado

COORDINATES North	East		DEPTH	
66	39		20	
"	40		28	
"	41		47	
"	42		42	
"	43		31	
"	46		17	
"	47		51	
"	48		67	
"	49		68	
"	50		68	
"	51		68	
"	52		67	
"	53		60	
"	54		45	
"	55		30	
"	56		16	
"	57		8	
"	58		22	
"	59		25	
"	60		28	
"	61		31	
"	62		37	
"	63		41	
"	64		46	
"	65		44	
"	66		47	
"	67		46	
"	68		29	
"	70		48	
"	71		60	
"	72	31	50	1,287
67	38		11	
"	39		27	
"	40		35	
"	41		37	
"	42		38	
"	43		10	
"	46		8	
"	47		43	
"	48		49	
"	49		44	
"	50		43	
"	51		59	
"	52		57	
"	53		46	
"	54		36	
"	55		30	
"	56		36	
"	57		30	

COORDINATES North	East		DEPTH	
67	58		18	
"	59		20	
"	60		22	
	61		28	
"	62		34	
"	63		40	
"	64		45	
"	65		44	
"	66		43	
"	67		41	
"	68		33	
"	69		15	
"	70		50	
"	71		67	
"	72	33	67	1,204
68	38		13	
"	39		20	
"	40		25	
"	41		20	
"	42		7	
"	47		17	
"	48		18	
"	49		23	
"	50		54	
"	51		52	
"	52		45	
"	53		33	
"	54		24	
"	55		33	
"	56		53	
"	57		59	
"	58		39	
"	59		20	
"	60		18	
"	61		21	
"	62		29	
"	63		39	
"	64		43	
"	65		41	
"	66		38	
"	67		38	
"	68		31	
"	69		21	
"	70		50	
"	71		68	
"	72	31	68	1,060

Benalan Mining Co.
1117 Washington
Golden, Colorado

COORDINATES North	East		DEPTH	
69	38		8	
"	39		9	
"	40		9	
"	44		12	
"	49		7	
"	50		47	
"	51		44	
"	52		33	
"	53		23	
"	54		25	
"	55		45	
"	56		64	
"	57		71	
"	58		61	
"	59		40	
"	60		20	
"	61		15	
"	62		22	
"	63		34	
"	64		39	
"	65		42	
"	66		40	
"	67		38	
"	68		28	
"	69		34	
"	70		45	
"	71		63	
"	72	28	67	785
70	43		15	
"	44		17	
"	49		10	
"	50		31	
"	51		29	
"	52		26	
"	53		25	
"	54		35	
"	55		45	
"	56		75	
"	57		82	
"	58		74	
"	59		49	
"	60		34	
"	61		20	
"	62		18	
"	63		26	
"	64		36	
"	65		41	
"	66		42	
"	67		39	
"	68		37	

COORDINATES North	East		DEPTH	
70	69		33	
"	70		36	
"	71		58	
"	72	26	57	989
71	43		18	
"	44		17	
"	49		20	
"	50		26	
"	51		29	
"	52		28	
"	53		31	
"	54		42	
"	55		67	
"	56		83	
"	57		88	
"	58		84	
"	59		70	
"	60		52	
"	61		37	
"	62		25	
"	63		25	
"	64		30	
"	65		38	
"	66		41	
"	67		46	
"	68		43	
"	69		42	
"	70		38	
"	71	25	37	1,057
72	43		22	
"	44		17	
"	49		21	
"	50		30	
"	51		35	
"	52		40	
"	53		42	
"	54		57	
"	55		74	
"	56		88	
"	57		94	
"	58		91	
"	59		82	
"	60		70	
"	61		54	
"	62		36	
"	63		25	
"	64		30	
"	65		37	
"	66		43	

Benalan Mining Co.
1117 Washington
Golden, Colorado

COORDINATES North	East		DEPTH	
72	67		47	
"	68		49	
"	69		52	
"	70		52	
"	71	25	41	1,229
73	43		18	
"	44		40	
"	48		15	
"	49		23	
"	50		30	
"	51		40	
"	52		50	
"	53		61	
"	54		70	
"	55		82	
"	56		91	
"	57		100	
"	58		98	
"	59		92	
"	60		78	
"	61		66	
"	62		47	
"	63		28	
"	64		23	
"	65		36	
"	66		42	
"	67		48	
"	68		55	
"	69		59	
"	70	25	56	1,351
74	43		47	
"	44		34	
"	45		25	
"	46		18	
"	47		17	
"	48		15	
"	49		22	
"	50		33	
"	51		44	
"	52		55	
"	53		70	
"	54		72	
"	55		84	
"	56		99	
"	57		107	
"	58		107	
"	59		99	
"	60		89	

COORDINATES North	East		DEPTH	
74	61		72	
"	62		60	
"	63		37	
"	64		26	
"	65		30	
"	66		40	
"	67		47	
"	68		58	
"	69	27	68	1,475
75	42		23	
"	43		48	
"	44		43	
"	45		33	
"	46		26	
"	47		28	
"	48		29	
"	49		30	
"	50		39	
"	51		49	
"	52		63	
"	53		74	
"	54		80	
"	55		90	
"	56		100	
"	57		112	
"	58		118	
"	59		108	
"	60		92	
"	61		75	
"	62		56	
"	63	21	34	1,307
76	42		34	
"	43		43	
"	44		43	
"	45		40	
"	46		35	
"	47		36	
"	48		26	
"	49		38	
"	50		44	
"	51		56	
"	52		73	
"	53		84	
"	54		88	
"	55		92	
"	56		98	
"	57		105	

Benalan Mining Co.
1117 Washington
Golden, Colorado

COORDINATES North	East		DEPTH	
76	58		108	
"	59		100	
"	60		72	
"	61	20	32	1,247
77	42		33	
"	43		37	
"	44		37	
"	45		38	
"	46		38	
"	47		40	
"	48		38	
"	49		41	
"	50		55	
"	51		68	
"	52		80	
"	53		87	
"	54		89	
"	55		88	
"	56		88	
"	57	16	87	944
78	42		27	
"	43		29	
"	44		33	
"	45		35	
"	46		38	
"	47		45	
"	48		51	
"	49		56	
"	50		65	
"	51		79	
"	52		85	
"	53		88	
"	54		86	
"	55	14	78	795
79	41		10	
"	42		23	
"	43		34	
"	44		43	
"	45		52	
"	46		55	
"	47		64	
"	48		64	
"	49		70	
"	50		75	
"	51	11	76	566

COORDINATES North	East		DEPTH	
80	41		20	
"	42		42	
"	43		49	
"	44		55	
"	45		58	
"	46	6	59	283
81	41	1	20	20

Benalan Mining Co.
1117 Washington
Golden, Colorado

RECAP OF STATIONS AND DRILL DEPTHS

N LINE	STA. NO.	FOOTAGE
4	2	124
5	5	342
6	12	1,000
7	16	1,258
8	20	1,526
9	23	1,776
10	27	2,245
11	21	2,169
12	22	2,231
13	22	2,173
14	23	2,097
15	24	1,897
16	23	1,682
17	19	1,179
18	17	1,003
19	18	1,202
20	20	1,291
21	21	1,519
22	23	1,978
23	25	2,414
24	25	2,522
25	24	2,364
26	23	2,166
27	24	2,070
28	24	1,674
29	23	1,375
30	20	1,012
31	15	835
32	15	928
33	20	1,286
34	20	1,379
35	24	1,651
36	26	1,602
37	29	1,685
38	33	1,871
39	33	1,902
40	35	1,766
41	37	1,669
42	36	1,812
43	39	1,757
44	38	1,875
45	40	2,058
46	41	1,961
47	39	2,042
48	40	2,048
49	37	1,884
50	33	1,822
51	39	1,923
52	37	1,795

LINE	STA. NO.	FOOTAGE
53	36	1,878
54	39	1,975
55	39	1,909
56	35	1,578
57	32	1,412
58	23	1,128
59	20	988
60	30	1,245
61	30	1,327
62	27	1,313
63	29	1,356
64	30	1,408
65	35	1,419
66	31	1,287
67	33	1,204
68	31	1,060
69	28	985
70	26	989
71	25	1,057
72	25	1,229
73	25	1,351
74	27	1,475
75	21	1,307
76	20	1,247
77	16	944
78	14	795
79	11	566
80	6	283
81	1	20
	1,997 Sta.	116,575 Footage

Average - 58.4/Hole

THIS DEED, Made this 21st day of September in the year of our Lord one thousand nine hundred and fifty four, between COLORADO EXPLORATION COMPANY, an unincorporated association of Golden, Colorado, of the first part and BENALAN MINING COMPANY, a Pennsylvania corporation with offices in Golden, Colorado, of the second part,

WITNESSETH, That the said party of the first part, for and in consideration of the sum of Ten and more Dollars, to the said party of the first part in hand paid by the said party of the second part, the receipt whereof is hereby confessed and acknowledged, has remised, released, sold, conveyed and QUIT CLAIMED, and by these presents does remise, release, sell, assign, convey and QUIT CLAIM unto the said party of the second part, its successors and assigns, forever, all the right, title, interest, claim and demand which the said party of the first part has in and to the following described unpatented lode mining claims situate, lying and being in the County of Fremont and State of Colorado, to-wit:

Name of Claim	Locator	Date of Location	Book	Page
Colexco No. 1	Colorado Exploration Co.	11-17-53	333	475
Colexco No. 2	" " "	11-17-53	333	475
Colexco No. 3	" " "	11-17-53	333	476
Colexco No. 4	" " "	11-17-53	333	476
Colexco No. 5	" " "	11-17-53	333	477
Colexco No. 6	" " "	11-17-53	333	477
Colexco No. 7	" " "	11-17-53	333	478
Colexco No. 8	" " "	11-17-53	333	478
Colexco No. 9	" " "	11-17-53	333	479
Colexco No. 10	" " "	11-17-53	333	479
Colexco No. 11	" " "	11-17-53	333	480
Colexco No. 12	" " "	11-17-53	333	480
Colexco No. 13	" " "	11-17-53	333	481
Colexco No. 14	" " "	11-17-53	333	481
Colexco No. 15	" " "	11-17-53	333	482
Colexco No. 16	" " "	11-17-53	333	482
Colexco No. 17	" " "	11-17-53	333	483
Colexco No. 18	" " "	11-17-53	333	483
Colexco No. 19	" " "	11-17-53	333	484
Colexco No. 20	" " "	11-17-53	333	484
Colexco No. 21	" " "	11-17-53	333	485
Colexco No. 22	" " "	11-17-53	333	485
Colexco No. 23	" " "	11-17-53	333	486
Colexco No. 24	" " "	11-17-53	333	486
Colexco No. 25	" " "	11-17-53	333	487
Colexco No. 26	" " "	11-17-53	333	487
Colexco No. 27	" " "	11-17-53	333	488
Colexco No. 28	" " "	11-17-53	333	499
Colexco No. 29	" " "	11-17-53	333	499
Colexco No. 30	" " "	11-17-53	333	500
Colexco No. 31	" " "	11-17-53	333	488
Colexco No. 32	" " "	11-17-53	333	489
Colexco No. 33	" " "	11-17-53	333	501
Colexco No. 34	" " "	11-17-53	333	500
Colexco No. 35	" " "	11-17-53	333	501
Colexco No. 36	" " "	11-17-53	333	503
Colexco No. 37	" " "	11-17-53	333	502
Colexco No. 38	" " "	11-17-53	333	502
Colexco No. 39	" " "	11-17-53	333	504
Colexco No. 40	" " "	11-17-53	333	503
Colexco No. 41	" " "	11-17-53	333	539
Colexco No. 42	" " "	11-17-53	333	540
Colexco No. 43	" " "	11-17-53	333	505

All of the lode mining claims hereinabove described are located in Township 17 South, Range 70 West. There are no reservations.

TO HAVE AND TO HOLD the same, together with all and singular the appurtenances and privileges thereunto belonging or in anywise thereunto appertaining, and all the estate, right, title, interest and claim whatsoever, of the said party of the first part, either in law or equity, to the only proper use, benefit and behoof of the said party of the second part, its successors and assigns forever.

IN WITNESS WHEREOF, The said party of the first part has hereunto set its hand and seal the day and year first above written.

COLORADO EXPLORATION COMPANY

By Walter Alan Stewart

STATE OF COLORADO)
City + COUNTY OF Denver : ss.

The foregoing instrument was acknowledged before me this 21st day of September, 1954 by Walter Alan Stewart.

Witness my hand and official seal.

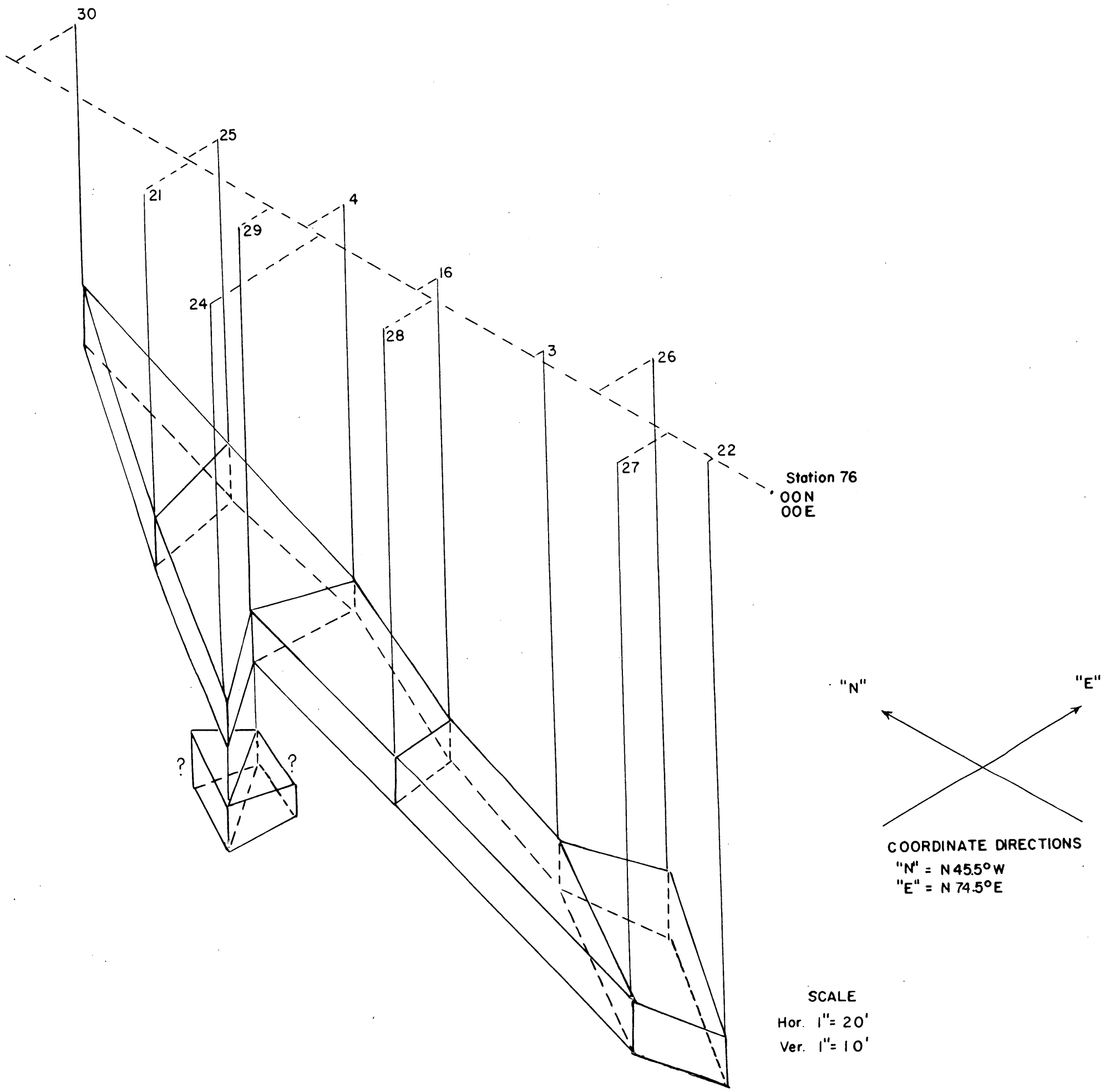
My commission expires:

October 13, 1954

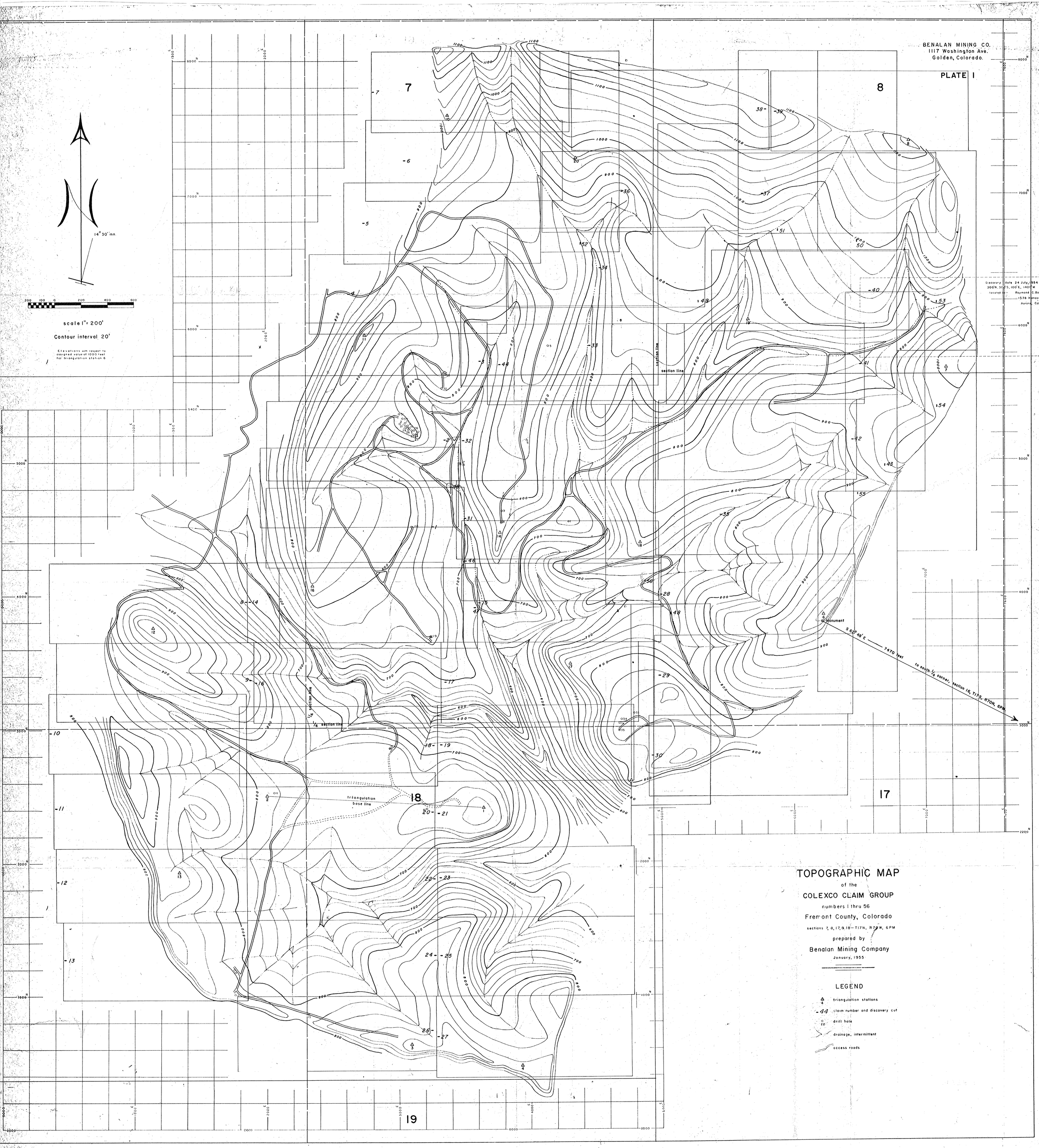
Bernice E. Ebert
Notary Public

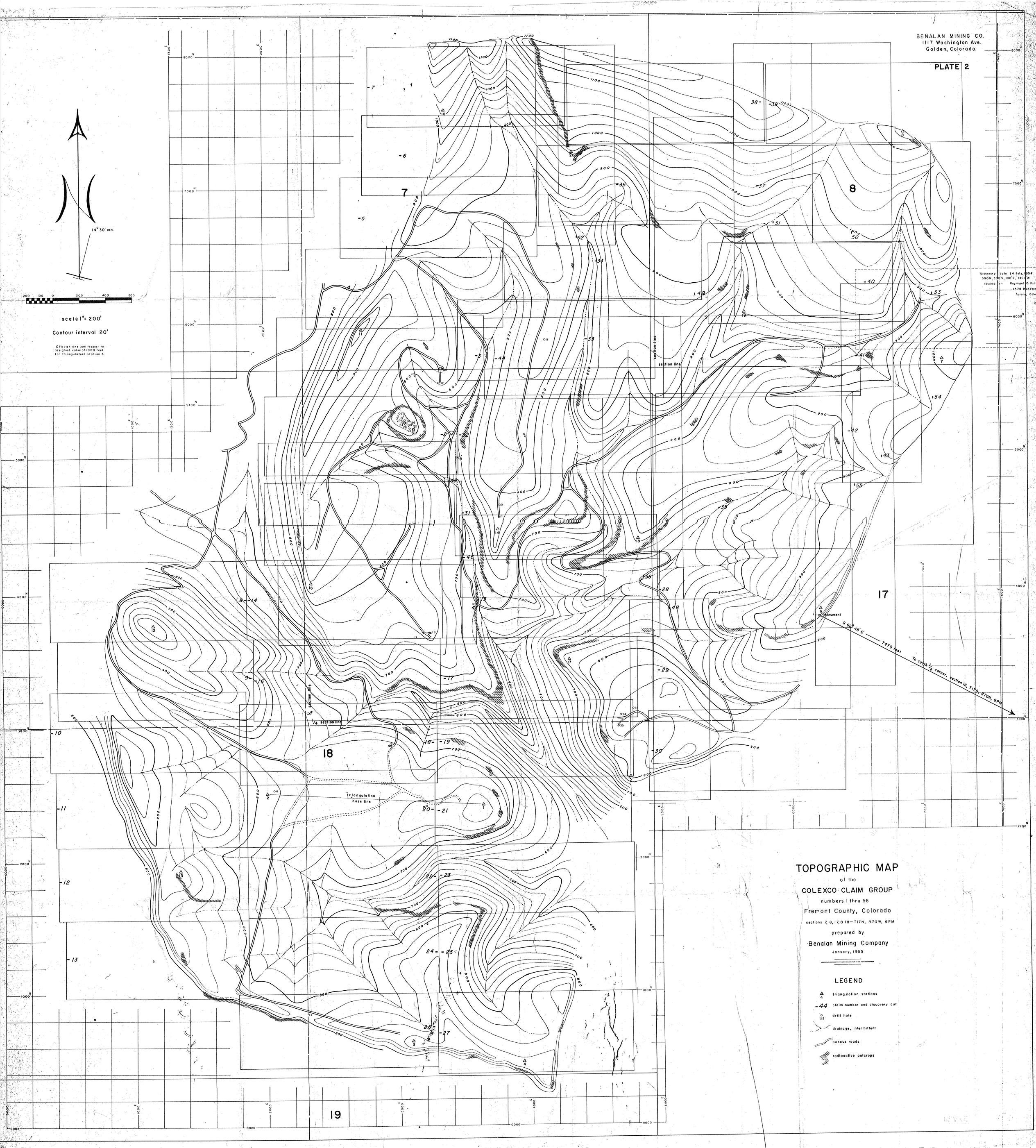
BENALAN MINING CO.
1117 Washington Ave.
Golden, Colorado.

PLATE 6



ISOMETRIC DIAGRAM
of
Probable Ore Body
Apex Area


BENALAN MINING CO.
1117 Washington Ave.
Golden, Colorado.
PLATE I
14° 30' mn.
scale 1" = 200'
Contour interval 20'
Elevations with respect to assigned value of 1000 feet for triangulation station 6
Discovery date 24 July, 1954
300'N, 300'S, 100'E, 140'W
located by Raymond C. Banigan
1578 Hanover St.
Aurora, Colorado
DISMUS #1
section line
1/4 section line
triangulation base line
Monument
S 62° 48' E 7470 feet to south 1/4 corner, section 16, T17S, R70N, 6PM
7
8
17
18
19
TOPOGRAPHIC MAP
of the
COLEXCO CLAIM GROUP
numbers 1 thru 56
Fremont County, Colorado
sections 7, 8, 17, & 18 — T17N, R70W, 6PM
prepared by
Benalan Mining Company
January, 1955
LEGEND
triangulation stations
-44 claim number and discovery cut
drill hole
drainage, intermittent
access roads



TOPOGRAPHIC MAP

of the

COLEXCO CLAIM GROUP

numbers 1 thru 56

Fremont County, Colorado

sections 7, 8, 17, & 18—T17N, R70W, 6PM

prepared by

Benalan Mining Company

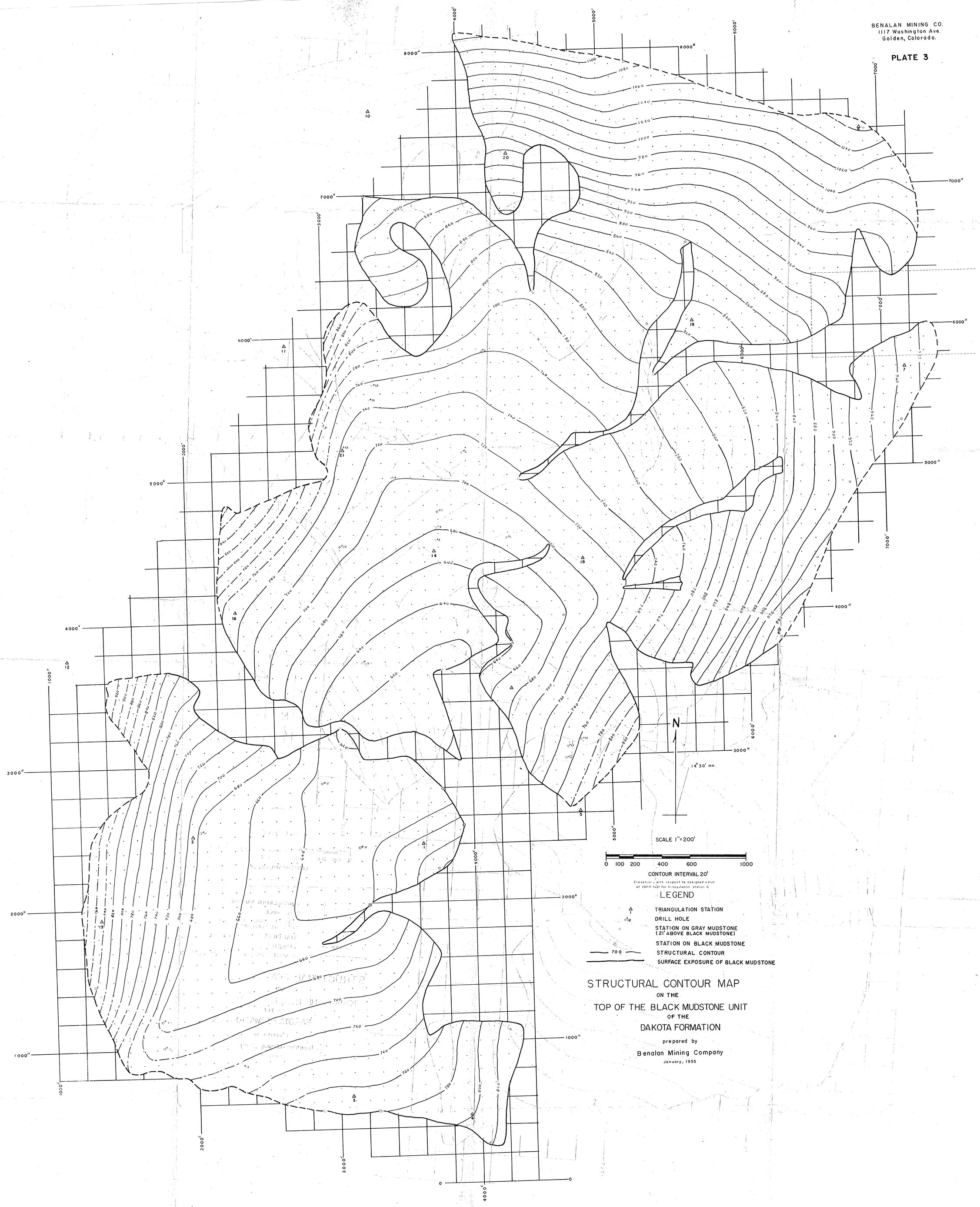
January, 1955

LEGEND

- triangulation stations
- -44 claim number and discovery cut
- drill hole
- drainage, intermittent
- access roads
- radioactive outcrops

BENALAN MINING CO.
1117 Washington Ave.
Golden, Colorado.

PLATE 3



STRUCTURAL CONTOUR MAP
ON THE
TOP OF THE BLACK MUDSTONE UNIT
OF THE
DAKOTA FORMATION

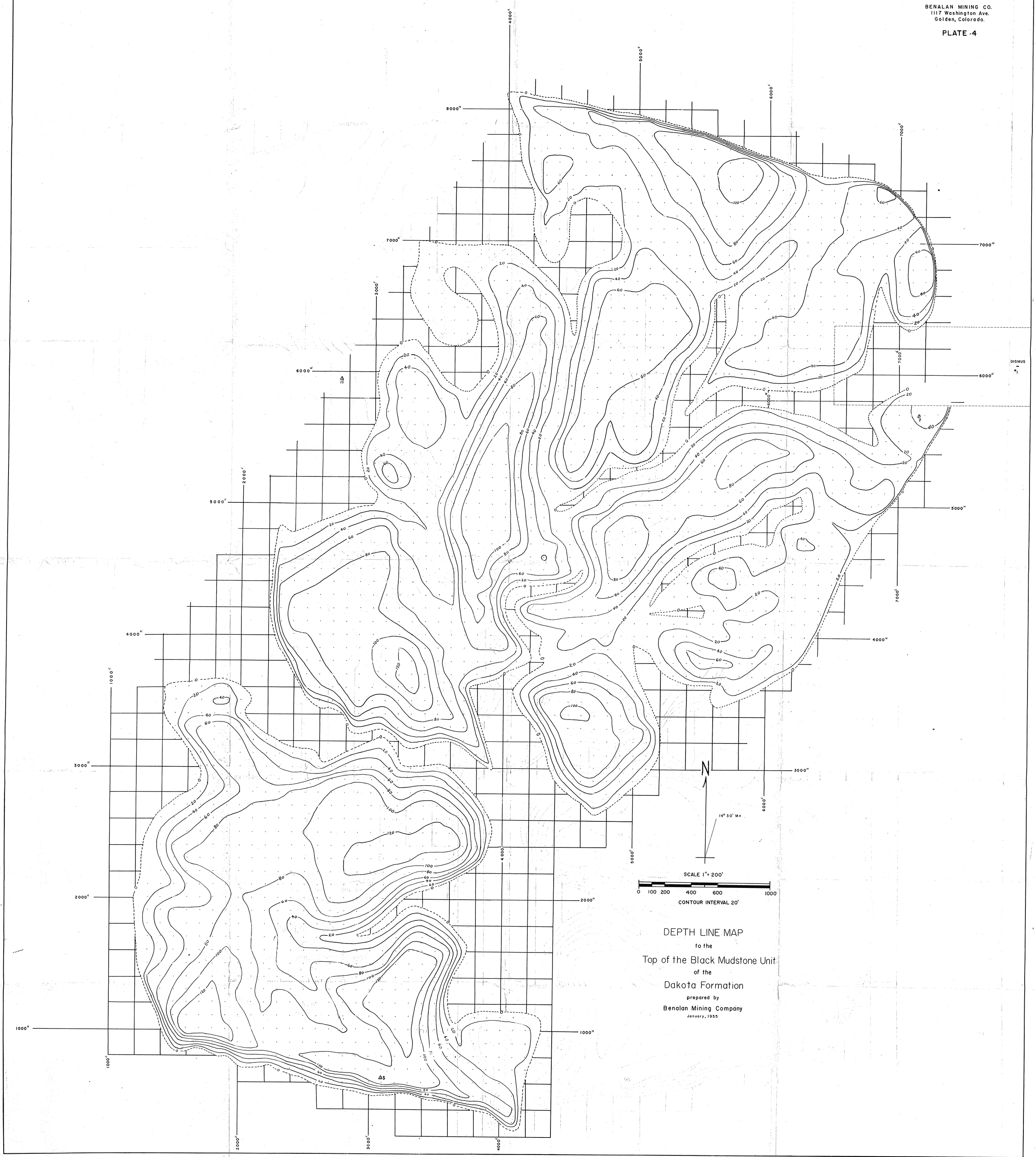
prepared by

Benalan Mining Company

January, 1955

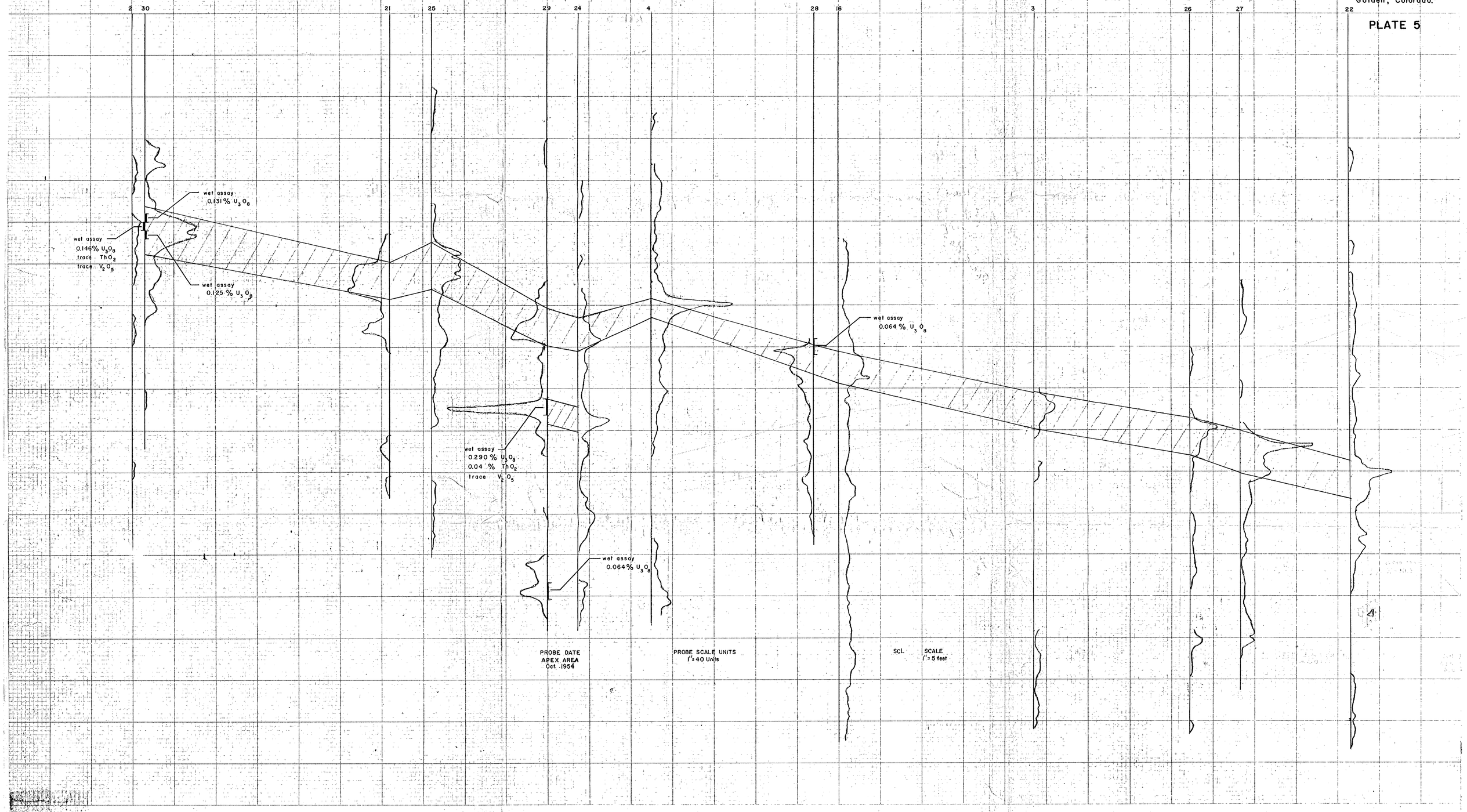
BENALAN MINING CO.
1117 Washington Ave.
Golden, Colorado.

PLATE 4



BENALAN MINING CO.
1117 Washington Ave.
Golden, Colorado.

PLATE 5



PERFECT cross section
10 X 10 - ONE INCH
EUGENE DIETZGEN CO.

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