Docket File
Surname:
Anderson
Houk
Nelson
Yoder
Gilfoyle

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

SEP - 2 1955

Messrs. Joseph Colacci, Charles DeNovellis
and P. W. Jacoe, Partners
912 Lincoln Avenue
Louisville, Colorado

Re: Docket No. DMEA-3812 - Beryl
Joseph Colacci, Charles
DeNovellis and P. W. Jacoe
Cojade Mine
Larimer County, Colorado

Gentlemen:

Your application for aid for an exploration project and other reports available to us in Washington relating to the subject property have been reviewed.

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

Careful study of all our information indicates to us that the probability of disclosing significant reserves of mica by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Program and for bringing your property to our attention.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

WCAnderson:pk 8/31/55
Copy to: Admr. R. File
Docket
Operating Committee
Field Team, Region III
Mr. Kiilsgaard, 5222
Mr. Beno, 3641A
Mr. Houk
Mr. Anderson

A.C.L.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

August 31, 1955

Memorandum

To: The File

From: Walter C. Anderson, Nonmetallic Minerals Division

Subject: Evaluation of application and field examination report

Docket No. DMEA-3812 - Beryl
Joseph Colacci, Charles DeNovellis
and P. W. Jacoe
Cojade Mine
Larimer County, Colorado

Denial of application is recommended

Beryl and other minerals - Mineral content of dykes:
0.12% beryl in crystals and irregular masses.
0.17% amblygonite in irregular masses.
2.0% muscovite mica in irregular masses
10.0% feldspar.

Pegmatites - Four small steeply dipping pegmatites over an area 300 feet by 60 feet.
No. 1 - 70 feet long and 2 to 40 feet wide.
No. 2 - 70 feet long by 10 to 20 feet wide.
No. 3.- 70 feet long by 5 to 25 feet wide.
No. 4 - 80 feet long by 5 to 10 feet wide.

Old workings #
No. 1 Pegmatite - Bulldozer cut 3 to 10 feet deep.
No. 2 Pegmatite - Bulldozer cut 6 feet deep.
No. 3 Pegmatite - Bulldozer cut about 6 feet deep.
No. 4 Pegmatite - Stripped area 0 to 4 feet deep.

Method of exploration - The applicants' exploration proposal consists of 1500 feet of trenching with a 6-foot by 6-foot cross-section chiefly in an area outside visible exposures of pegmatites. The applicants' extimated cost is $44,736.52.

Economics - The estimated gross value of the pegmatites mined is about $3.07 per ton which would not pay mining and transportation expenses at present and probable future prices. The estimated costs for exploration are excessive for a deposit that offers so little promise for improvement of mineral concentration.

Recommendations - Because the four pegmatites are small and of relatively low grade, the Field Team recommends denial of the application. The Nonmetallic Minerals Division of the DMEA, and commodity members of the Geological Survey and Bureau of Mines concur.

Walter C. Anderson

Walter C. Anderson
Nonmetallic Minerals Division

IN REPLY REFER TO:

~~Mr. Thomas~~
~~Mr. Anderson~~

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

August 16, 1955

Re: DMEA 3812
J. Colacci, et al.
Cojade Mine
Larimer Co., Colo.
$44,736.52 - Beryl, etc.

Memorandum

To: L. G. Houk, Defense Minerals Exploration Administration

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

Subject: Review of Field Team Report.

The findings of the examiners do not agree with the optimistic sketches of the application, and the conclusions are justified.

I concur with the denial recommendation of the Field Team.

N. E. Nelson

N. E. Nelson

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AUG 17 1955

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

August 10, 1955

Memorandum

To: L. G. Houk, Director, Non-Metallic Minerals Division, DMEA

From: Commodity-Industry Analyst, Branch of Rare and Precious Metals

Subject: Application for Exploration Aid, DMEA Docket No. 3812 (beryl)

Apparently the pegmatites are too small and low grade to warrent exploration. I concur with the Field Team recommendation that the application be denied.

Horace T. Reno

Horace T. Reno

Enclosure

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AUG 11 1955

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

RECEIVED
AUG - 5 1955

224 New Customhouse
Denver 2, Colorado

July 29, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Joint Report of Examination, DMEA Docket 3812 (Beryl-Mica), J. Colacci, Charles De Novellis and R. W. Jacoe, Cojade Mine, Larimer County, Colorado

Enclosed are the original and three copies of the report pertaining to the above application.

The examining team concludes that further exploration with DMEA assistance is not warranted on the property. They recommend that the application be denied.

We concur in this recommendation.

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
8-10-55
(date)

TRANSMITTED
JUL 29 1955

DMEA
Date Rec'd.
JUL 25 1955
BUREAU OF MINES
Denver, Colorado

RECEIVED
AUG - 5 1955

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
July 22, 1955

Region III

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw
E. N. Harshman

Subject: Docket number DMEA 3812, J. Colacci, Chas. DeNovellis and R. W. Jacoe, Cojade Mine, Larimer County, Colorado (Beryl, amblygonite, mica and feldspar)

Enclosed are the original and 8 copies of Summary, Conclusions, and Recommendations by C. M. Harrer, Mining Engineer and J. E. O'Rourke, Geologist and the original and 8 copies of a Joint Engineering and Geologic Report by C. M. Harrer and J. E. O'Rourke covering Docket number DMEA 3812.

J. Colacci, Chas. De Novellis and R. W. Jacoe applied for DMEA assistance to explore a pegmatite dike in the southeast quarter of Section 36, T. 5 N., R. 71 W., Larimer County, Colorado. The proposed exploration consited of three transverse trenches totaling 200 feet in length and spaced about 150 feet apart and three longitudinal trenches about 300 feet long and about 150 feet apart. The estimated cost of the project was $44,736.52. A field examination was made on July 1, 1955. The examining team concluded that there was little possibility of discovering a significant amount of beryl and it is recommended that the application be denied.

John F. Shaw
John F. Shaw
Supervising Mining Engineer

E. N. Harshman
E. N. Harshman
Member Field Team

JFS:jw

cc: 8 ✓
DMEA 3812
Chron.

Reviewed by
DMEA OPERATING COMMITTEE
8-10-55
(date)

RECEIVED
AUG - 5 1955

DMEA 3812

J. COLACCI, CHAS. DE NOVELLIS AND R. W. JACOE
GOJADE MINE
LARIMER COUNTY, COLORADO

Summary, Conclusions, and Recommendations

By

C. M. Harrer
Mining Engineer
Bureau of Mines

J. E. O'Rourke
Geologist
Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE
8-10-55
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3812

J. Colacci, Chas. DeNovellis and R. W. Jacoe

Cojade Mine

Larimer County, Colorado

Beryl, amblygonite, mica and feldspar

by

C. M. Harrer, Mining Engineer
Bureau of Mines

J. E. O'Rourke, Geologist
Geological Survey

July 14, 1955

Reviewed by
DMEA OPERATING COMMITTEE
8-10-55
(date)

TRANSMITTED
JUL 29 1955

DMEA 3812

RECEIVED
AUG - 5 1955

J. COLACCI, CHAS. DE NOVELLIS AND R. W. JACOE
COJADE MINE
LARIMER COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By C. M. Harrer and J. E. O'Rourke

An investigation of the Cojade property was made by a Defense Minerals Exploration Administration examining team on July 1, 1955 in the company of the applicants.

The applicants property consists of about 640 acres which comprises Section 36, T. 5 N., R. 71 W., in Larimer County, Colorado.

Four pegmatite dikes which trend N65° E occur in a zone 300 feet long by 60 feet wide. They are 70 to 80 feet long and 10 to 30 feet wide and closely parallel the foliation of the enclosing granitic gneiss.

The dikes are estimated to contain about 0.12 percent beryl, 0.17 percent amblygonite, 2 percent muscovite mica, and 10 percent feldspar which can be removed by hand cobbing and close sorting. A small amount of columbite-tantalite and gummite was also observed in amounts believed insignificant except for specimens.

Gross value of the pegmatite rock is estimated at $3.07 per ton which would not support a mining venture.

Ore reserves while incalculable are believed to be small.

The applicants proposed exploration program consists chiefly of prospecting an area outside visible exposures of pegmatites and trenching already exposed pegmatites which can be accomplished by the applicants during mining operations.

The applicants request for DMEA exploration assistance to complete 1500 feet of trenching of 6-foot by 6-foot cross section at an over all cost of $44,736.52 is recommended denied.

DMEA 3812

J. COLACCI, CHAS. DE NOVELLIS, AND R. W. JACOE
COJADE MINE
LARIMER COUNTY, COLORADO

Joint Engineering and Geologic Report

By

C. M. Harrer
Mining Engineer
Bureau of Mines

J. E. O'Rourke
Geologist
Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE

8-10-55
(date)

DMEA 3812

J. COLACCI, CHAS. DE NOVELLIS, AND R. W. JACOE
COJADE MINE
LARIMER COUNTY, COLORADO

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DMEA 3812

J. COLACCI, CHAS. DE NOVELLIS, AND R. W. JACOE
COJADE MINE
LARIMER COUNTY, COLORADO

JOINT ENGINEERING AND GEOLOGIC REPORT

By C. M. Harrer and J. E. O'Rourke

INTRODUCTION

Joseph Colacci, Charles De Novellis and R. W. Jacoe of Louisville, Colorado, a partnership, lease property containing the Cojade pegmatite mine. They have applied to the Defense Minerals Exploration Administration for assistance to explore further a pegmatite zone on their Colorado State land lease. They propose to explore pegmatite outcrops with three transverse trenches of 6-foot by 6-foot cross-section which will be 200 feet long and spaced about 150 feet apart. In addition, they propose to explore the pegmatite zone with three longitudinal trenches of 6-foot by 6-foot cross-section which will be 300 feet long and about 150 feet apart. They have estimated the over all cost of the project at $44,736.52.

Field examination of the property was made by a joint Geological Survey and Bureau of Mines team for the Defense Minerals Exploration Administration on July 1, 1955.

ACKNOWLEDGMENTS

Mss'rs Joseph Colacci, Charles De Novellis and R. W. Jacoe, applicants were contacted at Louisville, Colorado, and conducted the examining team over the property. J. W. Adams of the Geological survey, and a specialist on pegmatite occurrences, accompanied the examining team.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Cojade pegmatites (fig. 1) are in the southeast quarter of Section 36, T. 5 N., R. 71 W., in the southeast part of Larimer County, Colorado. The property is in rough terrain, about one mile south of Rattlesnake reservoir and at an altitude of about 6,900 feet above sea-level. The property is readily accessible by all weather roads from Loveland, the nearest town and 11 miles to the east. Water and power are readily available. The nearest railroad is at Wilds Spur just west of Loveland, Colorado. The cojade mine consists of about 4 small pegmatites trending east-west, on a gentle north slope.

HISTORY AND PRODUCTION

Pegmatite dikes have been known in the area for many years and small amounts of beryl have been collected intermittently and sold to small buyers. Michael Lyons, proprietor of Beryl Ores Company of Arvada, Colorado is the only source of production statistics. He reports that about 400 pounds of beryl were produced from the property in small quantities. In addition, he has a record of purchases of 1450 pounds of amblygonite ($Li\ Al\ (F, OH)\ PO_4$) during 1954 from Clark Edmonds a local rancher and part time miner. Examination also showed the presence of a few small crystals of columbite-tantalite however there is no record of any production. The pegmatites also contain pink feldspar and perthite and a small amount of muscovite mica. There are no records of any production of these.

OWNERSHIP AND EXTENT

Joseph Colacci of 912 Lincoln Avenue, Louisville, Colorado, possesses

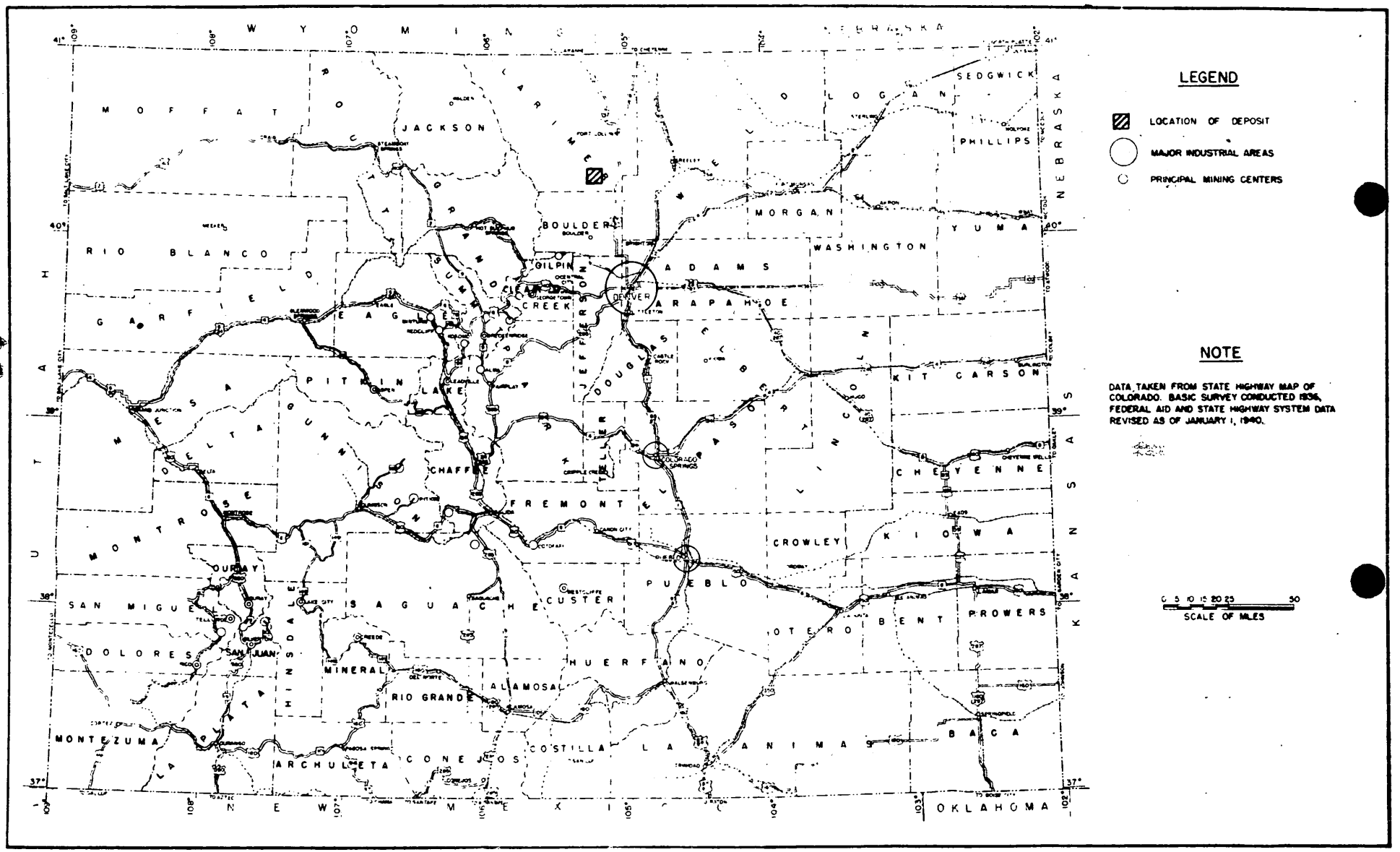

FIGURE 1 - LOCATION MAP, COJADE PEGMATITE MINE, LARIMER COUNTY, COLO. DMEA 3812

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AUG - 5 1955

a uranium-vanadium and other minerals lease on Section 36, T. 5 N., R. 71 W., 6th P.M., from the state of Colorado. This lease is dated December 15, 1954 and covers about 640 acres. It is in effect for 20 years and as long thereafter as minerals are produced in paying quantities. Joseph Colacci is in partnership with: Charles De Novellis of 916 Main Street, Louisville, Colorado; R. W. Jacoe of 1131 Jefferson Avenue, Louisville, Colorado, They are known as the Cojade Mining Company.

GEOLOGY

The largest productive pegmatite area near the Cojade prospect is the Crystal Mountain District about 15 miles to the northwest. Hanley, Heinrich and Page made the following observations about the area in their recent publication "Pegmatites in Colorado, Wyoming and Utah;" Professional Paper 227 (1950). The country rock is pre-Cambrian schists and quartzites. The pegmatites are similar in mineralogy and internal structure, with cores composed of quartz-pegmatite or quartz-microcline pegmatite and wall zones of quartz-albite-microcline-muscovite pegmatite. Both zones commonly contain beryl, but the crystals in the wall zone are usually fine grained and recoverable only by milling. Tantalite was mined in one deposit, spodumene in three deposits, and small amounts of uranium minerals in several pegmatites. A few prospects are said to contain minable quantities of mica and microcline. The average grade of beryl for the pegmatites in the Front Range is between 0.5 percent and 1 percent.

The four pegmatite dikes that make up the Cojade prospect appear to be confined to a zone about 300 feet long and 60 feet wide. The

zone trends N65° E, parallel to the strike of the steeply dipping foliation of the granitic gneiss country rock. The contacts of the pegmatites with the gneiss are indefinite and rarely sharp. They are obscured in many places by dumps and debris from the trenches although the moss of the bodies is well exposed. The attitude and internal structure of the dikes are difficult to determine, but size and form can be approximated by mapping float and grass root outcrops. The pegmatites are lenticular and appear to dip vertically or steeply to the north. They have cores of massive quartz or quartz-perthite and wall zones of quartz-albite-muscovite pegmatite. A dike may be either core or wall zone across its entire width in some places. Most of the existing trenches are in core, most of the untrenched outcrops are probably in wall zone.

The pegmatites (figure 3) have been numbered to facilitate descriptions Dike #1 strikes N75° E; the north contact dips 75°-80° N; the south contact is vertical. It is 70 feet long and from 2 to 40 feet wide. The average width is probably about 30 feet.

Dike #2 has an attitude of N75° W and dips 60° N. in the only exposed contact. It is exposed for 70 feet of its length and is 10 to 20 feet wide. Both ends of the body are covered by overburden, but extrapolation indicates that the concealed parts probably measure only a few tens of square feet.

Dike #3 strikes N70° W and dips steeply to the north. It is 70 feet long and 5 to 25 feet wide.

Dike #4 trends N80° E, is 80 feet long and 5 to 10 feet wide.

About 400 pounds of beryl has been mined at the prospect, mostly from pegmatites 1 and 2 (fig. 3). Little beryl is now visible in places,

but ;it appears to have occurred as pale green euhedral crystals about 1-inch in diameter and as irregular masses up to 1-foot wide. It is found unevenly distributed in both wall zones and cores, but most of the crystals in the wall zones are probably too small to be hand cobbed and sorted. About 1500 pounds of amblygonite is said to have been extracted from dike #1. A few crystals of columbite-tantalite and gummite-bearing triphylite have been found.

MINABLE ORE RESERVES

Four small and steeply dipping pegmatites (figs. 1 and 2) occur on the Cojade property in a zone about 300 feet long by 60 feet wide. These dikes are estimated to contain about 43 tons of pegmatite rock per foot of depth. The depths are unknown. The dikes consist principally of quartz, feldspar, granitic material, some muscovite which occurs as small and distorted clusters and as fine crystals, and a small amount of beryl, amblygonite, columbite-tantalite, and gummite.

On the basis of past production and field observations, the dikes are estimated to contain about:

0.12 percent beryl in crystals and irregular masses;

0.17 percent amblygonite in irregular masses;

2.0 percent muscovite mica recoverable as small masses;

10.0 percent feldspar;

very little columbite tantalite and gummite as small occassional crystals and masses.

Quartz occurs as large masses, as a component in granitic material,

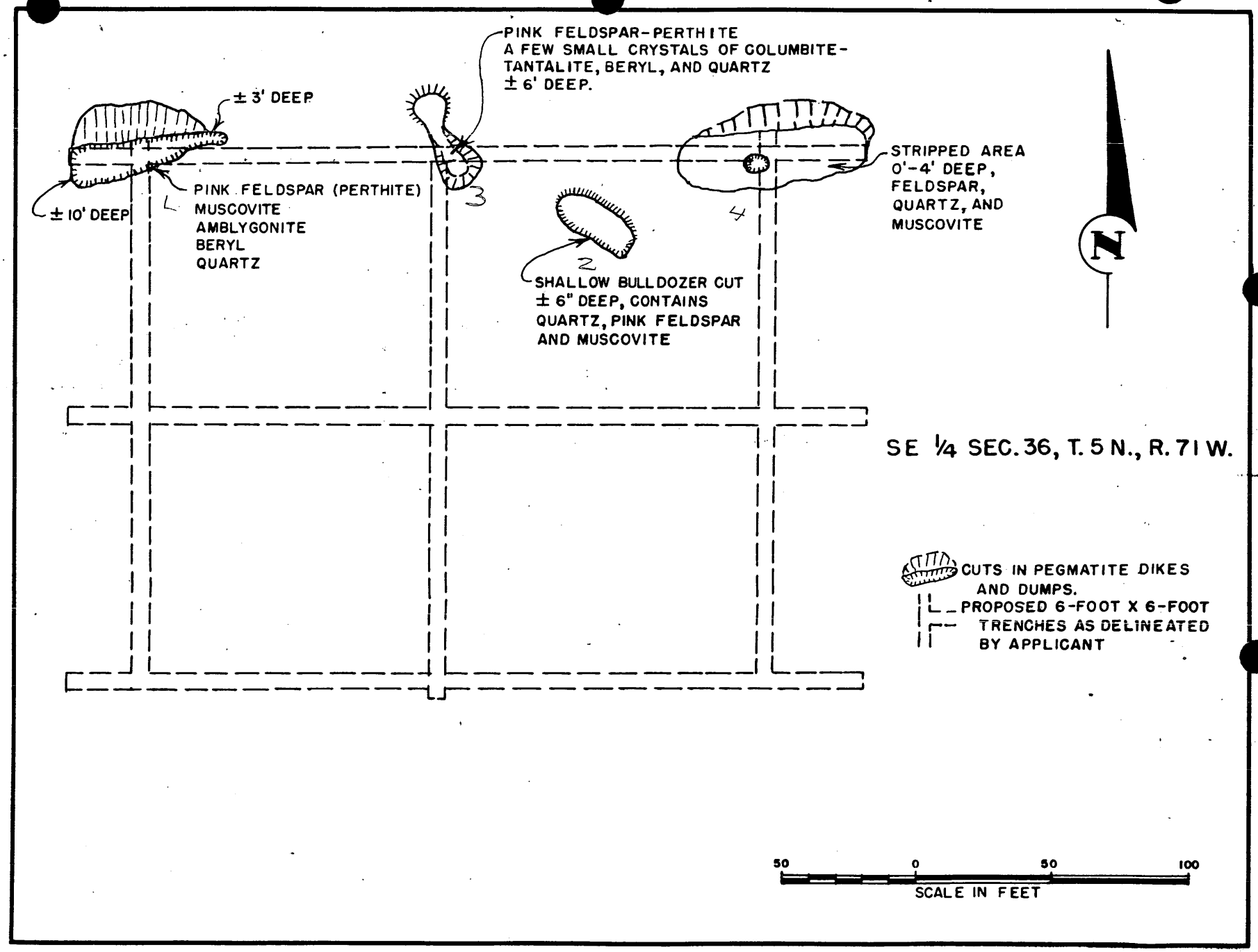

FIGURE 2 – MAP OF EXISTING AND PROPOSED EXPLORATION, COJADE PEGMATITE MINE, LARIMER COUNTY, COLO.
DMEA 3812

and as blebs and various sized masses contaminating the feldspar component of the dikes.

The various mineral components of the dikes are valued as follows:

Mineral Component	Gross price, per pound	Approximate gross value per ton of dike rock
Beryl	$0.18	$0.43
Columbite-tantalite	---	negligible
Amblygonite	$0.60	$2.04
Muscovite mica	$0.01	$0.10
Feldspar	$0.0025	$0.50
Gross value of recoverable minerals per ton of dike rock		$3.07

The estimated gross value of the pegmatites per ton of rock mined is about $3.07, which would not pay mining and transportation expenses at present and probable future prices.

The possibility that concentrations of the valuable minerals within the dikes may improve over estimated content to a point where they could be recovered in a profitable enterprise is doubtful.

Ore reserves cannot be estimated because the depths of the dikes are unknown. Depths are believed small on the basis of their exposed widths and lengths.

PRESENT STATUS

Exploration and development

Pegmatites at the Cojade mine have been partly exposed by two cuts a shallow pit and two stripped areas as shown on figure 2. The bottoms of the cuts were partly back-filled.

Mining, Milling and other facilities

There are no mining, milling and other facilities on the property. All mica, feldspar, beryl, amblygonite, gummite and columbite-tantalite must be hand sorted and trucked to Denver about 64 miles distant.

PROJECT PROPOSALS AND COSTS

The applicants, known as the Cojade Mining Company, propose to explore a pegmatite zone on their property with three transverse trenches and three longitudinal trenches as shown on figure 2. Exploration will consist of 1500 feet of trenching with a 6-foot by 6-foot cross-section. They estimate the costs of exploration as follows:

Independent Contracts		Costs
Bulldozer rental to strip trench sites - 200 hours at $6.25 per hour.		$1,350.00
Labor, Supervision and consultants		
1 - Supervisor 200 days at $24 per day	$4,800.00	
2 - Miners 200 days at $16.40 per day	6,560.00	
2 - laborers 200 days at $15.00 per day	6,000,00	
1 - legal consultant 10 months at $100 per month	1,000.00	
1 - Geologist 5 days at $40 per day	200.00	
		$18,560.00

The geologist and legal consultant are not allowable expenses in this case. Laborers would hand sort valuable components of the pegmatite for sale.

Operating Materials and Supplies	
Blasting supplies 200 days at $10.00 per day.	$2000.00
5-ballot forks for sifting	40.00

5-shovels	20.00	
1-wheelbarrow	25.00	
2-pinch bars	16.00	
2-lifting Jacks	50.00	
1-chain	25.00	
2-locks	10.00	
Oil and grease	1500.00	
Fuel 200 days at $25.00 per day	5000.00	
Total		$8,686.00

These costs are for mining the pegmatite exposed in the trenches and preparing its products for sale.

Operating Equipment		
Purchase one compressor	$2,500.00	
One Mobile loader	2,500.00	
One truck	2,500.00	
Two rock drills	1,200.00	
Drill steel	200.00	
Drill bits	150.00	
Hoses	150.00	
Storage tank for gasoline	125.00	
		$9,325.00
New Buildings, Improvements, etc.		
Erect powder shack	$ 500.00	
Tool and ore shed	450.00	
Cap storage shed	50.00	
Total		$1,000.00
Miscellaneous		
Analytical work	$ 500.00	
Accounting 18 months at $100 per month	1,800.00	
Workmens Compensation	1,055.12	
Payroll tax	260.40	
Repairs and maintenance	1,200.00	
		$4,815.52
Contingencies		$1,000.00
Total cost of project		$44,736.52

The above costs are excessive and no exploration project is recommended.

PROPOSED FINANCING

The applicants are prepared to fulfill any financial obligations of an exploration program.

CONCLUSIONS

Four small pegmatites 70 to 80 feet long and 10 to 30 feet wide occur in an area about 200 feet long by 60 feet wide. They are small and relatively low grade.

The valuable mineral components of the dikes are estimated as 0.12 percent beryl, 0.17 percent amblygonite 2 percent muscovite mica, and 10 percent feldspar. Gross value of the dike rock is estimated at $3.07 per ton, which is insufficient to sustain a profitable mining venture.

While reserves cannot be estimated, they will probably be small.

The applicant's exploration proposal to cross cut the known pegmatite area, which is about 60 feet wide, with 200 foot long trenches is prospecting for pegmatites with no surface indications.

His 300 foot long transverse trenches are not allowable since two of them would be placed in positions which show no visible indications of pegmatites and the trench along the already exposed pegmatites is unnecessary. The four known pegmatite exposures are sufficiently delineated and any further information can be gathered from a small amount of mining.

Further exploration with DMEA assistance is not warranted on this property.

RECOMMENDATIONS

It is recommended that this application for DMEA exploration assistance be denied.

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

RECEIVED
JUN - 7 1955

224 New Customhouse
Denver 2, Colorado

June 1, 1955

Memorandum

To: J. F. Shaw W/Brochure
E. N. Harshman

From: DMEA Field Team, Region III

Subject: DMEA-3812 (Beryl), Joseph Colacci, Charles DeNovellis, and R. W. Jacoe (Cojade mine), Larimer County, Colorado

Enclosed are copies of the subject application for a loan of $44,736.52, its referral by the Chairman of the Operating Committee, and reviews by N. E. Nelson, USGS, and Horace T. Reno, USBM, to L. G. Houk, Director, Non-Metallic Minerals Division, DMEA; also a copy of a letter dated May 26, 1955 from the Administrator to the Applicants.

A field examination and suitable covering reports are required. At the time of examination, if a project is to be recommended, the subject of subordination of the State of Colorado land should be discussed with the Applicants or their representative.

W. M. Traver
W. M. Traver

E. N. Harshman
E. N. Harshman

Enclosures

WMT:sr

cc Sec. Op. Comm. (2)
Harshman
Subject
Chron

Docket Copy
Surname:
Anderson
Houk
Selfridge
Tolman

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

MAY 26 1955

Mr. W. M. Traver
Executive Officer, DMEA
Field Team, Region III
Bureau of Mines
224 New Customhouse Bldg.
Denver 2, Colorado

Subject: Docket No. DMEA-3812 - Beryl
Joseph Colacci, Charles
DeNovellis and P. W. Jacoe
Cojade Mine
Larimer County, Colorado

Dear Mr. Traver:

Please review the subject application and arrange for a field examination if you deem it necessary.

Copies of memoranda from N. E. Nelson of the Geological Survey, dated May 19, 1955, and from Horace T. Reno of the Bureau of Mines, dated May 19, 1955, are enclosed for your information.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Approved:

J. H. Hedges (JHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (THK)
Member, Geological Survey

Enclosures 4

WCAnderson:gad 5/24/55
Copy to: Admr. R. File
Docket
Operating Committee
Mr. Reno, 3641A
Mr. Kiilsgaard, 5222
Mr. Houk

R.C.h.

Docket Copy
Surname:
Anderson
Houk
Kiilsgaard
Selfridge
Ferguson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

MAY 26 1955

Messrs. Joseph Colacci, Charles DeNovellis
and P. W. Jacoe, Partners
912 Lincoln Avenue
Louisville, Colorado

Re: Docket No. DMEA-3812 - Beryl
Joseph Colacci, Charles
DeNovellis and P. W. Jacoe
Cojade Mine
Larimer County, Colorado

Gentlemen:

Your application for assistance in exploring the subject property has been reviewed by the Nonmetallic Minerals Division of the Defense Minerals Exploration Administration and has been referred to Mr. W. M. Traver, Executive Officer, DMEA Field Team, Region III, Bureau of Mines, 224 New Customhouse Building, Denver 2, Colorado, for further consideration and possibly a field examination.

Please be advised that in the case of an applicant being a lessee, it is a requisite that the Government be furnished an Owner's Consent to Lien. If the lessor, the State of Colorado, will not sign an Owner's Consent to Lien, then, in the event a contract is recommended it will be necessary for you to furnish a bond or third person guaranty to secure the payment of royalty.

The Regional Office will contact you at an early date if an examination is to be made. Any assistance that you may give the members of the field team during the examination will be appreciated.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

WCAnderson:gad 5/24/55
Copy to: Admr. R. File
Docket
Field Team, Region III
Mr. Reno, 3641A
Mr. Kiilsgaard, 5222
Mr. Houk
Operating Committee

R.A.H.

Anderson

IN REPLY REFER TO:

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

May 19, 1955

Re: DMEA-3812
Jos. Colacci, Chas. DeNovellis & P. W. Jacoe
Cojade Prospect
$44,736.52 - Beryl

Memorandum

To: L. G. Houk, Defense Minerals Exploration Administration

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

Subject: Review of application

If the sketches of this application are correctly interpreted a real beryl find may have been made. It is not apparent how beryl, designated by the diamond symbols, was found in a number of places where the dirt seems to be 6 feet deep.

Probably the full program of the application has yet to be justified, but an examination and report by the Field Team are warranted and so recommended.

N. E. Nelson

N. E. Nelson

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

Defense Minerals
RECEIVED
MAY 19 1955

May 19, 1955

Memorandum

To: L. G. Houk, Director, Non-Metallic Minerals Division DMEA

From: Commodity-Industry Analyst,
Branch of Rare and Precious Metals Branch

Subject: Application for Aid in an Exploration Project,
DMEA Docket No. 3812 (beryl)

It is recommended that subject application be referred to the Field Team for an examination of the property. Attention should be directed to the small quantity of bulldozer work proposed in relation to the total quantity of labor.

Horace T. Reno

Horace T. Reno

May 18, 1955

Subject: DMEA-3812
Re: Exploration Assistance
Cojade

Joseph Colacci, Charles DeNovellis
and P.W. Jacoe, Partners
912 Lincoln Ave.,
Louisville, Colorado

Gentlemen:

The receipt of your application dated May 12, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3812 and referred to the Non-Metallic Metals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED MAY 16 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. 3812
Metal or Mineral Beryl
Date Received 5-16-55
Estimated Cost 44,736.52
Participation (Government %) 25

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: Joseph Colacci 912 Lincoln Ave. Louisville, Colo.
Charles DeNovellis 916 Main St. Louisville, Colo.
P.W. Jacoe 1131 Jefferson Ave. Louisville, Colo.
Partnership

(*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 State Land Section 36 T5N R 71 West

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

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

(*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. See enclosures

(*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 Beryl

(*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 30 days and be completed within 18 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?

[*] 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 May 12, 1955

Cojad Mining Co.
(Applicant)

By Joseph Colacci
Charles Demorselli
P. W. Gaen

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

4 (a)

To date 50 ft. has been opened up consisting mainly of two shallow surface cuts 4 to 6 ft. wide and averaging 6 ft. in depth as exploratory work. 500 sq. ft. in two different places were scraped by a bulldozer to remove surface dirt. This work was performed by the lessees. Equipment for these operations was rented. The workings are open and easily accessible for examination.

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4 (b)

The surface work has produced about 400 lb. of pure beryl.

4 (c)

A dyke or series of dykes exists. Beryl was found (not float) on the surface in an area at least 500 ft. by 600 ft. Although a full section has been leased, this one area is all that has been prospected. The beryl found was bedded. This property is in beryl producing country and all indications point this may be one of the largest beryl producing operations found in this area. This is the opinion of several experts on this type of operation.

4

4 (d)

All-weather road is present to within ½ mi. of the property. There is a good road in from there by right of way. It is located 11 mi. west of Loveland Colo. (pop. 6000) where there is a railroad. Supply and residence facilities are excellent.

4 (e)

Experienced manpower is locally available. Supplies, material, and equipment available in Loveland or Denver (52 mi.) There is a lake within ¼ mi. of workings and U.S. Government hi-power lines are within 100 ft. of the site.

5 (b)

See enclosed sketch. It is proposed to explore a large area by the series of cuts outlined.

5 (d)

Joseph Colacci 7 yrs. experience mining
Charles DeNovellis 20 yrs. experience mining (supervisor)
P. W. Jacoe Graduate Chemical Engineer Deputy State mine inspector

6 (a) Independent contracts

Bulldozer and operator to prepare surface
$6.25 per hr. estimated 200 hrs. $1350 total

6 (b) Labor, Supervision, Consultants

1 Supervisor $24 per day estimated 200 days	$4800
2 Miners $16.40 per day estimated 200 days	$6560
2 Laborers $15.00 per day estimated 200 days	$6000
1 Legal consultant $100 per month estimated for 10 months	$1000
1 Geoligist $40 per day estimated 5 days	$ 200
Total	$18,560

6 (c) Operating Materials and Supplies

Powder and caps Estimated at $10 per day for 200 days		$2000
5 Ballot forks	$8 each	$ 40
5 Shovels	$4 each	$ 20
1 Wheelbarrow	$25	$ 25
2 Pinch bars	$8 each	$ 16
2 Lifting jacks	$25 each	$ 50
1 Log chain	$25	$ 25
2 Locks	$5 each	$ 10
Fuel Estimated at $25 per day for 200 days		$5000
	Total	$7186

6 (d) Operating equipment

Purchase one compressor		$2500
Purchase mobile loader		$2500
Purchase truck		$2500
2 Jack hammers	$600 each	$1200
Drill steel		$ 200
Drill bits		$ 150
Compressor hose		$ 150
	Total	$9200

6 (e) Rehabilitation and repairs

None

6 (f) New buildings, improvements, installations

Erect powder shed	$500
Erect tool and ore shed	$450
Cap storage shed	$ 50
Total	$1000

6 (g) Miscellaneous

Analytical work		$ 500
Accounting estimated at $100 per month for 18 months		$1800
Workmens compensation	State scale	$1055.12
Payroll tax		$ 260.40
Oil and grease	estimated	$1500
Repairs and Maintenance	estimated	$1200
Storage tank for gasoline		$ 125
	Total	$6440.52

6 (h) Contingencies

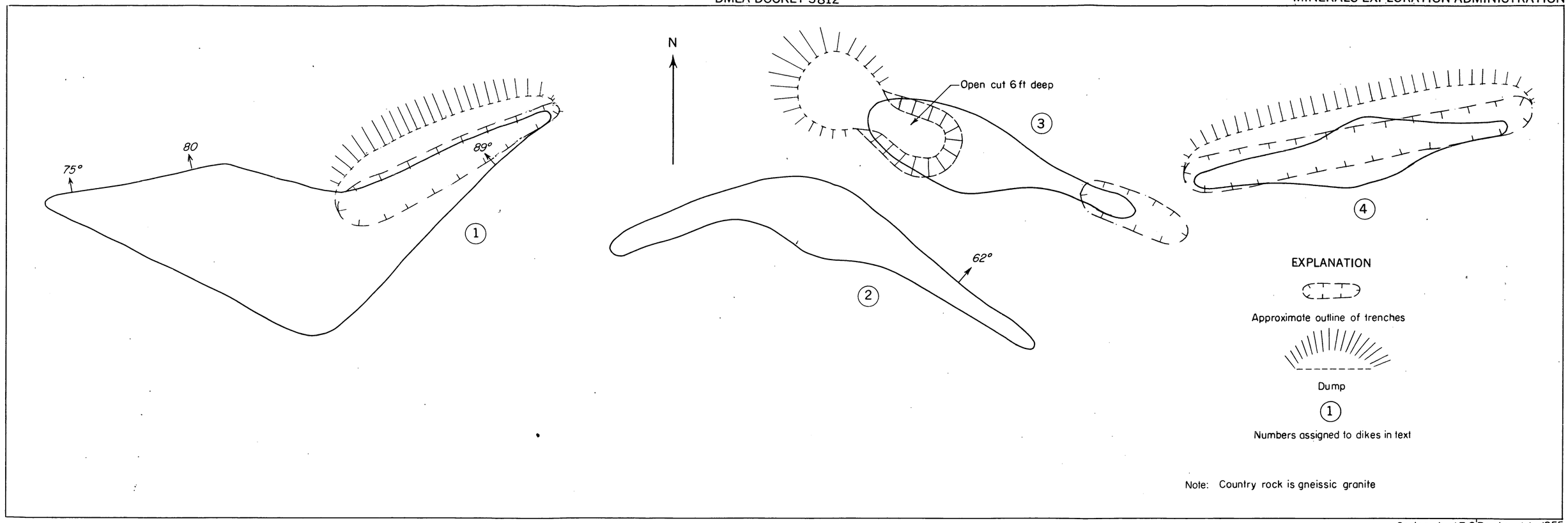
Estimated $1000

GRAND TOTAL $44,736.52

7 (a) Yes

7 (b)

We are prepared to fulfill financial obligations necessary to promote this project to full advantage. Under the submitted plan the bulk of the share of the cost by us will be supplied in labor



Geology by J.E. O'Rourke July, 1955

FIGURE 3 PLAN MAP OF PEGMATITE OUTCROPS COJADE PROSPECT, LARIMER COUNTY, COLORADO.

20 0 20 40 Feet

RECEIVED
AUG - 5 1955

FORM 226
REV 10 54

STATE OF COLORADO

MINING LEASE No. [illegible], Book 16

1. THIS MINING LEASE, Made and entered into this [illegible] day of [illegible], 19[illegible], by and between THE STATE OF COLORADO, acting through its State Board of Land Commissioners, hereinafter referred to as "Lessor," and [illegible], hereinafter referred to as "Lessee".

2. NOW, THEREFORE, Lessor, for and in consideration of the sum of [illegible] Dollars ($[illegible]) as rental for the first year hereof, receipt of which is hereby acknowledged, and the further payment of an equal sum on or before each anniversary of the date hereof, as annual rental for the ensuing year, which Lessee hereby covenants and agrees to pay so long as this lease shall remain in effect, and in further consideration of the covenants and agreements hereinafter mentioned, to be kept and performed by the Lessee, its successors and assigns, has demised and leased to the Lessee the right and privilege of mining, for and taking [illegible] and other minerals of value that can be profitably in the process of mining and milling the same, from the lands hereinafter described, situate, lying and being in the County of [illegible] and State of Colorado, to-wit:

Township [illegible], Range [illegible], [illegible] P. M.

Section [illegible]

Containing [illegible] acres more or less.

Together with the right to use such of the surface thereof as may be found to be required in the exercise of the rights and privileges herein granted, subject to the rights of patentees of said premises, where the land herein leased or any part thereof has been patented and mineral rights reserved to the State of Colorado.

3. Reserving, however, to the State of Colorado:

a. The rights to all peat, coal, petroleum, oil, gas, naphtha, asphaltum, and kindred substances.

b. The right to use the said premises, or any part thereof, at any time, for any purpose other than the rights and privileges herein specifically granted.

c. The right at all times during the life of this lease to go upon said premises and every part thereof for the purpose of inspecting same and the books of account and records of mineral workings therein, and of ascertaining whether or not said Lessee and those holding thereunder, by and from it, are carrying out the terms, covenants and agreements in this lease contained.

d. Reserving all rights and privileges of every and what-soever kind or nature not herein expressly granted.

4. TO HAVE AND TO HOLD the above described premises, with the appurtenances, unto the Lessee and the heirs, assigns, successors or legal representatives of Lessee, from 12:00 noon on the [illegible] day of [illegible], 19[illegible], for the full term of twenty (20) years and until 12:00 noon on the [illegible] day of [illegible], 19[illegible], and as long thereafter as the mineral hereinabove designated or other minerals of value are being produced in paying quantities from said premises and the royalty and rents provided for herein are being paid, subject to the following terms, conditions and agreements, to-wit:

5. A minimum and advance royalty, without relation to the amount of the minerals of value mined from the leased premises, the Lessee shall pay to the Lessor during the continuance of this lease, the following amounts:

Lease Year	Minimum Royalty	Lease Year	Minimum Royalty
1st year	$ [illegible]	11th year	$ [illegible]
2nd year	$ [illegible]	12th year	$ "
3rd year	$ [illegible]	13th year	$ "
4th year	$ [illegible]	14th year	$ "
5th year	$ [illegible]	15th year	$ "
6th year	$ [illegible]	16th year	$ [illegible]
7th year	$ "	17th year	$ "
8th year	$ "	18th year	$ "
9th year	$ "	19th year	$ "
10th year	$ [illegible]	20th year	$ "

6. In the event that said Lessee shall not extract from said premises said minimum amounts above specified during each lease year of the term of this lease, it is nevertheless understood that the above sums of money are royalties for the years stated, and are due and payable to the Lessor whether minerals are mined or not during such year, but that such minimum advance royalty shall be credited upon the first royalties due as hereinafter provided for minerals actually produced from said premises and sold or milled during the year for which such minimum royalty was paid. Provided, however, that the minimum royalties herein provided, and the rate of royalty to be paid on all such minerals mined shall at all times be subject to revision, either by increase or decrease, when so authorized and directed by statute enacted by the General Assembly or by the People under the initiative power reserved to them by them by the Constitution.

7. Lessee covenants and agrees that during the continuance of this lease he will fully comply with all of the provisions, terms and conditions of all laws, whether state or federal, and orders issued thereunder, which may be in effect during the continuance hereof relating to the operations of Lessee under this lease, and the marketing of any product thereof, or labor relations in connection with such operations or marketing.

8. The Lessee shall mine and extract from the demised premises the mineral hereinabove designated and other minerals that can be extracted in the process of mining and milling such mineral, so as to procure the greatest net return per ton of ore mined, regardless of the principal type of ore which shall yield such return.

9. Lessor reserves as royalty, and Lessee agrees to pay to Lessor on or before the 20th day of each month hereafter, the following amounts:

a. An amount equal to [illegible] percent of the gross value delivered to the mill at which sold, of all uranium or thorium or other materials which have been or may hereafter be determined by the Atomic Energy Commission to be peculiarly essential to the production of fissionable materials, produced from the leased premises and sold during the preceding month, whether the same is mined or produced as the principal mineral for which this lease is granted, or is produced, or saved in the process of mining or milling the principal mineral for which this lease is granted.

b. An amount equal to [illegible] percent of the gross value delivered at the mill of any mineral not covered in the preceding paragraph 9-a the right to mine or remove which is herein given which is produced from the leased premises and sold or milled during the preceding month, whether the same is mined or produced as the principal mineral for which this lease is granted, or is produced, or saved in the process of mining or milling the principal mineral for which this lease is granted; provided that as used in this paragraph, where minerals or ores are milled at a mill owned or operated by Lessee, the words "value delivered at the mill" shall mean: Where the mill to which such mineral is delivered is a custom or commercial mill, the amount which would actually be paid by such mill for mineral of equal quantity and assayed value up to the [illegible] upon the same day, from any person other than Lessee; where the mill to which such mineral is delivered is a private mill owned and operated by Lessee for the milling of such mineral produced by Lessee, the amount which would actually be paid by the [illegible] of commercial mill for mineral of equal quantity and assayed value purchased [illegible] the same day.

10. Royalty payments shall be made and shall apply to any bonus [illegible] by the Lessee on any mineral so sold or milled. The minerals mined from the leased premises [illegible] commercial plant or mill owned and operated by Lessee. They may not be [illegible] from other properties until they have been crushed and sampled by the mill [illegible] determine, the hereinabove designated mineral and other minerals contained in the crude [illegible] shall be assayed at the laboratory used by the mill where ore is milled, and [illegible] certificate showing the contents of each day's delivery to mill. In addition to [illegible] day's composite sample for testing, provided, however, [illegible] of more than sixty (60) days. In the event of a dispute as to assays, the [illegible] composite sample shall be referred to an umpire acceptable to [illegible] umpire shall be binding upon both parties. The net weight of the crude ore [illegible] be determined at the scales at the mill. Lessee shall have the right to [illegible] advisable. Lessee shall furnish Lessor with duplicate scale weight [illegible] be held accountable to see that the foregoing provisions are carried out [illegible] minerals produced from the premises herein demised.

11. On or before the 20th day of each and every month during the term [illegible] a sworn report to the Lessor in which shall be entered and set down the [illegible] erals of value mined on said premises during the [illegible] calendar month [illegible] set forth the tonnage as shown by the miners' production reports, and [illegible] the Lessee of such minerals of value. The report [illegible] whether [illegible] ing the month for which the report is made. In the event that no mining [illegible] the report is made, such report shall contain a complete statement of the [illegible] the month.

12. The Lessee shall have the right to mine, [illegible] and transport ore [illegible] through other lands now or hereafter owned or leased by the Lessee, and [illegible] port ores mined by the Lessee from other lands owned or leased by the Lessee [illegible] covered by this lease; provided, that the ores mined from other lands are in no event [illegible] from these leased premises, except as provided in Paragraph 10 herein.

13. The Lessee further agrees to hold the Lessor harmless for any and all [illegible] arise from the operation of said leased premises by Lessee, whether from soil or [illegible] any other cause or any other nature so ever; this [illegible] shall be binding [illegible] assigns, successors and legal representatives of Lessee, and shall be a continuing [illegible] the expiration of this lease, so long as any possibility of soil or surface subsidence [illegible].

14. In the underground and open pit workings, all shafts, inclines and [illegible] (when good mining requires timbering) and all parts of workings, where [illegible] be kept free from water and waste material, as in ordinary operations. The [illegible] pit workings shall be protected against fire and floods and the crops and [illegible] they shall be checked in a manner which is in keeping with good methods of mining. [illegible] ing shall be used as shall insure the extraction of the greatest possible amount [illegible] ent with good mining methods.

15. Lessee shall be liable and agrees to pay for all damages to the surface of the land, including crops or improvements caused by Lessee's operations on said lands. It is agreed and understood that [illegible] ations shall be commenced on the lands hereinabove described unless and until the Lessee [illegible] shall have filed a good and sufficient bond with the Lessor in an amount to be fixed by Lessor to secure the payment for such damage to the surface of the land, livestock, growing crop or improvement [illegible] be caused by Lessee or his assignee's operations of said lands and to secure compliance with all the provisions, conditions, covenants and obligations of this lease and the statutes of the State of Colorado and rules and regulations thereto appertaining.

16. It is agreed that during all proper hours and at all times during the continuance of this lease the Lessor, by its Superintendent of the Mineral Department or by its duly authorized agent or agents, shall be, and hereby is authorized to check scales as to their accuracy, to go through any of the logs, entries, shafts, openings or workings on said premises, and to examine, inspect and survey the same and to examine and make extracts or copies of all books and weight sheets which show in any way the mineral output of the leased premises, and that all conveniences necessary for said inspection, survey or examination shall be furnished to the Lessor, its Superintendent of the Mineral Department or its agent or agents by the Lessee.

17. It is agreed that the Lessee, while using any diamond, churn or other drill on said premises during the term of this lease, shall keep an accurate log of all work so done and performed, showing the geological formations penetrated, the depth or thickness of each, the mineral character of each, especially mineral veins and strata, their elevations, the location of same by tying to a corner of some legal subdivision or, in unsurveyed territory, to some bench mark or other officially established point, established by the United States surveys, and each and every thing necessary to make and supply a perfect and complete log of the hole throughout its entire depth, a true copy of which said log shall be furnished the Lessor when and at the time such holes are drilled or at any time thereafter upon demand of the Lessor.

18. A map of the mine shall be made yearly by an engineer or surveyor duly licensed by the State of Colorado, on a scale of not less than 100 feet nor more than 200 feet to the inch, showing the dimensions of ore vein, a permanent hub with center point at the top of the shaft or the face of the slope, at each elevation and at each angle, at side entries, stopes, rooms or drifts, showing elevation of same and latitude and departure and date established, each point taken from a true meridian established on the surface; and shall bear the

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name or number of the mine; its location as to county, section, township, and range, the name of the company or owner; the north point; the scale to which the map is drawn and explanatory legend; and the certificate of the engineer or surveyor as to its accuracy.

19. Mine maps and plans hereinbefore mentioned shall be extended and corrected at least once each year. True copies of all maps and plans shall be provided as follows: The original maps and tracings to be kept in the office of the engineer or surveyor, blue or white prints certified to by engineer to be on file, one at the office at the mine, one at the office of the Mineral Superintendent of the State Board of Land Commissioners, Capitol Building, Denver, Colorado.

20. Lessor reserves the right to grant rights of way over said premises for public roads, railroads, power, telegraph, telephone, ditches, and canal lines, or lease the above described lands for any other purpose than the one specified herein, which such grants or leases shall be so made as not to interfere with the operation of this lease, and so as to require the grantees of such rights to assume all risk resulting therefrom.

21. Any notice required or permitted to be given to the Lessee under the provisions of this lease shall be sent by registered mail, addressed to Joseph Colacci, 912 Lincoln Avenue, Louisville, Colorado

Such service of notice by mail shall be sufficient and in full compliance with the terms of this lease.

22. In the event this lease is terminated by forfeiture, surrender or the expiration of term, the Lessee may, subject to the provisions of Paragraph 26 hereof, remove all improvements and equipment from the said premises within nine (9) months from the date of such termination, and such removal shall be accomplished without unnecessary waste or injury to the premises. All improvements and equipment remaining on the leased premises nine months after the termination hereof shall be forfeited to the State of Colorado, without compensation.

23. This lease may be surrendered by the Lessee at the expiration of any lease year, upon three (3) months' written notice to Lessor, of Lessee's intention to surrender, and upon payment of all rents and royalties due and payable to Lessor, and performance of all obligations required herein to the end of such lease year; notice given by Lessee of intention to surrender under the provisions hereof shall operate as an election to surrender at the end of such lease year, and shall not be withdrawn by Lessee without consent of Lessor; it being understood and agreed that should this lease be so surrendered by the Lessee, or should this lease be cancelled by Lessor as hereinafter provided, or should this lease be terminated in any manner, advance rentals and minimum royalties which shall have been paid in or shall have become due hereunder shall be and remain the absolute property of the Lessor, regardless of the amount of ore mined during the term of this lease under the terms hereof and regardless of the length of unexpired term of this lease.

24. All the conditions, covenants and agreements in this lease contained shall be binding upon the heirs, assigns and successors of the Lessee.

25. The Lessee, before commencing work under the provisions of this lease, or sub-leasing, contracting or subcontracting any of the work, shall procure Workmen's Compensation Insurance, as required by the Workmen's Compensation Act of Colorado, and shall at all times keep such compensation insurance in full force and effect, and shall furnish the Lessor with premium receipts or other satisfactory evidence of Lessee's compliance with this requirement; and a failure of the Lessee strictly to comply with this requirement shall subject this lease to cancellation at the option of Lessor as hereinafter provided.

26. It is agreed that if for any reason the Lessee shall fail to keep each and every one of the covenants herein, and such default shall continue for a period of sixty (60) days [illegible] of written notice thereof upon the Lessee by the Lessor, the Lessor shall have the right to [illegible] and to enter onto the leased premises, or any part thereof, either with or without process of law, and to expel and put out the Lessee or any person occupying the premises [illegible] In the event of the termination of this lease by reason of default [illegible] the Lessee shall surrender and peaceably deliver up to the Lessor the above [illegible] shall be in good mining condition. If, upon termination of the lease [illegible] forfeiture or expiration of term or otherwise, Lessee shall not have fulfilled the terms of this lease, Lessor shall hold and retain possession of the premises [illegible] unto Lessor for the payment of rent and royalty [illegible] against any loss or damage [illegible] Lessor is hereby given a lien upon all of such property [illegible] as the same are placed upon the premises. In the event [illegible] by Lessee, Lessor may itself be a purchaser at any [illegible] Upon the termination of this lease for any cause, if the Lessee shall remain in the [illegible] shall be guilty of an unlawful detainer under the statutes in such cases made and provided [illegible] shall be subject to all the conditions and provisions thereof and to eviction and removal [illegible] with or without process of law, as above provided.

27. Lessee shall pay all taxes lawfully assessed on property of Lessee located on the leased premises.

28. Lessee shall furnish corporate surety bond from time to time as required by Lessor and in form and amounts satisfactory to the Lessor, which bond shall be conditioned upon the performance by Lessee of its obligations as provided in Paragraph 15 hereof, and any such bond shall run to the State of Colorado and to any individual or individuals as may be determined by Lessor.

29. No assignment or transfer of this lease will be held valid by Lessor, unless made with its consent in writing and duly entered in the books of record of said Board.

30. The benefits and obligations of this lease shall extend to and be binding upon the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

31. IN WITNESS WHEREOF, the Lessor has caused these presents to be executed in duplicate by the State Board of Land Commissioners and sealed with the official seal of said Board, and the Lessee has hereunto set his hand and seal, all on the day and year first above written.

Recommended to the Board:

STATE BOARD OF LAND COMMISSIONERS

President

Register

Engineer

Lessee

Lessee

Lessee

Federal Aviation Administration
RECEIVED
MAY 2 0 1955

5-B.

N- Top.

A B C } are 300' long
6' high
6' wide
150' apart

E F G } are 200' long
6' high
6' wide
150' apart.

5-D-R.

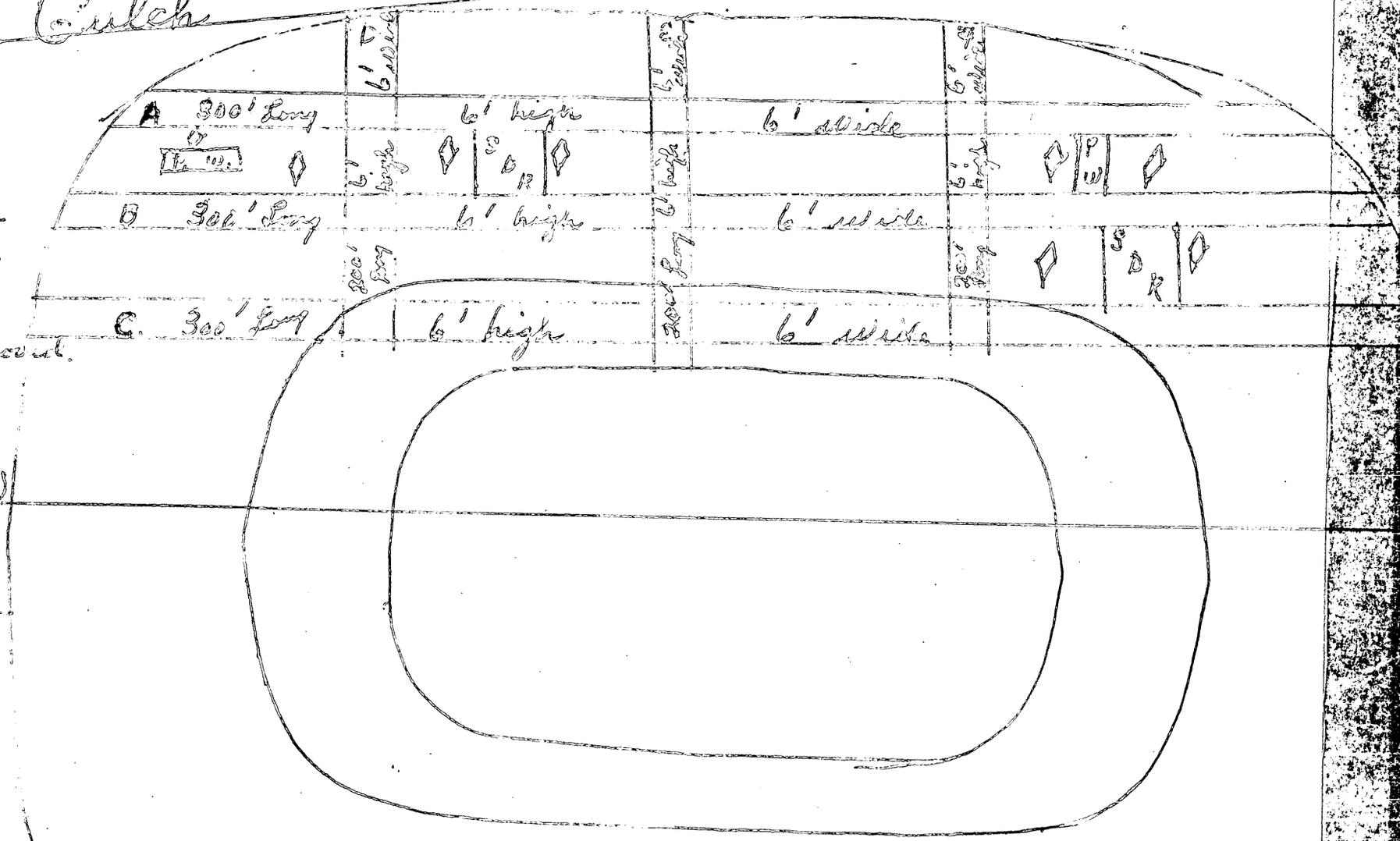
Surface Dirt Removal.

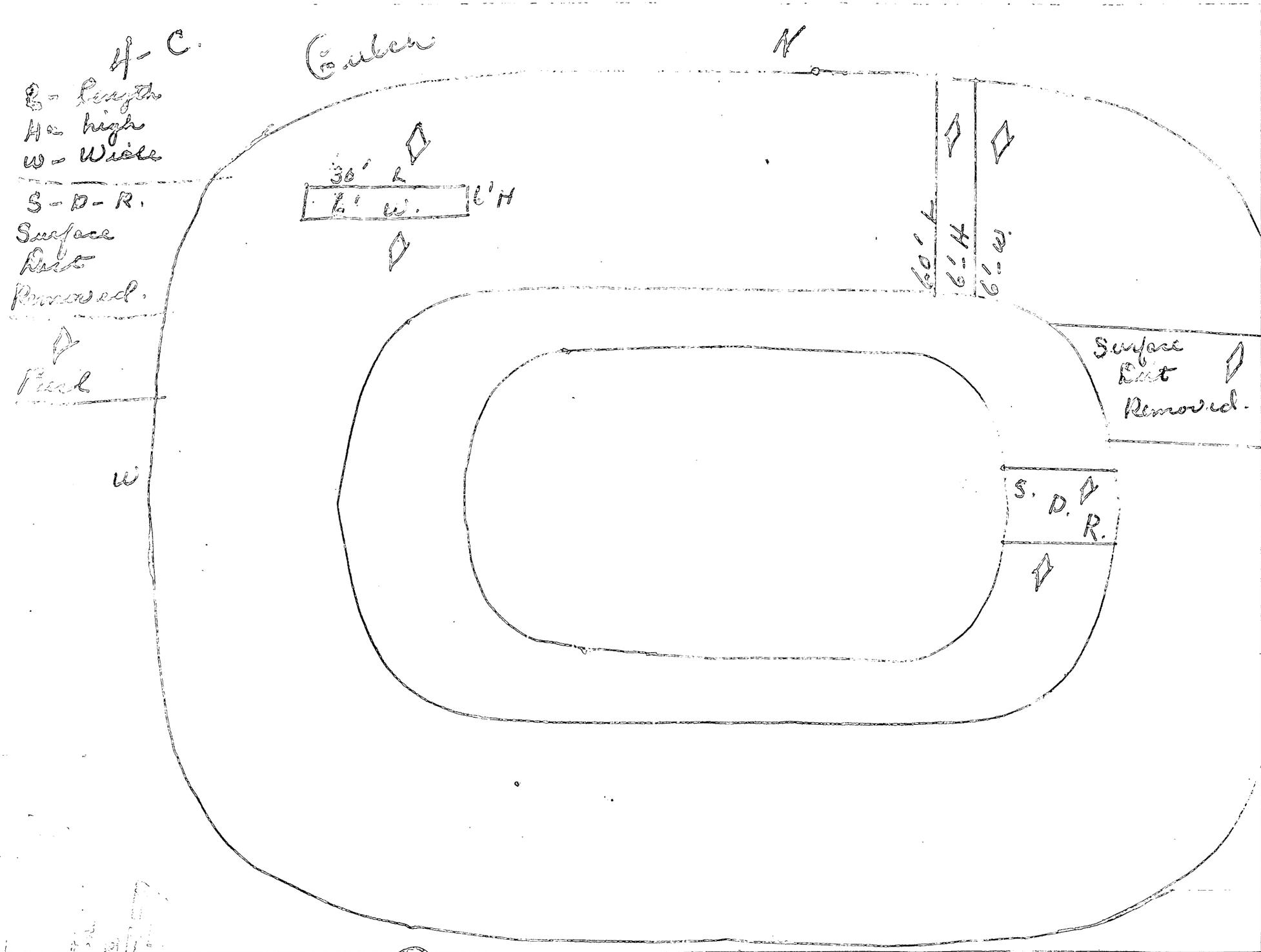
◊

Bell.

P. W

Pavement Workings




H - C.
L - Length
H - high
W - Wide
S - D - R.
Surface
Dirt
Removed.
Field
Culvert
N
30'
L
L' W.
6' H
60' L
6' H.
6' W.
Surface
Dirt
Removed.
S.
D.
R.
W
E
Culvert
S.