DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMEA ~~DMA~~ Docket No. 2553

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EXPLORATION PROJECT

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To: Code 400, Rm. 3538 Date 5-27-52

To: Oper. Comm Date 6-13-52

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Demand

JUN 1 6 1952

Mr. Ray E. Summers
R.F.D. Box 423
John Day, Oregon

re: Docket No. DMM 2553 - Cobalt
Ray E. Summers
Standard Mine
Grant County, Oregon

Dear Mr. Summers:

Your application for an exploration project and other data and reports relating to your above noted property available to us in Washington have been carefully reviewed.

This information, while noting a small amount of ore on your property, indicates that, geologically, there is little probability of making a significant mineral discovery. In addition, the cobalt mineralization is of a complex type not amenable to concentration. We regret, therefore, to inform you that your application is denied.

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

Sincerely yours,

C. O. Mitteneder

Acting Administrator
Defense Minerals Exploration
Administration

FARutledge:lm
6/11/52

cc: Admn. Reading File
Docket
H. W. Davis, [illegible]
T. R. Thayer, [illegible]
Field Team Reg. II
Operating Committee
G. C. Selfridge
F. A. Rutledge

Acting Administrator, DMEA June 11, 1952

Iron and Ferro-Alloy Division, DMEA

Denial of application for exploration assistance in the amount of $106,374.70
Docket No. DMEA 2553 - Cobalt
Ray E. Summers
Standard Mine
Grant County, Oregon

The applicant has proposed to rehabilitate the No. 1 level of the Standard Mine, sink a 100-foot winze 525 feet in from the portal in the best exposure of mineralization, and drive 900 feet of drift along the Standard vein from the bottom of the winze at an estimated cost of $106,374.70.

The denial of the subject application by this Division is based on the following information:

1. Size of ore body to be explored. Bureau of Mines sampling in 1943 indicated a lens of ore at the location of the proposed winze. This lens is 53 feet long and averages 15 inches in width. By inference from the size of the mined-out ore bodies, this lens can be expected to have a vertical extent of approximately 30 feet. The lens would contain, therefore, 170 tons with a total metal content of gold, cobalt, and copper of $76.04. By mining sufficient wall rock for a minimum of 3 feet, it would produce approximately 400 tons at $32.22.

2. Size of other ore bodies. The width of the other lenses sampled averaged 5-1/2 inches. Lateral extent of the lenses also is small and on the basis of ore bodies mined in the upper levels and samples taken by the Bureau of Mines comprise approximately one-fifth of the vein area.

3. Probable tonnage. Lemmon (USGS) has calculated the average thickness of the vein to be 0.5 feet. Using 12 cubic feet to the ton, the tonnage developed would be 3,750 tons. He further states that the mineralization is not persistent and only part of the vein is mineralized.

   Based on past mining and sampling by the Bureau of Mines, it is doubtful that more than 1,000 tons can be expected. Less than 750 tons is more probable.

4. Complex type of mineralization. The sample submitted by R. J. Hundhausen, Bureau of Mines, assayed 1.36 ounces Au, 1.35 percent Cu, and 0.75 percent Co. Mineralization consisted of chalcopyrite and small amounts of pyrite with the cobalt occurring as cobaltite and smaltite as fine intergrowth with arsenopyrite and lollingite or in an isomorphous series of glaucodot and safflorite. At any rate, liberation was not possible.

   Selective flotation of the copper was successful - 90 per cent of the copper was recovered in a concentrate containing 27.0 percent Cu, 0.13 percent Co, 0.8 percent As, and 5.5 ounce of Au.

   However, only 76 percent of the cobalt was recovered in a low-grade product containing 0.4 percent Cu, 2.9 percent Co, 13 percent As, and 3.88 ounces Au. This product was reground and by tabling, a cobalt concentrate containing 6.87 percent Co was obtained. However, recovery was only 53.1 percent.

5. No significant discovery of "ore" can be expected.

6. The Commodity Division of the U. S. Geological Survey recommends denial.

7. The Commodity Division of the U. S. Bureau of Mines recommends a much smaller loan on a 70-30 (or less) matching basis though stating that the probability of finding cobalt in commercial quantity seems rather remote.

George C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

FARutledge'lm
6/11/52

cc: Admn. Reading File
Docket
G. C. Selfridge
F. A. Rutledge

400

June 9, 1952

Memorandum

To: George C. Selfridge, DMEA

From: D. M. Lemmon, USGS

Subject: Exploration application
Ray E. Summers
Standard mine
Grant County, Oregon

DMEA 2555 -- Cobalt

Summers proposes a project costing $106,574.70 to re-open and rehabilitate the lower tunnel of the Standard mine, sink a winze 130 feet, and drift 900 feet from the winze on the 100-foot level. He states that he is prepared to invest $12,000, thus suggesting that he would not be prepared to participate in more than 10 percent of the proposed project; if the Government should establish a 70-30 basis of participation rather than 90-10, it might be necessary to cut the project to $40,000 to meet financial requirements.

The Standard vein was opened for 1,200 feet on the strike on the lower tunnel level. In 1943, the U. S. Bureau of Mines took 58 samples from the tunnel and adjacent stopes, and 9 samples from the No. 2 level above. Of these 67 samples, 8 contained 1.0 percent or more of cobalt, 6 contained 0.5 to 1.0 percent, and the other 53 contained only minor amounts. The 14 cobaltiferous samples were across a vein 1 to 16 inches wide, averaging 6.4 inches. These 14 samples and 8 others contained more than 0.5 ounce gold per ton; 11 of the 22 high gold samples contained more than 1.0 ounce per ton. The expectable average grade of selectively-mined ore would be about 1.0 percent Cu, 0.50 to 0.75 percent Co, and 1 ounce Au per ton.

The proposed work would open the vein to a depth of 100 feet for a length of 900 feet. If the average thickness of vein is 0.5 feet, and 12 cubic feet weigh a ton, the tonnage developed will be 5,750. However, the mineralization exposed on the tunnel level is not persistent and only part of the vein is mineralized.

The original application for exploration of this mine was made in 1951 by Burt Hayes (DMA 206). After Field Team examination favorable recommendation, a small project was approved, but the con was not signed because no subordination agreement was forthcoming.

Metallurgical tests made by the Bureau of Mines show that the cobalt cannot be concentrated to a high-grade product, but is contained in arsenical concentrates with gold. Therefore, the gold content of the ore is the principal value, and participation of the applicant should be greater than the 10 percent for cobalt alone.

It is recommended that the exploration proposal be denied because (1) the work will not result in exposure of a significant ore reserve, (2) the material cannot be produced at a profit, and (3) the work proposed is largely development and will not add much new information about the deposit.

cc Director's Reading file
Branch Reading file
Commodity file

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

June 6, 1952

Memorandum

To: George C. Selfridge, Defense Minerals Exploration Administration

From: Hubert W. Davis, Bureau of Mines

Subject: Application of Ray L. Summers for exploration loan of $106,374.70. DMEA - 2553, Standard mine, Prairie City, Oregon

According to an unpublished War Minerals Report (July 1943) of the Bureau of Mines, the Standard mine was reopened in the spring of 1941 by the United States Vanadium Corp. to sample both the No. 1 and No. 2 levels. Apparently, its findings were disappointing as it relinquished its option to purchase the property. Preliminary work conducted by the Bureau of Mines included sampling both the Standard and Juniper mines and mapping the various workings. A 265-pound sample was taken from one of the best ore shoots and shipped to the Bureau at Salt Lake City for testing. The sample assayed 1.35 percent copper, 0.75 percent cobalt, and 1.36 ounces gold per ton. The results of the ore dressing study indicated that although high recoveries of both copper and gold could be obtained, only low-grade cobalt concentrates can be made. The important veins are persistent in their strike, but they are narrow and the ore occurrence is irregular. The veins are probably associated with the granodiorite intrusions and may continue to depths not yet developed. Concerning the possibility of finding cobalt at this property, the War Minerals Report stated:

"Should the need for copper and low-grade cobalt products become so critical as to warrant exploring small submarginal-grade deposits, a project is recommended to explore the main ore shoot at depth by diamond drilling and to extend the No. 3 level to intersect the same shoot above the back of the present stope. The estimated cost of this project is about $11,000. It is possible that this program, when completed, might indicate 2,000 tons of ore containing about 1 percent copper, 0.50 to 0.75 percent cobalt, and 1 ounce gold per ton."

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Applicant has made application for an exploration loan of $106,374.70. It appears that much of this sum would be spent for development work. Moreover, some of the sums proposed to be spent for exploration could well be delayed until after sufficient work has been done to indicate the presence of cobalt in commercial quantity.

Inasmuch as the probability of finding cobalt in commercial quantity seems rather remote, in light of work done by the Bureau of Mines and United States Vanadium Corp., it is recommended that a small loan sufficient to determine the presence or absence of commercial cobalt be made at this time, to be followed by additional funds if results are favorable. Moreover, inasmuch as previous work done at the property indicates that values are chiefly in copper and gold, any loan should be made on a 70-30 (or less) matching basis.

H. W. Davis

400 (?)

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

June 6, 1952

Memorandum Return to

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H. W. Davis

400

FILE COPY
SURNAME:

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

Rutledge
Selfridge
Medrick
Lemmon
Johnson

JUN 16 1952

Mr. Ray H. Summers
P.O. Box 423
John Day, Oregon

Re: Docket No. DMEA 2553 - Cobalt
Ray H. Summers
Standard Mine
Grant County, Oregon

Dear Mr. Summers:

Your application for an exploration project and other data and reports relating to your above noted property available to us in Washington have been carefully reviewed.

This information, while noting a small amount of ore on your property, indicates that, geologically, there is little probability of making a significant mineral discovery. In addition, the cobalt mineralization is of a complex type not amenable to concentration. We regret, therefore, to inform you that your application is denied.

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

Sincerely yours,

C. O. Mittendorf (for) J.N. 6-16-52

Acting Administrator
Defense Minerals Exploration
Administration

FARutledge:lm
6/11/52

cc: Admn. Reading File
Docket
H. W. Davis, USBM
T. P. Thayer, USBM
Field Team Reg. II
Operating Committee
G. C. Selfridge
F. A. Rutledge

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Acting Administrator, DMEA DATE: June 11, 1952

FROM : Iron and Ferro-Alloy Division, DMEA

SUBJECT: Denial of application for exploration assistance in the amount of $106,374.70
Docket No. DMEA 2553 - Cobalt
Ray E. Summers
Standard Mine
Grant County, Oregon

The applicant has proposed to rehabilitate the No. 1 level of the Standard Mine, sink a 100-foot winze 525 feet in from the portal in the best exposure of mineralization, and drive 900 feet of drift along the Standard vein from the bottom of the winze at an estimated cost of $106,374.70.

The denial of the subject application by this Division is based on the following information:

1. Size of ore body to be explored. Bureau of Mines sampling in 1943 indicated a lens of ore at the location of the proposed winze. This lens is 53 feet long and averages 15 inches in width. By inference from the size of the mined-out ore bodies, this lens can be expected to have a vertical extent of approximately 30 feet. The lens would contain, therefore, 170 tons with a total metal content of gold, cobalt, and copper of $76.04. By mining sufficient wall rock for a minimum of 3 feet, it would produce approximately 400 tons at $32.22.

2. Size of other ore bodies. The width of the other lenses sampled averaged 5-1/2 inches. Lateral extent of the lenses also is small and on the basis of ore bodies mined in the upper levels and samples taken by the Bureau of Mines comprise approximately one-fifth of the vein area.

3. Probable tonnage. Lemmon (USGS) has calculated the average thickness of the vein to be 0.5 feet. Using 12 cubic feet to the ton, the tonnage developed would be 3,750 tons. He further states that the mineralization is not persistent and only part of the vein is mineralized.

   Based on past mining and sampling by the Bureau of Mines, it is doubtful that more than 1,000 tons can be expected. Less than 750 tons is more probable.

4. Complex type of mineralization. The sample submitted by R. J. Hundhausen, Bureau of Mines, assayed 1.36 ounces Au, 1.35 percent Cu, and 0.75 percent Co. Mineralization consisted of chalcopyrite and small amounts of pyrite with the cobalt occurring as cobaltite and smaltite as fine intergrowth with arsenopyrite and lollingite or is an isomorphous series of glancodot and safflorite. At any rate, liberation was not possible.

   Selective flotation of the copper was successful - 90 per cent of the copper was recovered in a concentrate containing 27.0 percent Cu, 0.13 percent Co, 0.8 percent As, and 5.5 ounce of Au.

   However, only 76 percent of the cobalt was recovered in a low-grade product containing 0.4 percent Cu, 2.9 percent Co, 13 percent As, and 3.88 ounces Au. This product was reground and by tabling, a cobalt concentrate containing 6.87 percent Co was obtained. However, recovery was only 53.1 percent.

5. No significant discovery of "ore" can be expected.

6. The Commodity Division of the U. S. Geological Survey recommends denial.

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G. C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

Docket
FILE COPY 400
SURNAME:

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

Acting Administrator, DMEA

June 11, 1952

Rutledge
Selfridge
Lemmon

Iron and Ferro-Alloy Division, DMEA

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George C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

FARutledge'lm
6/11/52

cc: Admn. Reading File
Docket
G. C. Selfridge
F. A. Rutledge

Geologic Plan Map

No 1 Level

Standard Mine, Grant County

Oregon

by Bureau of Mines

showing sampling. March 1943

On file at Mt. Weather

with unpublished War Mineral

Report.

(53 ft) bag 1

Au $35.00 on [illegible]
Co $2.40
Cu 0.24

234

14' ft	Cu		Co		Au	
30.6	0.06	1,836	1.06	32,436	0.97	29.682
24.2	0.11	2.662	0.97	23.474	1.22	29.524
12.7	0.07	0.889	0.24	3.048	0.48	6.096
67.5		5.387		58.958		65.302

g.ft.

1.27 feet	0.07	0.87	0.97

Cu 20 x 0.07 x 0.24 = 0.336
Co 20 x 0.87 x 2.40 = 41.760
Au 0.97 x 35.00 = 33.95
$76.04 a ton

$\frac{67.5 \times 30}{12}$ 168.75 tons @ $76.04

for mineable width of 3 feet

391.50 tons @ $32.22

Vein in andesite

Strike 130 range
dip 900 feet
$106,374.70

Bruce estimates 2,000 tons which is probable on what has been found before. The quantity and grade however would not be worth the amount of the contracts.

		Cu		Cu		Au	
	22"	0.02	0.44	0.70"	16.94	0.58	12.76
21°	13	0.12	1.56	1.55	20.15	1.64	21.32
	35		2.00		37.09		34.08
	17.5	0.06		1.06		0.97	
21.5	13	0.12	1.56	1.55	20.15	1.64	21.32
	14	0.11	1.54	0.43	6.02	0.83	11.62
	27		3.10		26.17		32.94
	13.5	0.11		0.97		1.22	
10.5	14	0.11	1.54	0.43	6.02	0.83	11.62
	15	0.03	0.45	0.07	1.05	0.16	2.40
	29		1.99		7.07		14.02
	14.5	0.07		0.24		0.48	

$\frac{21 \times 17.5}{12} = 30.6$ sq ft

$\frac{21.5 \times 13.5}{12} = 24.2$ sq ft

$\frac{10.5 \times 14.5}{12} = 12.7$ sq ft

		Cu	Co	Au
S-63	30"	0.02	0.05	0.02
	22	0.02	0.70	0.58
S-64	14"	0.02	2.08	1.77
	13	0.12	1.55	1.64
S-65	12"	0.23	0.93	1.50
	~~13~~	~~0.13~~	~~0.48~~	~~0.70~~
S-66	14	0.04	0.10	0.01
	14"	0.11	0.43	0.83
S67	16	0.02	0.05	0.325
	15	0.03	0.07	0.16
S-66	14	0.04	0.10	0.01

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

June 9, 1952

Memorandum

To: George C. Selfridge, DMEA

From: D. M. Lemmon, USGS

Subject: Exploration application DMEA 2553 -- Cobalt
Ray E. Summers
Standard mine
Grant County, Oregon

Summers proposes a project costing $106,374.70 to re-open and rehabilitate the lower tunnel of the Standard mine, sink a winze 130 feet, and drift 900 feet from the winze on the 100-foot level. He states that he is prepared to invest $12,000, thus suggesting that he would not be prepared to participate in more than 10 percent of the proposed project; if the Government should establish a 70-30 basis of participation rather than 90-10, it might be necessary to cut the project to $40,000 to meet financial requirements.

The Standard vein was opened for 1,200 feet on the strike on the lower tunnel level. In 1943, the U. S. Bureau of Mines took 58 samples from the tunnel and adjacent stopes, and 9 samples from the No. 2 level above. Of these 67 samples, 8 contained 1.0 percent or more of cobalt, 6 contained 0.5 to 1.0 percent, and the other 53 contained only minor amounts. The 14 cobaltiferous samples were across a vein 1 to 16 inches wide, averaging 6.4 inches. These 14 samples and 8 others contained more than 0.5 ounce gold per ton; 11 of the 22 high gold samples contained more than 1.0 ounce per ton. The expectable average grade of selectively-mined ore would be about 1.0 percent Cu, 0.50 to 0.75 percent Co, and 1 ounce Au per ton.

The proposed work would open the vein to a depth of 100 feet for a length of 900 feet. If the average thickness of vein is 0.5 feet, and 12 cubic feet weigh a ton, the tonnage developed will be 3,750. However, the mineralization exposed on the tunnel level is not persistent, and only part of the vein is mineralized.

The original application for exploration of this mine was made in 1951 by Burt Hayes (DMA 206). After Field Team examination and favorable recommendation, a small project was approved, but the contract was not signed because no subordination agreement was forthcoming.

Copy retained 400

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It is recommended that the exploration proposal be denied because (1) the work will not result in exposure of a significant ore reserve, (2) the material cannot be produced at a profit, and (3) the work proposed is largely development and will not add much new information about the deposit.

D M Lemmon

cc Director's Reading file
Branch Reading file
Commodity file

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

June 6, 1952

Memorandum

To: George C. Selfridge, Defense Minerals Exploration Administration

From: Hubert W. Davis, Bureau of Mines

Subject: Application of Ray E. Summers for exploration loan of $106,374.70. DMEA - 2553, Standard mine, Prairie City, Oregon

According to an unpublished War Minerals Report (July 1943) of the Bureau of Mines, the Standard mine was reopened in the spring of 1941 by the United States Vanadium Corp. to sample both the No. 1 and No. 2 levels. Apparently, its findings were disappointing as it relinquished its option to purchase the property. Preliminary work conducted by the Bureau of Mines included sampling both the Standard and Juniper mines and mapping the various workings. A 265-pound sample was taken from one of the best ore shoots and shipped to the Bureau at Salt Lake City for testing. The sample assayed 1.35 percent copper, 0.75 percent cobalt, and 1.36 ounces gold per ton. The results of the ore dressing study indicated that although high recoveries of both copper and gold could be obtained, only low-grade cobalt concentrates can be made. The important veins are persistent in their strike, but they are narrow and the ore occurrence is irregular. The veins are probably associated with the granodiorite intrusions and may continue to depths not yet developed. Concerning the possibility of finding cobalt at this property, the War Minerals Report stated:

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H. W. Davis

H. W. Davis

EXPLORATION

Subject: DMEA-2553
Re: Exploration Loan
Standard Mine
May 27, 1952

Mr. Ray E. Summers
Box 423
John Day, Oregon

My dear Mr. Summers:

This will acknowledge receipt of your application dated May 14, 1952 for a loan under the Defense Production Act of 1950.

Your application was assigned Docket Number DMEA-2553 and referred to the Iron and Ferro-Alloys Division.

Kindly refer to DMEA-2553 in any future correspondence relating to your application.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams
Administrative Officer

7862

DMEA-2553

OFFICE OF THE ADMINISTRATOR

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

So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 26 1952

May 17, 1952

Memorandum

To: Frank E. Johnson, Chairman, Operating Committee, DMEA

From: A. E. Weissenborn, Exec. Officer, DMEA Field Team, Region II

Subject: Application on Standard mine by Ray E. Summers, Box 423, John Day, Oregon. Cobalt

Enclosed are three copies of an application submitted by Mr. Ray E. Summers, Box 423, John Day, Oregon, for the exploration of the Standard mine in the Quartzburg district, Oregon. The fourth copy has been retained for our files.

Please note that this is the same property for which Mr. Burt S. Hayes submitted an application about December, 1950, which was assigned docket No. DMEA-206. This was withdrawn in April, 1952. A copy of a new lease to Mr. Summers is attached. Please note that because the property is controlled by various charitable and educational institutions it has been virtually impossible to obtain an Owner's Consent to Lien. The applicant has therefore signed a Guaranty in lieu of an Owner's Consent to Lien. Mr. Summers on his Form MF-100 states that he has been engaged in the logging and lumber business and he appears to be a reliable person. The Field Team, however, has no means of determining his financial responsibility.

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosures
cc: USBM

DMEA-2553

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAY 20 1952

[illegible] 357 Howard Street
[illegible], Washington

May 19, 1952

Memorandum

To: Frank [illegible] Johnson, Chairman, Operating Committee, DMA

From: A. [illegible] Heisenbarn, Exec. Officer, DMA Field Team, Region II

Subject: Application on Standard mine by Ray D. Summers, Box 422, John Day, Oregon. Cobalt

Enclosed are three copies of an application submitted by Mr. Ray D. Summers, Box 422, John Day, Oregon, for the exploration of the Standard mine in the Canyonville District, Oregon. The fourth copy has been retained for our files.

Please note that this is the same property, for which Mr. Burt V. Hayes submitted an application about December, 1950, which was assigned docket No. DMA-20[illegible]. This was withdrawn in April, 1952. A copy of a new lease to Mr. Summers is attached. Please note that because the property is controlled by various charitable and educational institutions it has been virtually impossible to obtain an Owner's Consent to Lien. The applicant has therefore signed a Guaranty in lieu of an Owner's Consent to Lien. Mr. Summers on his Form MF-100 states that he has been engaged in the logging and lumber business and he appears to be a reliable person. The Field Team, however, has no means of determining his financial responsibility.

A. [illegible] Heisenbarn
Executive Officer, DMA
Field Team, Region II

Enclosures
[illegible]

DMEA-2553

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
Received
MAY 26 1952

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

[illegible]
[illegible], Washington

May [illegible], 1952

Memorandum

To: [illegible], Chairman, Operating Committee, [illegible]

Thru: [illegible], Prod. Office, [illegible]

Subject: Application for Classification by [illegible], [illegible], [illegible], [illegible]

Enclosed are three copies of an application filed by Mr. [illegible], [illegible], [illegible], [illegible], [illegible], for the exploration of the [illegible] mine in the [illegible], [illegible]. The [illegible] has been retained for our files.

[illegible] the [illegible] property, the [illegible] has [illegible] application, dated [illegible], 1952, which was assigned Control No. [illegible]. Gold was [illegible] in April, 1952. A copy of [illegible] is attached. [illegible] that because the property is controlled by various [illegible] and educational institutions it has been virtually impossible to obtain an [illegible] document [illegible]. The applicant has [illegible] a [illegible] in [illegible] to [illegible]. [illegible] is [illegible] [illegible] and [illegible] to be a reliable person. The [illegible], however, has no [illegible] of determining his financial responsibility.

[illegible]
[illegible]
[illegible]

Enclosures
[illegible]

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

MF-103 Should Be Filed With General Technical Data Form MF-100

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

Not To Be Filled in by Applicant

Docket No. DMEA-2553
Metal or Mineral
Date Received 5-26-52
Amount $
Participation (Government %)

Name and address of applicant

Ray E. Summers
Box 423
John Day, Oregon

Date May 14, 1952

If you have already filed MF-100, give date filed ....., type of assistance requested .....,

DMA Docket Number (if available) .....

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 26 1952

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

   (*c*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

11. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Ray E. Summers
(Name of ~~company~~)

By _____
(Signature of authorized official)

May 14, 1952
(Date)

_____
(Title)

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—64067-2

Answers to MF-103

1. a. Enclosed lease gives complete legal description of property.
   b. Lease enclosed. Guarantee also included.
   c. The Grover Cleveland and Side Issue patented mining claims which are part of the Standard group of mining claims as described in the lease.

2. a. Cobalt - By products: Gold, Copper and possibly Uranium.
   b. Reports are available by both the U.S. Bureau of Mines and the United States Geological Survey.

3. 1. Road to Mine.

	Widen and rebuild three quarters of a mile		$2400.00
	Build bridge across Standard Creek		400.00
2.	Prepare building and dump site		1000.00
3.	Buildings		3550.00
4.	Clean out and make working tunnel our of lower drift		
	Labor and timber	$1350.00	
	Track 600' @ 0.80	480.00	
	Comp. Air Pipe @ 1.78	1068.00	
	Wire and install.	420.00	
			3318.00
5	Cutting Station and preparing to sink winze		
	Labor and material on station	1500.00	
	Labor and material on hoist	920.00	2420.00
6.	Sink winze 5' x 7½' to 130' @ $116.96 ft.		15,204.80
7.	Drive 900' drift and crosscuts @ $44.14 ft.		39,726.00
8.	Equipment to be purchased		
	Operating		31,531.60
	Shop		1684.50
	Office etc.		1139.80
9.	Assaying 350 samples @ $10.00		3500.00
10.	Consulting		500.00
	Total Cost		$106,374.70

   b. One month to start and should finish within 10 months.

4. A section map is included. The winze will follow th vein on and ore shoot.

5. No buildings on property.

6. Buildings to be erected. Estimated cost.

Building to house compressor and power plant.
Size - 20' x 30'

Material	$675.00	
Labor	375.00	$1050.00

Building for watchman.
Size - 14' x 14'

Material	$400.00	
Labor	225.00	$625.00

Building for office, change room, shop with open end for timber framing.
Size - 26' x 52'

Material	$950.00	
Labor	600.00	$1550.00

Wire and wiring for above	$325.00	$325.00
	Total	$3550.00

Office fixtures.

Typewriter	$179.80
Filing Cabinet	105.00
Desk	180.00
Chairs	60.00
Drafting table	45.00
Supplies Drafting	120.00
Stove	130.00
First Aid, stretcher fire extinguishers	200.00
Samp. equipment & supplies	120.00
	$1139.80

Shop equipment

Vise	$50.00
Anvil	40.00
Acey. torch	149.50
Elec. drill	175.00
Chain saw	115.00
Power hand saw	145.00
Pipe vise	30.00
Elec. grinder	148.00
Forge	158.00
Pipe dies	200.00
Small hand tools	320.00
Coffing hoist	30.00
Stove	40.00
1 dz. shovels	30.00
1 dz. picks	30.00
½ dz. axes	24.00
	$1684.50

7. a. None

b. Operating equipment to be purchased.

2- Sinker drills	$ 730.00
1- 590 CFM Compressor	13235.00
1- Mine car loader	3095.00
2- Drifter drills & set steel	2040.00
2- Drill columns	380.00
1- Air receiver	400.00
2- Oil storage tanks	300.00
1- Air hoist	1241.90
1- Water pump, casing & hose	750.00
1- One half ton pickup truck	2100.00
2- Line oilers	69.30
2- 4" gate valves	130.00
1- D-315 generating set	4578.40
250' air hose @ 1.10	275.00
2- Mine cars	600.00
1- Skip & dumping equipment	450.00
200' 3/8" wire rope	37.00
1- Electric blower	110.00
Freight & ins.	1000.00
Total	$31,531.60

c. None

8. Maximun number of men used, class, and pay rate in running two shifts in sinking winze and then drifting both ways.

Number	Class	Rate
4	Miners	$2.00 per hr.
4	Miners helpers	1.80 per hr.
2	Hoistmen	1.90 per hr.
2	Trammers	1.70 per Hr
2	Timber framing, mechanic	2.00 per hr.
1	Handyman, maintenance & supply	2.00 per hr.
½	Accountant	$175 per month
1	Underground boss	500 per month
1	Superintendant, geology, engr.	600 per month

9. Estimated cost per foot for sinking winze and driving drift.

	Winze	Drift
Labor and supervision	$69.75	$22.67
Payroll tax and insurance	6.98	2.27
Powder & caps	5.20	3.20
Timber	4.60	3.00
Ventilation pipe & hangers	1.70	1.70
Compressed air pipe	1.78	1.78
Water pipe	0.65	0.65
Rails	0.80	0.80
Drill steel & bits	2.60	1.70
Compressed air & power for Drilling, hoisting, blowing & pumping	11.00	2.25
Repairs & maintenance	6.35	2.70
Misc. supplies	4.35	1.60
General expense	1.20	0.40
	$116.96	$44.14

10. a. $12.000.00
    b. Yes

11. Ifthe information gathered by the outlined work proves it to be necessary, this work will be only the first step of the exploration work on this mine. This will be followed by more shafting and diamond drilling.

APPENDIX 22

GUARANTEE

In consideration of the waiver by the United States of America of the requirement of a landlord's subordination agreement as set forth in paragraph 2(b) of the attached Exploration Project Contract between the undersigned and the United States of America, the undersigned hereby guarantees the payment to the United States of America of royalties, as specified in paragraph 15 of said Contract, upon any and all ore discovered or developed as a result of said Contract, which is mined within 10 years from the date of said Contract, whether or not the undersigned has any interest in the property covered by the said Contract or any part in the mining operations at the time said ore is mined. If for any reason the net smelter returns from operations that would be subject under said contract to such payments to the United States of America are not available as a means of measuring the amount of such payment, then the undersigned agrees and undertakes to make such payment according to the best estimates of the amount that can reasonably be made, and in the event of dispute as to such estimate, the undersigned agrees that the determination thereof by either the Administrator of Defense Minerals Administration or by the Director of the United States Bureau of Mines shall be final and binding upon the undersigned; provided, however, that should undersigned, prior to the accrual of any obligation to pay under this guarantee, furnish to the United States the subordination agreement required by paragraph 2 (b) of said contract this covenant shall thereupon become fully satisfied and of no further force or effect.

Dated this 14 day of May, 1952.

Ray E. Summers

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

MF-103 Should Be Filed With General Technical Data Form MF-100

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

Not To Be Filled in by Applicant

Docket No. DMEA-2553
Metal or Mineral
Date Received 5-26-52
Amount $
Participation (Government %)

Ray E. Summers
Box 423
John Day, Oregon

Name and address of applicant

Date May 14, 1952

If you have already filed MF-100, give date filed _____, type of assistance requested _____

DMA Docket Number (if available) _____

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 26 1952

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

   (*c*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

11. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Ray C. Summers
(Name of ~~company~~)

By _____
(Signature of authorized official)

May 14, 1952
(Date)

_____
(Title)

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—64067-2

Answer to F-1[illegible]

1. a. [illegible] lease gives a [illegible] total [illegible] of [illegible].
   b. Lease [illegible] [illegible].
   c. The Driver [illegible] and [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] the lease.

2. a. Cobalt - [illegible] [illegible], [illegible] [illegible] [illegible].
   b. Reports are available by [illegible] [illegible] [illegible] [illegible] United States Geological Survey.

3. 1. Haul to line.

	Widen and rebuild three quarters of a mile		[illegible]
	Build bridge across Standard Creek		400.00
2.	Prepare building and dump site		100 .00
3.	Buildings		3550.00
4.	Clean out and [illegible] [illegible] [illegible] [illegible] / drift		
	Labor [illegible]	13[illegible]	
	Track [illegible]	[illegible]	
	[illegible] 1.78	1060.00	
	Fire and [illegible]	[illegible]	
			3310.00
5.	Cutting station and [illegible]		
	Labor and material on station	15[illegible]	
	Labor and material on hoist	[illegible]	420.00
6.	Sink winze 5' x 7' to 13' 116.96 ft.		1[illegible],[illegible] .00
7.	Drive 900' drift and crosscuts [illegible] ft.		32,72[illegible]
8.	Equipment to be purchased		
	Hoisting		31,531.60
	Shop		16[illegible] .00
	Office etc.		1139.00
9.	Assaying [illegible] [illegible]		[illegible]
10.	[illegible]		[illegible]
	Total [illegible]		1[illegible],[illegible] .70

2. One month [illegible] [illegible] [illegible] [illegible] [illegible] months.

4. A section [illegible] is included. The winze will follow the vein on an/ore chute.

5. [illegible] buildings [illegible].

6. Buildings to be erected. Estimated cost.

Building to house compressor and power plant.

Size - 20' x 30'

Material	675.00	
Labor	375.00	1050.00

Building for watchman.

Size - 12' x 15'

Material	400.00	
Labor	225.00	625.00

Building for office, change room, shop with open end for timber framing.

Size - 26' x 52'

Material	950.00	
Labor	600.00	1550.00

Wire and wiring for above 325.00 325.00

Total 3550.00

Office fixtures.

Typewriter	150.00
Filing Cabinet	105.00
Desk	100.00
Chairs	60.00
Drafting table	15.00
Supplies Drafting	120.00
Stove	130.00
First Aid, stretcher	
fire extinguishers	25.00
Lab. equipment	
Supplies	120.00
	1139.00

Shop equipment

Vise	50.00
Anvil	50.00
Acet. torch	119.00
Elec. drill	175.00
Chain saw	115.00
Power hand saw	135.00
Fire vise	30.00
Elec. grinder	150.00
Forge	150.00
Die dies	200.00
Small hand tools	320.00
Coffing hoist	300.00
Stove	40.00
1 doz. shovels	30.00
1 doz. picks	30.00
1 doz. axes	20.00
	1681.50

7. a. None

b. [illegible] equipment to be purchased.

2- Jinker drills	730.00
1- 500 CFM Compressor	13235.00
1- Mine car loader	3095.00
2- Drifter drills & set steel	2040.00
2- Drill columns	380.00
1- Air receiver	100.00
2- Oil storage tanks	300.00
1- Air hoist	1241.90
1- Water pump, casing & hose	750.00
1- One half ton pickup truck	2100.00
2- Line oilers	69.30
2- 4" gate valves	330.00
1- D-315 generating set	1578.10
250' air hose @ 1.10	275.00
2- Mine cars	600.00
1- Skip & dumping equipment	[illegible]
200' 3/8" wire rope	37.00
1- Electric blower	110.00
Freight & Ins.	1000.00
Total	31,531.00

c. None

8. Maximum number of men, class, and pay rate during two shifts in sinking winze and then drifting both ways.

Number	Class	Rate
1	Miners	2.[illegible] per hr.
1	Miners helpers	1.[illegible] per hr.
2	Hoistmen	1.90 per hr.
2	Trammers	1.70 per hr
2	Timber framing, mechanic	2.00 per hr.
1	Handman, maintenance [illegible]	2.[illegible] per hr.
1	Accountant	17[illegible] per month
1	Underground boss	500 per month
1	Superintendent, geology, engr.	600 per month

9. Estimated cost per [illegible] of [illegible] sinking winze and driving drift.

	Winze	Drift
Labor and supervision	62.75	22.67
Payroll tax and insurance	[illegible]	2.[illegible]7
Powder & caps	.[illegible]	3.20
Timber	.[illegible]	3.00
Ventilation, fans & hangers	1.70	1.70
Compressed air line	1.70	1.70
Water pipe	[illegible]	0.[illegible]
Rails	[illegible]	.00
Drill steel & bits	2.60	1.70
Compressed air power for drilling, hoisting, blowing, pumping	11.[illegible]	[illegible]
Repairs and maintenance	[illegible]	1.70
Misc. supplies	.3[illegible]	[illegible]
General expense	.2[illegible]	[illegible]
	116.9[illegible]	[illegible].1

16. a. 12.0 0.03
b. Yes

17. If the information gathered by the [illegible] proves it to be necessary, this work will be only the first step of the exploration work on this mine. This will be followed by more sinking and diamond drilling.

APPENDIX II

GUARANTY

In consideration of the waiver by the United States of America of the requirement of a landlord's subordination agreement as set forth in paragraph 2(b) of the attached Exploration Project Contract between the undersigned and the United States of America, the undersigned hereby guarantees the payment to the United States of America of royalties, as specified in paragraph 15 of said Contract, upon any and all ore discovered or developed as a result of said Contract, which is mined within 10 years from the date of said Contract, whether or not the undersigned has any interest in the property covered by the said Contract or any part in the mining operations at the time said ore is mined. If for any reason the net smelter returns from operations that would be subject under said contract to such payments to the United States of America are not available as a means of measuring the amount of such payment, then the undersigned agrees and undertakes to make such payment according to the best estimates of the amount that can reasonably be made, and in the event of dispute as to such estimate, the undersigned agrees that the determination thereof by either the Administrator of Defense Minerals Administration or by the Director of the United States Bureau of Mines shall be final and binding upon the undersigned; provided, however, that should undersigned, prior to the accrual of any obligation to pay under this guarantee, furnish to the United States the subordination agreement required by paragraph 2 (b) of said contract this covenant shall thereupon become fully satisfied and of no further force or effect.

Dated this 14 day of May, 1952.

Ray E. Summers

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

MF-103 Should Be Filed With General Technical Data Form MF-100

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

Not To Be Filled in by Applicant

Docket No. DME A-2553
Metal or Mineral
Date Received 5-26-52
Amount $
Participation (Government %)

Name and address of applicant

Ray E. Summers
Box 423
John Day, Oregon

Date May 14, 1952

If you have already filed MF-100, give date filed _____, type of assistance requested _____

DMA Docket Number (if available) _____

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAY 26 1952

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

   (*c*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

11. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Ray C. Summers
(Name of ~~company~~)

By _____
(Signature of authorized official)

May 14, 1952
(Date)

_____
(Title)

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—64067-2

Exhibit to F-[illegible]

1. a. [illegible]
   b. [illegible]
   c. [illegible]

2. a. [illegible]
   b. [illegible]

3. 1. [illegible]
   [illegible] 2[illegible]0.00
   [illegible] 100.00
   2. [illegible] 100.00
   3. Buildings [illegible]
   4. [illegible]
      [illegible] 13[illegible].00
      [illegible]
      [illegible] 1.70 [illegible]
      [illegible]
      [illegible]
   5. Cutting [illegible]
      Labor and material [illegible]
      Labor and [illegible] bridge [illegible]
   6. [illegible] 116,[illegible] ft. 1,[illegible].50
   7. [illegible] 200' [illegible] ft. 3[illegible]
   8. [illegible] to be purchased
      [illegible] 31,[illegible]
      [illegible] [illegible]
      [illegible]
   9. [illegible]
   10. [illegible]

[illegible] 2[illegible]6,374.[illegible]

1. [illegible]

2. [illegible]

3. [illegible]

6. [illegible]

[illegible]

Size - [illegible]

[illegible]	[illegible]	
Labor	[illegible]	2000.0

[illegible]

Size - [illegible]

[illegible]	[illegible]	
[illegible]	121.00	[illegible]

[illegible]

Size - [illegible]

[illegible]	[illegible]	
Labor	[illegible]	155.[illegible]

[illegible] | [illegible] | 325.[illegible]

[illegible] | [illegible]

Office fixtures.

[illegible]	1[illegible].00
[illegible]	[illegible].00
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	15.[illegible]
[illegible]	12[illegible]
[illegible]	13[illegible]
[illegible]	
[illegible]	[illegible]
[illegible]	
[illegible]	12[illegible]
	[illegible]

No. [illegible]

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	1[illegible]
[illegible]	17[illegible]
[illegible]	[illegible]
[illegible]	1[illegible]
[illegible]	[illegible]
[illegible]	1[illegible]
[illegible]	1[illegible]
[illegible]	2[illegible]
[illegible]	12[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	3[illegible]
[illegible]	3[illegible]
[illegible]	[illegible]
	10[illegible]

7. a. [illegible]

b. [illegible] to be purchased.

2- [illegible] drills	[illegible]30.00
1- 500 CFM [illegible]	[illegible]
1- Mine car loader	[illegible]
2- [illegible] drills & set steel	[illegible]
2- drill columns	300.00
1- air receiver	[illegible]
2- [illegible]	300.00
1- air hoist	[illegible]
- [illegible] hose	[illegible]
1- one half ton [illegible] truck	[illegible]
2- line oilers	[illegible]
2- [illegible] gate valves	[illegible]
1- [illegible]-315 generating set	[illegible]
250' air hose [illegible]	[illegible]
2- Mine cars	[illegible]
1- [illegible]	[illegible]
200' 3/8" wire [illegible]	[illegible]
1- Electric [illegible]	[illegible]
Freight [illegible]	[illegible]
Total	[illegible]

c. [illegible]

8. [illegible] number of [illegible] shifts in sinking [illegible] drifting [illegible].

Number	[illegible]	[illegible]
[illegible]	[illegible]	[illegible] per hr.
[illegible]	[illegible]	[illegible] per hr.
[illegible]	Hoistman	[illegible] per hr.
2	[illegible]	[illegible] per hr
2	[illegible], mechanic	[illegible] per hr.
[illegible]	[illegible]	[illegible] per hr.
[illegible]	Accountant	[illegible] per month
[illegible]	[illegible]	500 per month
1	[illegible]	600 per month

9. [illegible] cost [illegible] sinking [illegible] drift.

	[illegible]	[illegible]
[illegible]	[illegible]	[illegible].67
[illegible]	[illegible]	[illegible].87
Powder [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	3.[illegible]
[illegible]	[illegible]	[illegible].70
[illegible]	[illegible].7	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Misc. [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]

10. a. 1210 0.00
    b. 705

11. If the information gathered by the geologist or [illegible] is to be necessary, this work will be only the first step in the exploration work on this mine. This will be followed by more trenching and diamond drilling.

copy

APPENDIX 11

[illegible] A [illegible]

In consideration of the waiver by the United States of America of the requirement of a landlord's subordination agreement as set forth in paragraph 2(b) of the attached Exploration Project Contract between the undersigned and the United States of America, the undersigned hereby guarantees the payment to the United States of America of royalties, as specified in paragraph 15 of said Contract, upon any and all ore discovered or developed as a result of said Contract, which is mined within 10 years from the date of said Contract, whether or not the undersigned has any interest in the property covered by the said Contract or any part in the mining operations at the time said ore is mined. If for any reason the net smelter returns from operations that would be subject under said contract to such payments to the United States of America are not available as a means of measuring the amount of such payment, then the undersigned agrees and undertakes to make such payment according to the best estimates of the amount that can reasonably be made, and in the event of dispute as to such estimate, the undersigned agrees that the determination thereof by either the Administrator of Defense Minerals Administration or by the Director of the United States Bureau of Mines shall be final and binding upon the undersigned; provided, however, that should undersigned, prior to the accrual of any obligation to pay under this guarantee, furnish to the United States the subordination agreement required by paragraph 2 (b) of said contract this covenant shall thereupon become fully satisfied and of no further force or effect.

Dated this 14 day of May, 1952.

Ray E. Summers

Form DMF-100
(May 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA FOR USE UNDER THE DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. DMEA-2553

Date received 5-26-52

Ray E. Summers
Box 423
John Day, Oregon

Name and address of applicant

Date May 14, 1952

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (5) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☒ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:

   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation		Life Insurance Carried for Benefit of Applicant	
				Common (e)	Preferred (f)	Amount (g)	Net Cash Surrender Value After Loans (h)
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)					
2. Quantity of product processed (specify unit of measure and type of process)					
3. Quantity and grade of product sold or shipped (specify units of measure)					

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

1. a. Cobalt in [illegible].
   b. [illegible] or, gold and possibly platinum.
2. a. None
   b. [illegible] ft.
   c. None
   d. Mine is not [illegible]. Possible market [illegible] ore concentrates which [illegible] could be [illegible] [illegible].
3. a. Seven miles north of Prairie City, Grant [illegible] forty-three miles southwest of [illegible].
   b. Quartzburg.
   c. Sec. 12 - T12[illegible] - 33
   d. Grant, Oregon
4. a. Not in operation.
   b. Will operate as lessee.
5. Mine was in production for three years 1945- 7.
   b. Cannot answer.
6. a. Ray [illegible] Summers, a [illegible], has been successfully engaged in business for himself for a [illegible] years. His [illegible] drilled about four years ago, both hard rock and placer. The [illegible] has [illegible] heavy equipment, logging, road construction and other general contracting. Recently has been engaged in the [illegible] and timber business.
   b. H. S. Duby, Engr.;
      Graduate of [illegible] in [illegible].
      Four years mining [illegible].
      Five years government [illegible].
      1. Three years [illegible].
         a. [illegible] and [illegible] grade [illegible] and [illegible] strength.
         b. [illegible].
         c. [illegible].
      2. Two years government [illegible].
         [illegible] and not [illegible] of [illegible].
      Three years [illegible] and [illegible] Three, [illegible] number [illegible] number [illegible].
7. a. The Summer vein, the principal vein in the district, is [illegible] in the middle, [illegible] and [illegible] below. [illegible] is [illegible], and accompanied by the [illegible] zone. There is, a local [illegible], the vein has developed and a [illegible] [illegible] [illegible] and [illegible], the [illegible] [illegible], [illegible], [illegible] miles from Prairie City. [illegible] of cobalt concentrates [illegible], a [illegible] [illegible] was produced during [illegible] the operation. [illegible] closed down in 1947 and did not [illegible]. The [illegible] for closing down was that character of the ore changed [illegible] and [illegible] of cobalt, [illegible] gold, which [illegible] was poor. There was no market for cobalt, instead a penalty was charged against the [illegible] because of the cobalt. The cobalt was carried [illegible] and could be [illegible].
   b. No records as to production, the [illegible] are [illegible] and gold properties.
   c. None available.

8. Does not apply.
9. Does not apply.
10. Does not apply.
11. Does not apply.
12. a. Reports are available by the U.S. Bureau of Mines only. [illegible]
13. The mine is seven miles north of Prairie City, Oregon, six miles of county road in fair condition. About one mile of road up Canyon Creek to the mine will be rebuilt.
Housing and ordinary supplies will be available at Prairie City, or at John Day, 13 miles east of Prairie City over a good gravel highway.
14. Standard Creek runs through the property and is a year around stream with the minimum flow estimated at 15 gpm. [illegible]
15. Does not apply.
16. Does not apply.
17. None.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)					
Indicated (probable)					

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Ray E. Summers
(Name of company)

By _____
(Signature of authorized official)

May 14, 1952
(Date)

_____
(Title)

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—63792-1

Form MF-100
(May 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA FOR USE UNDER THE DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. DMEA-2553

Date received 5-26-52

Ray E. Summers
Box 423
John Day, Oregon

Name and address of applicant

Date May 14, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAY 26 1952

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (5) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☒ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:

   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation		Life Insurance Carried for Benefit of Applicant	
				Common (e)	Preferred (f)	Amount (g)	Net Cash Surrender Value After Loans (h)
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)					
2. Quantity of product processed (specify unit of measure and type of process)					
3. Quantity and grade of product sold or shipped (specify units of measure)					

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

(*b*) If deposit is other than [illegible]er:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)					
Indicated (probable)					

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Ray E. Summers
(Name of ~~company~~)

By _____
(Signature of authorized official)

May 14, 1952
(Date)

_____
(Title)

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—63792-1

1. a. [illegible]
   b. [illegible]
2. a. [illegible]
   b. [illegible]
   c. [illegible]
   d. [illegible]
3. a. [illegible]
   b. [illegible]
   c. [illegible] - 1921 - [illegible]
   d. [illegible]
4. [illegible]
   b. [illegible]
5. [illegible] - 7.
   b. [illegible]
6. a. [illegible]
   b. [illegible]
7. a. [illegible]
   b. [illegible]
   c. [illegible]

6. [illegible] not apply.
7. [illegible] not apply.
8. [illegible] not apply.
9. [illegible] not apply.
10. a. [illegible]
11. The [illegible] is [illegible] county [illegible] for [illegible] [illegible] to the [illegible] [illegible].
[illegible] at [illegible], [illegible]
12. [illegible] Creek [illegible] with the [illegible]
13. [illegible] not apply.
14. [illegible] not apply.
15. [illegible].

Form MF-100
(May 1951)

U. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA

FOR USE UNDER THE

DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. DMEA-2553

Date received 5-26-52

DEPARTMENT OF THE
Defense Minerals Ad
RECEIVED
MAY 26 19

Ray E. Summers
Box 423
John Day, Oregon

Name and address of applicant

Date May 14, 1952

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (5) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☒ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:
   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation		Life Insurance Carried for Benefit of Applicant	
				Common (e)	Preferred (f)	Amount (g)	Net Cash Surrender Value After Loans (h)
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
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Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)					
2. Quantity of product processed (specify unit of measure and type of process)					
3. Quantity and grade of product sold or shipped (specify units of measure)					

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

1. a. Cobalt in past.
   b. Copper, gold and possibly Uranium.
2. a. None
   b. 2800 ft.
   c. same
   d. Mine is not flooded. Possible production if ore continues with depth could be 50 to 100 tons a day.
3. a. Seven miles north of Prairie City, Oregon. Railroad at Seneca, Ore. forty six miles southwest of mine.
   b. Quartzburg.
   c. Sec. 12 - T12S - R33E
   d. Grant, Oregon
4. Not in operation.
   b. Will operate as lessee.
5. Mine was in production for three years 1905-07.
   b. Cannot answer.
6. a. Ray E. Summers, applicant, has been successfully engaged in business for himself for approximately 20 years. This time has included about four years mining, both hard rock and placer. The rest has been with heavy equipment, logging, road construction and other general contracting. Recently has been engaged in the logging and lumber business.
   b. H. A. Culp, Super.;
      Graduate of Oregon State College in Economic Geology.
      Four years mining both hard rock and placer.
      Five years geophysical prospecting.
         1. Three years oil geophysics.
            a. One year party chief gravimeter and seismograph
            b. Two years supervisor.
         2. Two years geophysical prospecting for ore deposits. Party chief on electric resistivity and natural potential crew.
      Three years surveying roads and property lines, estimating timber for lumber company.
7. a. The Standard vein, the principal vein on the property was discovered in the nineties, by local prospectors. In 1905 the property was acquired by the Standard Cons. Mines Co., a local concern, the vein was developed and a 50 ton mill was completed by the summer of 1906 and production started, the concentrates shipped to a smelter at Sumpter, Ore., 40 miles from Prairie City. During 1906 several shipments of cobalt concentrates were made, apparantly a separate cobalt concentrate was produced during part of the operation. The mine closed down in 1907 and did not resume operation. The apparant reason for closing down was that character of the ore changed from copper and gold to one of essentially cobalt and gold, also their percentage of recovery was poor. There was no market for cobalt, instead a penalty was charged against the concentrates because of the cobalt. The cobalt was carrying the gold and cannot be separated by milling.
   b. No records as to production, the nearby mines are mostly small gold properties.
   c. None available.

8. Does not apply.
9. Does not apply.
10. Does not apply.
11. Does not apply.
12. a. Reports are available by the U. S. Bureau of mines and U. S. G. S.
13. The mine is seven miles north of Prairie City, Oregon, six miles of county road in fair condition. About one mile of road up Standard Creek to the mine will be rebuilt.
    Housing and ordinary supplies will be available at Prairie City, or at John Day, 13 miles west of Prairie City over a good paved highway.
14. Standard Creek runs through the property and is a year around stream with the minimum flow estimated at 150 gal. per minute.
15. Does not apply.
16. Does not apply.
17. None.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)					
Indicated (probable)					

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, even or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Ray C. Summers
(Name of company)

By _____
(Signature of authorized official)

May 14, 1952
(Date)

_____
(Title)

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—63792-1

#22539

Book 65 Page 65

THIS INDENTURE, Made this 20th day of September, 1951, by and between Seamen's Church Institute of New York, a charitable corporation, of New York City, New York; the Board of Trustees of Park College, an educational corporation, of Parkville, Missouri; the Young Women's Christian Association, a charitable corporation, of Cincinnati, Ohio; the Young Men's Christian Association, a charitable corporation, of Cincinnati, Ohio; the Bethesda General Hospital, a charitable corporation, of St. Louis, Missouri, hereinafter called Lessors, and Ray E. Summers, hereinafter called Lessee.

WITNESSETH, that the Lessors in consideration of the royalties hereinafter provided and the payment of yearly taxes assessed by Grant County, Oregon, against the property affected by this agreement, and in further consideration of the covenants and conditions herein contained, to be kept and performed by the Lessee, do hereby contract, lease, and demise to the Lessee, for the term of one year from and after the 1st day of October, 1951, the following described patented mining claims situated in Grant County, State of Oregon, and known as the Standard Group, to-wit:

> The Mahogany Mine, Pinkerton Extension Mine, Pinkerton Quartz Mining Claim, Purdy Quartz Mining Claim, Juniper Quartz Mining Claim, Black Horse Mine, Lone Star Quartz Mining Claim, Side Issue Mine, Copper Ridge No. 2 Mine, Ruby Mine, Michigan Quartz Mining Claim, New Star Quartz Mining Claim, Willie Boy Mine, Hobo Quartz Mine, I. X. L. Mine, Standard Mine, and Morning Glory Mine lode mining claims, designated as Survey No. 838, embracing a portion of Sections 1 and 12, in Township 12 South of Range 33 East, and Sections 6 and 7, Township 12 South of Range 34 East, Willamette Meridian, as the same are more particularly described in the patent from the United States of America to the heirs or devisees of Clifford M. Dolph, which said patent is of record in Vol. 38, page 583, et seq, Deed Records of Grant County, Oregon, to which record reference is hereby made for a more complete description of said mining claims; and

> The Grover Cleveland lode mining claim, embracing a portion of Section 12, Township 12 south, Range 33 East Willamette Meridian, said claim being designated by the Surveyor General as Lot No. 106, as the same is more particularly described in the patent from the United States of America to W. H. Johnson, Clarence Johnson and C. P. Johnson, which said patent is of record in Vol. V, page 65 of the Deed Records of Grant

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County, Oregon, to which record reference is hereby made for a more particular description of said mining claim.

It being the intention of the first parties to describe all of the mining property, and all of the rights of every sort and nature in and to any mining property that the first parties may own in Grant County, Oregon.

Reserving unto the parties of the first part all rights pertaining to timber and growth of timber thereon except such timber under 17 inches diameter as is reasonably necessary to the second party in the conduct of his mining operations.

which premises are leased to the Lessee for the purpose of exploring for and mining and taking out and removing therefrom the ore therein contained, containing copper, silver, lead, gold and other valuable minerals which is or which hereafter may be found in, on, or under said land, together with the right to construct all buildings, make all excavations, openings, ditches, drains, railroads, wagon roads, concentrators, power plants, smelters, and other improvements upon said premises which are or may become necessary or suitable for the mining or removal of ore containing copper, lead, silver, gold, or other valuable minerals from said premises. Provided, that the Lessee shall have the right at any time to terminate this agreement in so far as it requires the Lessee to mine ore on said land or to pay a royalty therefor, by giving written notice to the Lessors by registered mail and the foregoing contract shall terminate thirty (30) days thereafter and all arrears and sums which may be due under the same up to the time of its termination as set forth in said notice shall be paid upon settlement and adjustment thereof. The Lessee further agrees that the Lessee shall not have the right under this agreement to contract with others to work such mine or mines or any part thereof or to sub-contract the same and the use of the said land or any part thereof for the purpose of mining for ore without the consent of the Lessors. The Lessee agrees that they will each year during the life of this lease perform work or make improvements upon the premises hereinbefore described in an amount of not less than One Thousand and No/100-- Dollars ($1,000.00) and will forward to the Lessors a statement of the work performed or to be performed and the improvements made or

to be made upon the property. And it is further expressly agreed that if the Lessee shall fail to perform said labor as hereinbefore provided that said Lease shall then, at the option of the Lessors, be forfeitable and t e Lessors shall thereupon, if they shall elect to forfeit this lease and contract, serve upon the Lessee, a notice that unless they perform such work within ninety (90) days after the giving of said notice, that this contract and lease shall thereupon become forfeited, terminated and at an end, such ninety (90) day period to commence from the date said notice is mailed by the Lessors, all such notices to be given by registered mail and if the address of the Lessee is unknown, then such notice shall be given by posting a copy thereof on said land at the point of said mining operations thereon, which notice shall thereupon be deemed sufficient.

The Lessors hereby agree to renew this lease for an additional period of one (1) year in the event that the Lessee shall be conducting mining operations upon the mining claims hereinabove described at the end of the term herein provided for and in a like manner shall renew this lease for additional periods of one (1) year each, in the event that the Lessee shall be conducting mining operations upon the said mining claims at the expiration of any renewal term with reference to this lease.

As an additional consideration for this lease, the Lessee agrees that the Lessor shall be paid a royalty of ten per cent (10%) of the gross receipts from all ores taken out, extracted and shipped from the said mine or mines, which said royalty shall be paid by the purchasing agency to the Lessors, subject to the further provision that if for any reason the purchasing agency shall default in the payment of any amounts due with reference to this royalty herein provided for, then the Lessee upon written request of the Lessors shall pay any said amount or amounts to the Lessors and Lessors shall assign to the Lessee their claim with regard to any such payments against the purchasing agency to the Lessee. All ores shall be marked in the name of the mine or mines from which

the same shall be extracted and the royalty herein provided for shall be paid upon the first day of every month to the Lessors, together with duplicate statements of ores worked by smelters.

The Lessee agrees that he will not suffer any liens for labor, material or supplies to attach to the real property hereinabove described, nor to any personal property that said Lessee may place upon said premises, and that the Lessee will save the Lessors harmless from any claims whatsoever from any parties whatsoever for material or supplies furnished or labor performed in connection with said mining operations.

It is understood and agreed that the Lessors, and/or their duly authorized and appointed agents, shall have the right to go upon this property and every portion thereof and inspect the same at any, and all reasonable times.

It is further understood and agreed by and between the parties hereto that upon the expiration of this lease that the Lessee will immedaitely, peaceably vacate said premises and remove all of the property placed thereon by them that they desire to remove, and all property remaining upon said premises after ninety (90) days from the date of the expiration of this lease shall be deemed to be the property of the Lessors.

It is further understood and agreed by and between the parties hereto that this contract shall not be assigned by the Lessee without the consent of the Lessors.

The Lessee agrees to post a notice upon said mining claims at once that the owners of said mining claims will not be responsible for any debts, obligations, wages, expenses, dues of any nature or character whatsoever during the term of this lease.

It is expressly understood and agreed by and between the parties hereto that all work to be done and improvements to be placed upon the mining properties and all expenditures with reference to the mining operations to be conducted by the Lessee

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is to be done at the sole expense of the Lessee and that said work and labor is to be done in good like fashion.

It is further expressly understood and agreed by and between the parties hereto that it is not the intention of this agreement to form a partnership or joint venture between the parties hereto or any form of agreement whereby the Lessors could be held liable for the debts contracted by the Lessee or whereby the Lessors could be held liable for the malfeasance or non-feasance of the Lessee.

This agreement shall inure to the benefit of the heirs, executors and administrators of the lessee.

IN WITNESS WHEREOF, the parties hereto have executed this instrument as of the day and year last above written.

ATTEST: _____ Secy.

SEAMEN'S CHURCH INSTITUTE OF NEW YORK
By _____ Pres.

ATTEST: _____ Secy.

THE BOARD OF TRUSTEES OF PARK COLLEGE
By _____ Pres.

ATTEST: _____ Secy.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION
By _____ Pres.

ATTEST: _____ Secy.

YOUNG MEN'S CHRISTIAN ASSOCIATION
By _____ Pres.

ATTEST: _____ Secy.

BETHESDA GENERAL HOSPITAL
By _____ Pres.

(LESSORS)

Ray E. Summers
Ray E. Summers

(LESSEE)

#22539

STATE OF NEW YORK)
) ss.
County of New York)

On this 27th day of December, 1951, before me appeared Clarence F. Michalis and Thomas Roberts, both to me personally known, who, being duly sworn, did say that he, the said Michalis is the president, and he, the said Roberts is the secretary of the Seamen's Church Institute of New York, the within named corporation, and that the seal affixed to the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Managers, and said Roberts and Michalis acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this day and year first in this, my certificate written.

Robert M Olsen
Notary Public

My commission expires _____

R. M. OLSEN NOTARY PUBLIC KINGS COUNTY

STATE OF MISSOURI)
) ss.
County of Jackson)

On this 8th day of January, 1952, before me appeared M J Stocker and S O Davidson, both to me personally known, who, being duly sworn, did say that he, the said M J Stocker is the President, and he, the said S O Davidson is the Secretary of the Board of Trustees of the within corporation, Park College, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said M J Stocker and S O Davidson acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this day and year first in this certificate written.

Maude K Jackson
Notary Public

My commission expires Oct 4, 1955

MAUDE K. JACKSON NOTARY PUBLIC JACKSON COUNTY, MO.

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Book 65 Page 71

BOOK 65 PAGE 71

STATE OF OHIO }
} ss.
County of Hamilton }

On this 17th day of December, 1951, before me appeared Maybelle F. Woodbridge and Margaret C. Riemker both to me personally known, who, being duly sworn, did say that she, the said Maybelle F. Woodbridge is the President, and she, the said Margaret C. Riemker is the Secretary of the Young Women's Christian Association, the within named corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and the said President and Recording Secretary acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this the day and year first in this certificate written.

Richard W. Yoder
Notary Public

My commission expires 9/17/53

NOTARY PUBLIC STATE OF OHIO

STATE OF OHIO }
} ss.
County of Hamilton }

On this 15th day of December, 1951, before me appeared Gustav Troy and Gilbert J. Shaver -both to me personally known, who, being duly sworn, did say that he, the said Gustav Troy, is the President, and he, the said Gilbert J. Shaver, is the Secretary of the Young Men's Christian Association, the within named corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said Gustav Troy and Gilbert J. Shaver acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this the day and year first in this certificate written.

Charles P. Taft
Notary Public

My commission expires _____

CHARLES P. TAFT NOTARY PUBLIC STATE OF OHIO

CHARLES P. TAFT
Notary Public, Hamilton County, Ohio
My Commission expires Jan. 16, 1953

#22539

STATE OF MISSOURI
City of St. Louis } ss.

On this 27th day of November, 1951, before me personally appeared Fred Hume and Hilding Chilcress, both to me known, who, being duly sworn, did say that he, the said Fred Hume, is the President, and he, the said Hilding Chilcress, is the Secretary of Bethesda General Hospital, the within named corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said Fred Hume and Hilding Chilcress acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this the day and year first in this, my certificate, written.

Edwin G. Schuck
Notary Public

My commission expires 9/18/53

EDWIN G. SCHUCK NOTARY PUBLIC CITY OF ST. LOUIS, MO.

STATE OF OREGON
County of Grant } ss.

BE IT REMEMBERED, That on this 19th day of February, 1952, before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named Ray E. Summers, who is known to me to be the identical individual described in and who executed the within instrument, and acknowledged to me that he executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal the day and year last above written.

Orval D. Yokom
Notary Public

My commission expires 4-7-54

ORVAL D. YOKOM NOTARY PUBLIC STATE OF OREGON

22539

STATE OF OREGON
County of Grant } ss.

I hereby certify that the within instrument was filed in my office for record on this 19 day of Feb A.D. 1952 at 2:30 o'clock P. M., and is duly recorded in Book 65 of Deeds at Page 65 to 72 inclusive.

Witness my hand and official seal.
John Liveira
JOHN LIVEIRA, County Clerk

By _____ Deputy

Fees $ 6.00

GRANT COUNTY COURT STATE OF OREGON

INDEXED

#22539

Book 65 Page 65

THIS INDENTURE, Made this 20th day of September, 1951, by and between Seamen's Church Institute of New York, a charitable corporation, of New York City, New York; the Board of Trustees of Park College, an educational corporation, of Parkville, Missouri; the Young Women's Christian Association, a charitable corporation, of Cincinnati, Ohio; the Young Men's Christian Association, a charitable corporation, of Cincinnati, Ohio; the Bethesda General Hospital, a charitable corporation, of St. Louis, Missouri, hereinafter called Lessors, and Ray E. Summers, hereinafter called Lessee.

WITNESSETH, that the Lessors in consideration of the royalties hereinafter provided and the payment of yearly taxes assessed by Grant County, Oregon, against the property affected by this agreement, and in further consideration of the covenants and conditions herein contained, to be kept and performed by the Lessee, do hereby contract, lease, and demise to the Lessee, for the term of one year from and after the 1st day of October, 1951, the following described patented mining claims situated in Grant County, State of Oregon, and known as the Standard Group, to-wit:

> The Mahogany Mine, Pinkerton Extension Mine, Pinkerton Quartz Mining Claim, Purdy Quartz Mining Claim, Juniper Quartz Mining Claim, Black Horse Mine, Lone Star Quartz Mining Claim, Side Issue Mine, Copper Ridge No. 2 Mine, Ruby Mine, Michigan Quartz Mining Claim, New Star Quartz Mining Claim, Willie Boy Mine, Hobo Quartz Mine, I. X. L. Mine, Standard Mine, and Morning Glory Mine lode mining claims, designated as Survey No. 838, embracing a portion of Sections 1 and 12, in Township 12 South of Range 33 East, and Sections 6 and 7, Township 12 South of Range 34 East, Willamette Meridian, as the same are more particularly described in the patent from the United States of America to the heirs or devisees of Clifford M. Dolph, which said patent is of record in Vol. 38, page 583, et seq, Deed Records of Grant County, Oregon, to which record reference is hereby made for a more complete description of said mining claims; and
>
> The Grover Cleveland lode mining claim, embracing a portion of Section 12, Township 12 south, Range 33 East Willamette Meridian, said claim being designated by the Surveyor General as Lot No. 106, as the same is more particularly described in the patent from the United States of America to W. H. Johnson, Clarence Johnson and C. P. Johnson, which said patent is of record in Vol. V, page 65 of the Deed Records of Grant

to be made upon the property. And it is further expressly agreed that if the Lessee shall fail to perform said labor as hereinbefore provided that said Lease shall then, at the option of the Lessors, be forfeitable and the Lessors shall thereupon, if they shall elect to forfeit this lease and contract, serve upon the Lessee, a notice that unless they perform such work within ninety (90) days after the giving of said notice, that this contract and lease shall thereupon become forfeited, terminated and at an end, such ninety (90) day period to commence from the date said notice is mailed by the Lessors, all such notices to be given by registered mail and if the address of the Lessee is unknown, then such notice shall be given by posting a copy thereof on said land at the point of said mining operations thereon, which notice shall thereupon be deemed sufficient.

The Lessors hereby agree to renew this lease for an additional period of one (1) year in the event that the Lessee shall be conducting mining operations upon the mining claims hereinabove described at the end of the term herein provided for and in a like manner shall renew this lease for additional periods of one (1) year each, in the event that the Lessee shall be conducting mining operations upon the said mining claims at the expiration of any renewal term with reference to this lease.

As an additional consideration for this lease, the Lessee agrees that the Lessor shall be paid a royalty of ten per cent (10%) of the gross receipts from all ores taken out, extracted and shipped from the said mine or mines, which said royalty shall be paid by the purchasing agency to the Lessors, subject to the further provision that if for any reason the purchasing agency shall default in the payment of any amounts due with reference to this royalty herein provided for, then the Lessee upon written request of the Lessors shall pay any said amount or amounts to the Lessors and Lessors shall assign to the Lessee their claim with regard to any such payments against the purchasing agency to the Lessee. All ores shall be marked in the name of the mine or mines from which

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is to be done at the sole expense of the Lessee and that said work and labor is to be done in good like fashion.

It is further expressly understood and agreed by and between the parties hereto that it is not the intention of this agreement to form a partnership or joint venture between the parties hereto or any form of agreement whereby the Lessors could be held liable for the debts contracted by the Lessee or whereby the Lessors could be held liable for the malfeasance or non-feasance of the Lessee.

This agreement shall inure to the benefit of the heirs, executors and administrators of the lessee.

IN WITNESS WHEREOF, the parties hereto have executed this instrument as of the day and year last above written.

ATTEST: _____ Secy.

SEAMEN'S CHURCH INSTITUTE OF NEW YORK

By _____ Pres.

ATTEST: _____ Secy.

THE BOARD OF TRUSTEES OF PARK COLLEGE

By _____ Pres.

ATTEST: _____ Secy.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION

By _____ Pres.

ATTEST: _____ Secy.

YOUNG MEN'S CHRISTIAN ASSOCIATION

By _____ Pres.

ATTEST: _____ Secy.

BETHESDA GENERAL HOSPITAL

By _____ Pres.

(LESSORS)

_____
Ray E. Summers

(LESSEE)

#22539 Book 65 Page 71

BOOK 65 PAGE 71

STATE OF OHIO)
) ss.
County of Hamilton)

On this 17th day of December, 1951, before me appeared Maybelle F. Woodbridge and Margaret C. Kienker both to me personally known, who, being duly sworn, did say that she, the said Maybelle F. Woodbridge is the President, and she, the said Margaret C. Kienker is the Secretary of the Young Women's Christian Association, the within named corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and the said President and Recording Secretary acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this the day and year first in this certificate written.

Richard W. Todd
Notary Public

My commission expires 9/12/53

STATE OF OHIO)
) ss.
County of Hamilton)

On this 15th day of December, 1951, before me appeared Gordon Gray and Gilbert J. Shaver both to me personally known, who, being duly sworn, did say that he, the said Gordon Gray, is the President, and he, the said Gilbert J. Shaver, is the Secretary of the Young Men's Christian Association, the within named corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said Gordon Gray and Gilbert J. Shaver acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this the day and year first in this certificate written.

Charles P. Taft
Notary Public

My commission expires

CHARLES P. TAFT
Notary Public, Hamilton County, Ohio
My Commission Expires Jan. 16, 1953

#22539

THIS INDENTURE, Made this 20th day of September, 1951, by and between Seamen's Church Institute of New York, a charitable corporation, of New York City, New York; the Board of Trustees of Park College, an educational corporation, of Parkville, Missouri; the Young Women's Christian Association, a charitable corporation, of Cincinnati, Ohio; the Young Men's Christian Association, a charitable corporation, of Cincinnati, Ohio; the Bethesda General Hospital, a charitable corporation, of St. Louis, Missouri, hereinafter called Lessors, and Ray E. Summers, hereinafter called Lessee.

WITNESSETH, that the Lessors in consideration of the royalties hereinafter provided and the payment of yearly taxes assessed by Grant County, Oregon, against the property affected by this agreement, and in further consideration of the covenants and conditions herein contained, to be kept and performed by the Lessee, do hereby contract, lease, and demise to the Lessee, for the term of one year from and after the 1st day of October, 1951, the following described patented mining claims situated in Grant County, State of Oregon, and known as the Standard Group, to-wit:

The Mahogany Mine, Pinkerton Extension Mine, Pinkerton Quartz Mining Claim, Purdy Quartz Mining Claim, Juniper Quartz Mining Claim, Black Horse Mine, Lone Star Quartz Mining Claim, Side Issue Mine, Copper Ridge No. 2 Mine, Ruby Mine, Michigan Quartz Mining Claim, New Star Quartz Mining Claim, Willie Boy Mine, Hobo Quartz Mine, I. X. L. Mine, Standard Mine, and Morning Glory Mine lode mining claims, designated as Survey No. 838, embracing a portion of Sections 1 and 12, in Township 12 South of Range 33 East, and Sections 6 and 7, Township 12 South of Range 34 East, Willamette Meridian, as the same are more particularly described in the patent from the United States of America to the heirs or devisees of Clifford M. Dolph, which said patent is of record in Vol. 38, page 583, et seq, Deed Records of Grant County, Oregon, to which record reference is hereby made for a more complete description of said mining claims; and

The Grover Cleveland lode mining claim, embracing a portion of Section 12, Township 12 south, Range 33 East Willamette Meridian, said claim being designated by the Surveyor General as Lot No. 106, as the same is more particularly described in the patent from the United States of America to W. H. Johnson, Clarence Johnson and C. P. Johnson, which said patent is of record in Vol. V, page 65 of the Deed Records of Grant

County, Oregon, to which record reference is hereby made for a more particular description of said mining claim.

It being the intention of the first parties to describe all of the mining property, and all of the rights of every sort and nature in and to any mining property that the first parties may own in Grant County, Oregon.

Reserving unto the parties of the first part all rights pertaining to timber and growth of timber thereon except such timber under 17 inches diameter as is reasonably necessary to the second party in the conduct of his mining operations.

which premises are leased to the Lessee for the purpose of exploring for and mining and taking out and removing therefrom the ore therein contained, containing copper, silver, lead, gold and other valuable minerals which is or which hereafter may be found in, on, or under said land, together with the right to construct all buildings, make all excavations, openings, ditches, drains, railroads, wagon roads, concentrators, power plants, smelters, and other improvements upon said premises which are or may become necessary or suitable for the mining or removal of ore containing copper, lead, silver, gold, or other valuable minerals from said premises. Provided, that the Lessee shall have the right at any time to terminate this agreement in so far as it requires the Lessee to mine ore on said land or to pay a royalty therefor, by giving written notice to the Lessors by registered mail and the foregoing contract shall terminate thirty (30) days thereafter and all arrears and sums which may be due under the same up to the time of its termination as set forth in said notice shall be paid upon settlement and adjustment thereof. The Lessee further agrees that the Lessee shall not have the right under this agreement to contract with others to work such mine or mines or any part thereof or to sub-contract the same and the use of the said land or any part thereof for the purpose of mining for ore without the consent of the Lessors. The Lessee agrees that they will each year during the life of this lease perform work or make improvements upon the premises hereinbefore described in an amount of not less than One Thousand and No/100-- Dollars ($1,000.00) and will forward to the Lessors a statement of the work performed or to be performed and the improvements made or

to be made upon the property. And it is further expressly agreed that if the Lessee shall fail to perform said labor as hereinbefore provided that said Lease shall then, at the option of the Lessors, be forfeitable and t e Lessors shall thereupon, if they shall elect to forfeit this lease and contract, serve upon the Lessee, a notice that unless they perform such work within ninety (90) days after the giving of said notice, that this contract and lease shall thereupon become forfeited, terminated and at an end, such ninety (90) day period to commence from the date said notice is mailed by the Lessors, all such notices to be given by registered mail and if the address of the Lessee is unknown, then such notice shall be given by posting a copy thereof on said land at the point of said mining operations thereon, which notice shall thereupon be deemed sufficient.

The Lessors hereby agree to renew this lease for an additional period of one (1) year in the event that the Lessee shall be conducting mining operations upon the mining claims hereinabove described at the end of the term herein provided for and in a like manner shall renew this lease for additional periods of one (1) year each, in the event that the Lessee shall be conducting mining operations upon the said mining claims at the expiration of any renewal term with reference to this lease.

As an additional consideration for this lease, the Lessee agrees that the Lessor shall be paid a royalty of ten per cent (10%) of the gross receipts from all ores taken out, extracted and shipped from the said mine or mines, which said royalty shall be paid by the purchasing agency to the Lessors, subject to the further provision that if for any reason the purchasing agency shall default in the payment of any amounts due with reference to this royalty herein provided for, then the Lessee upon written request of the Lessors shall pay any said amount or amounts to the Lessors and Lessors shall assign to the Lessee their claim with regard to any such payments against the purchasing agency to the Lessee. All ores shall be marked in the name of the mine or mines from which

the same shall be extracted and the royalty herein provided for shall be paid upon the first day of every month to the Lessors, together with duplicate statements of ores worked by smelters.

The Lessee agrees that he will not suffer any liens for labor, material or supplies to attach to the real property hereinabove described, nor to any personal property that said Lessee may place upon said premises, and that the Lessee will save the Lessors harmless from any claims whatsoever from any parties whatsoever for material or supplies furnished or labor performed in connection with said mining operations.

It is understood and agreed that the Lessors, and/or their duly authorized and appointed agents, shall have the right to go upon this property and every portion thereof and inspect the same at any and all reasonable times.

It is further understood and agreed by and between the parties hereto that upon the expiration of this lease that the Lessee will immedaitely, peaceably vacate said premises and remove all of the property placed thereon by them that they desire to remove, and all property remaining upon said premises after ninety (90) days from the date of the expiration of this lease shall be deemed to be the property of the Lessors.

It is further understood and agreed by and between the parties hereto that this contract shall not be assigned by the Lessee without the consent of the Lessors.

The Lessee agrees to post a notice upon said mining claims at once that the owners of said mining claims will not be responsible for any debts, obligations, wages, expenses, dues of any nature or character whatsoever during the term of this lease.

It is expressly understood and agreed by and between the parties hereto that all work to be done and improvements to be placed upon the mining properties and all expenditures with reference to the mining operations to be conducted by the Lessee

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is to be done at the sole expense of the Lessee and that said work and labor is to be done in good like fashion.

It is further expressly understood and agreed by and between the parties hereto that it is not the intention of this agreement to form a partnership or joint venture between the parties hereto or any form of agreement whereby the Lessors could be held liable for the debts contracted by the Lessee or whereby the Lessors could be held liable for the malfeasance or non-feasance of the Lessee.

This agreement shall inure to the benefit of the heirs, executors and administrators of the lessee.

IN WITNESS WHEREOF, the parties hereto have executed this instrument as of the day and year last above written.

ATTEST: _____ Secy.

SEAMEN'S CHURCH INSTITUTE OF NEW YORK

By _____ Pres.

ATTEST: _____ Secy.

THE BOARD OF TRUSTEES OF PARK COLLEGE

By _____ Pres.

ATTEST: _____ Secy.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION

By _____ Pres.

ATTEST: _____ Secy.

YOUNG MEN'S CHRISTIAN ASSOCIATION

By _____ Pres.

ATTEST: _____ Secy.

BETHESDA GENERAL HOSPITAL

By _____ Pres.

(LESSORS)

Ray E. Summers

Ray E. Summers

(LESSEE)

#22539

STATE OF NEW YORK)
) ss.
County of New York)

On this 27th day of December, 1951, before me appeared Clarence G. Michalis and Thomas Roberts, both to me personally known, who, being duly sworn, did say that he, the said Michalis is the president, and he, the said Roberts is the secretary of the Seamen's Church Institute of New York, the within named corporation, and that the seal affixed to the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Managers, and said Roberts and Michalis acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this day and year first in this, my certificate written.

R. M. OLSEN NOTARY PUBLIC KINGS COUNTY

Robert M Olsen
Notary Public

My commission expires _____

STATE OF MISSOURI)
) ss.
County of Jackson)

On this 8th day of January, 1952, before me appeared M J Stocker and S O Davidson, both to me personally known, who, being duly sworn, did say that he, the said M J Stocker is the President, and he, the said S O Davidson is the Secretary of the Board of Trustees of the within corporation, Park College, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said M J Stocker and S O Davidson acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this day and year first in this certificate written.

Maude K Jackson
Notary Public

My commission expires Oct 4, 1955

MAUDE K. JACKSON NOTARY PUBLIC JACKSON COUNTY, MO.

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BOOK 65 PAGE 71

STATE OF OHIO }
County of Hamilton } ss.

On this 17th day of December, 1951, before me appeared Maybelle F. Woodbridge and Margaret C. Kiesewer both to me personally known, who, being duly sworn, did say that she, the said Maybelle F. Woodbridge is the President, and she, the said Margaret C. Kiesewer is the Secretary of the Young Women's Christian Association, the within named corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and the said President and Recording Secretary acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this the day and year first in this certificate written.

Richard W. Todd
Notary Public

My commission expires 9/17/53

STATE OF OHIO }
County of Hamilton } ss.

On this 15th day of December, 1951, before me appeared Gustav Kraus and Gilbert J. Shaver both to me personally known, who, being duly sworn, did say that he, the said Gustav Kraus, is the President, and he, the said Gilbert J. Shaver, is the Secretary of the Young Men's Christian Association, the within named corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said Gustav Kraus and Gilbert J. Shaver acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this the day and year first in this certificate written.

Charles P. Taft
Notary Public

My commission expires _____

CHARLES P. TAFT
Notary Public, Hamilton County, Ohio
My Commission Expires Jan. 16, 1953

BOOK 65 PAGE 72

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STATE OF MISSOURI)
City ~~County~~ of St. Louis) ss.

On this 27th day of November, 1951, before me personally appeared Fred Hume and Hilding Childress, both to me known, who, being duly sworn, did say that he, the said Fred Hume, is the President, and he, the said Hilding Childress, is the Secretary of Bethesda General Hospital, the within named corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said Fred Hume and Hilding Childress acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this the day and year first in this, my certificate, written.

EDWARD C. SCHNEIDER NOTARY PUBLIC CITY OF ST. LOUIS, MO.

Edward C. Schneider
Notary Public

My commission expires 9/18/53

STATE OF OREGON)
) ss.
County of Grant)

BE IT REMEMBERED, That on this 19th day of February, 1952, before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named Ray E. Summers, who is known to me to be the identical individual described in and who executed the within instrument, and acknowledged to me that he executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal the day and year last above written.

ORVAL D. YOKOM NOTARY PUBLIC STATE OF OREGON

Orval D. Yokom
Notary Public

22539 My commission expires 4-9-54

STATE OF OREGON }
County of Grant } ss.

I hereby certify that the within instrument was filed in my office for record on this 19 day of Feb A.D. 1952 at 2:30 o'clock P. M., and is duly recorded in Book 65 of Deeds at Page 65 to 72 inclusive.

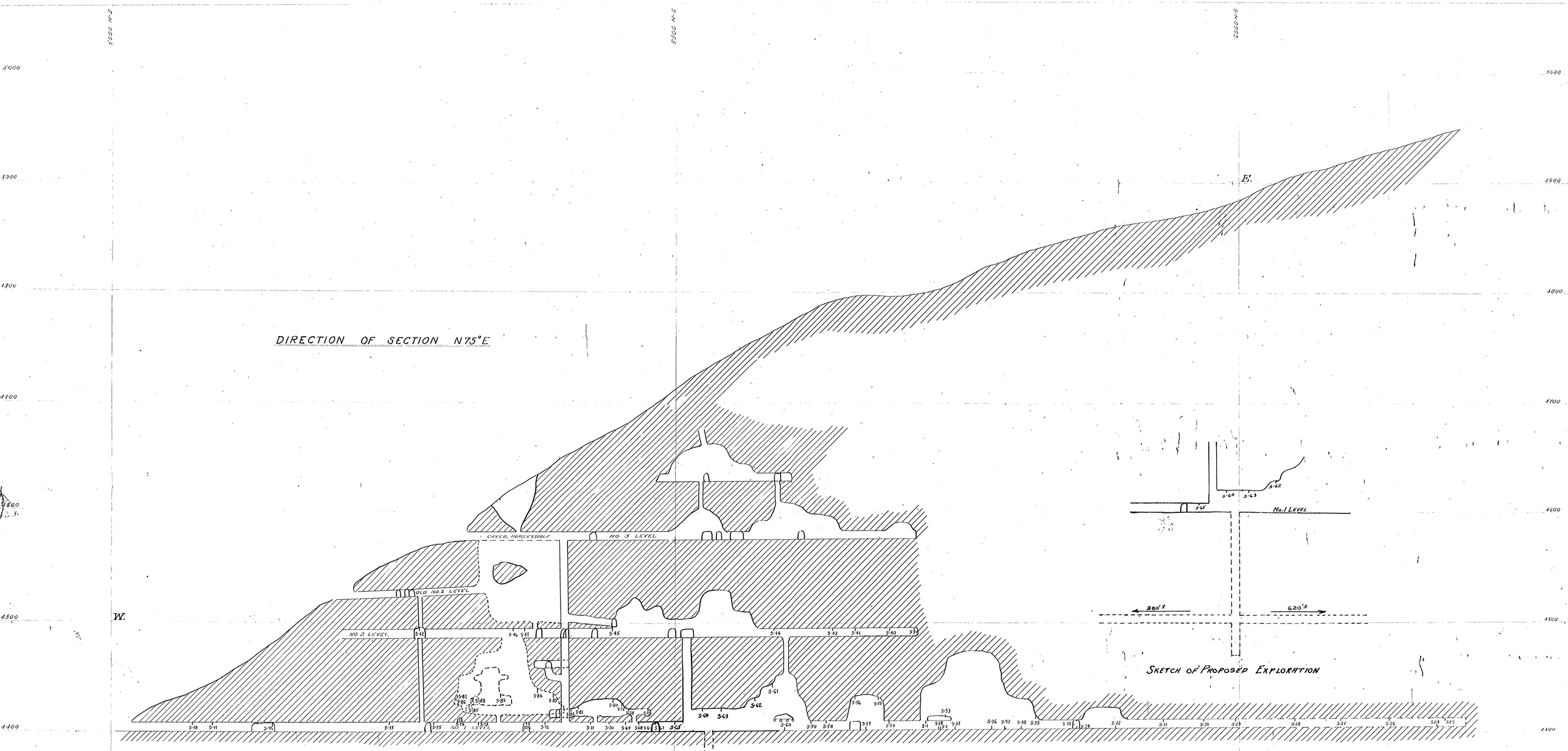
Witness my hand and official seal.
JOHN LIVEIRA, County Clerk

By _____ Deputy

Fees $ 6.00

COUNTY COURT GRANT COUNTY * STATE OF OREGON *

INDEXED



TABLES OF SAMPLE ASSAYS

LOCATIONS SHOWN ABOVE — SAMPLES LISTED IN NUMERICAL ORDER

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
S-24	6"	0.02	0.05	0.01	0.020	0.10
S-25	1"	0.02	0.05	0.01	0.010	0.05
S-26	2"	0.02	0.05	0.01	trace	none
S-27	54"	0.02	0.05	0.01	trace	none
S-28	30"	0.02	0.05	0.01	trace	none
S-29	84"	0.02	0.05	0.01	0.010	0.05
S-30	30"	0.02	0.05	0.01	trace	none
S-31	30"	0.02	0.05	0.01	trace	0.10
S-32	8"	0.58	0.18	0.01	0.318	0.30
S-33	12"	0.40	0.05	0.01	trace	0.15
S-34	5"	0.10	0.05	0.01	0.045	0.05
S-35	18"	0.10	0.25	0.01	0.175	0.25
S-36	4"	0.10	0.20	0.01	0.330	0.10
S-37	GRAB	1.48	0.20	0.01	0.185	0.65
S-38	12"	1.13	0.57	0.01	0.590	0.50
S-39	1"	0.40	0.05	0.01	0.340	0.60
S-40	29"	0.51	0.05	0.01	0.075	0.15

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
S-41	5"	0.19	1.27	0.12	0.510	0.15
S-42	36"	0.02	0.05	0.01	0.020	0.05
S-43		0.02	0.23	0.01	0.110	0.05
S-44	24"	0.32	0.05	0.01	0.020	0.15
S-45	4'	0.07	0.05	0.01	0.020	0.05
S-46	12"	3.50	0.40	0.04	1.630	1.10
S-47	12"	24.31	0.05	0.01	0.040	0.90
S-48	12"	0.34	0.18	0.01	0.270	0.10
S-52	5"	0.57	2.12	0.01	2.190	0.60
S-53	3"	0.15	1.20	0.01	2.820	0.10
S-54	5"	0.02	0.05	0.01	0.030	0.15
S-55	12"	0.02	0.05	0.01	0.030	0.05
S-56	14"	0.02	0.83	0.01	1.530	none
S-57	4"	0.02	0.05	0.01	0.030	0.05
S-58	10"	2.16	0.05	0.01	0.040	0.05
S-59	11"	1.27	0.05	0.01	0.030	0.05
S-60	4'	0.67	0.54	0.09	0.610	0.10

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
S-61	10"	8.41	0.10	0.01	0.325	0.45
S-62	4"	0.05	0.10	0.01	0.090	0.05
S-63	30"	0.02	0.05	0.01	0.020	0.05
S-64	14"	0.02	2.08	0.01	1.770	0.05
S-65	12'	0.23	0.93	0.11	1.500	0.10
S-66	14"	0.04	0.10	0.01	0.110	trace
S-67	16"	0.02	0.05	0.01	0.325	0.10
S-68	36"	0.18	0.05	0.01	0.020	0.35
S-69	6"	0.02	0.05	0.01	0.010	0.20
S-70	18"	0.02	0.05	0.01	0.060	0.05
S-71	18"	0.04	0.05	0.01	0.010	0.05
S-72	18"	0.18	0.05	0.01	0.090	trace
S-73	4"	7.17	0.70	0.04	1.075	0.30
S-74	6"	0.05	1.05	0.01	1.350	0.45
S-75	1"	0.06	1.08	0.09	0.830	0.30
S-76	16"	0.50	0.05	0.01	0.020	0.45
S-77	1"	0.30	0.05	0.01	0.050	0.20

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
S-78	30"	0.05	0.05	0.01	0.020	0.15
S-79	4"	0.02	2.24	0.01	1.630	0.20
S-80	15"	0.05	0.05	0.01	0.010	0.05
S-81	60"	0.03	0.05	0.01	0.005	0.05
S-82		4.43	0.05	0.01	0.020	0.30
S-83	12"	0.23	0.05	0.01	0.020	0.15
S-84	5"	0.82	0.05	0.01	0.080	0.05
S-85	6"	11.30	0.10	0.01	1.690	0.65
S-86	8"	4.68	0.05	0.01	0.090	0.70
S-87	18"	0.05	0.05	0.01	0.005	0.20
S-88	4'	1.25	4.15	0.01	2.310	0.40
S-89	2"	8.02	0.05	0.01	0.510	0.70
S-95	3"	5.43	0.05	0.01	0.625	0.90
S-96	2'	2.18	0.05	0.01	0.010	0.40
S-97	1.5'	26.83	0.05	0.01	0.005	14.60
S-98	7"	5.20	0.05	0.01	0.050	1.45

U. S. DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

SECTION ALONG STANDARD VEIN

STANDARD MINE, GRANT COUNTY, OREGON

SCALE: 1" = 40'

DATE: MARCH, 1943

FIGURE 3

TABLES OF SAMPLE ASSAYS

LOCATIONS SHOWN ABOVE ⟷ SAMPLES LISTED IN NUMERICAL ORDER

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
S-24	6"	0.02	0.05	0.01	0.020	0.10
S-25	1"	0.02	0.05	0.01	0.010	0.05
S-26	2"	0.02	0.05	0.01	trace	none
S-27	54"	0.02	0.05	0.01	trace	none
S-28	30"	0.02	0.05	0.01	trace	none
S-29	84"	0.02	0.05	0.01	0.010	0.05
S-30	30"	0.02	0.05	0.01	trace	none
S-31	36"	0.02	0.05	0.01	trace	0.10
S-32	(8")	0.58	0.78	0.01	0.318	0.30
S-33	12"	0.40	0.05	0.01	trace	0.15
S-34	5"	0.10	0.05	0.01	0.045	0.05
S-35	48"	0.10	0.25	0.01	0.175	0.25
S-36	4"	0.10	0.20	0.01	0.330	0.10
S-37	GRAB	1.48	0.20	0.01	0.185	0.65
S-38	12"	1.13	0.57	0.01	0.590	0.50
S-39	1"	0.40	0.05	0.01	0.340	0.60
S-40	25"	0.51	0.05	0.01	0.075	0.15

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
S-41	5"	0.14	1.27	0.12	0.510	0.15
S-42	36"	0.02	0.05	0.01	0.020	0.05
S-43		0.02	0.23	0.01	0.110	0.05
S-44	24"	0.32	0.05	0.01	0.020	0.15
S-45	4"	0.07	0.05	0.01	0.020	0.05
S-46	12"	8.50	0.40	0.04	1.630	1.10
S-47	12"	24.31	0.05	0.01	0.080	0.90
S-48	12"	0.34	0.18	0.01	0.270	0.10
S-52	5"	0.37	2.12	0.01	2.180	0.60
S-53	(3")	0.15	1.20	0.01	2.820	0.10
S-54	5"	0.02	0.05	0.01	0.030	0.15
S-55	12"	0.02	0.05	0.01	0.030	0.05
S-56	14"	0.02	0.83	0.01	1.530	none
S-57	4"	0.02	0.05	0.01	0.030	0.05
S-58	10"	2.16	0.05	0.01	0.040	0.05
S-59	11"	1.27	0.05	0.01	0.030	0.05
S-60	(4")	0.67	0.54	0.09	0.670	0.10

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
S-61	10"	8.41	0.10	0.01	0.325	0.45
S-62	4"	0.05	0.10	0.01	0.090	0.05
S-63	30"	0.02	0.05	0.01	0.020	0.05
S-64	14"	0.02	2.08	0.01	1.770	0.05
S-65	12"	0.23	0.93	0.11	1.500	0.10
S-66	14"	0.04	0.10	0.01	0.110	trace
S-67	16"	0.02	0.05	0.01	0.325	0.10
S-68	36"	0.48	0.05	0.01	0.020	0.35
S-69	6"	0.02	0.05	0.01	0.010	0.20
S-70	48"	0.02	0.05	0.01	0.060	0.05
S-71	48"	0.04	0.05	0.01	0.010	0.05
S-72	48"	0.18	0.05	0.01	0.090	trace
S-73	(6")	7.17	0.70	0.04	1.075	0.30
S-74	(6")	0.05	1.05	0.01	1.350	0.45
S-75	(1")	0.06	1.08	0.09	0.830	0.30
S-76	16"	0.50	0.05	0.01	0.020	0.45
S-77	1"	0.30	0.05	0.01	0.050	0.20
S-1	12"	0.09	1.45	0.01	1.82	0.35
S-2	Grab	0.09	0.01	0.01	0.275	0.25

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
S-78	30"	0.05	0.05	0.01	0.020	0.15
S-79	(4")	0.02	2.24	0.01	1.630	0.20
S-80	75"	0.05	0.05	0.01	0.010	0.05
S-81	60"	0.03	0.05	0.01	0.005	0.05
S-82		4.43	0.05	0.01	0.020	0.30
S-83	12"	0.23	0.05	0.01	0.020	0.45
S-84	5"	0.82	0.05	0.01	0.080	0.05
S-85	(6")	11.30	0.10	0.01	1.690	0.65
S-86	8"	4.68	0.05	0.01	0.040	0.70
S-87	18"	0.05	0.05	0.01	0.005	0.20
S-88	(4")	1.25	4.15	0.01	2.310	0.40
S-89	(2")	8.02	0.05	0.01	0.570	0.70
S-95	(3")	5.43	0.05	0.01	0.625	0.90
S-96	2"	2.18	0.05	0.01	0.010	0.40
S-97	4.5"	26.83	0.05	0.01	0.005	14.60
S-98	9"	5.20	0.05	0.01	0.050	1.45

U. S. DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

SECTION ALONG STANDARD VEIN

STANDARD MINE, GRANT COUNTY, OREGON

SCALE: 1" = 40'

DATE: MARCH, 1943

FIGURE 3

TABLES OF SAMPLE ASSAYS

← LOCATIONS SHOWN ABOVE — SAMPLES LISTED IN NUMERICAL ORDER →

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
S-24	6"	0.02	0.05	0.01	0.020	0.10
S-25	1"	0.02	0.05	0.01	0.010	0.05
S-26	2"	0.02	0.05	0.01	trace	none
S-27	54"	0.02	0.05	0.01	trace	none
S-28	30"	0.02	0.05	0.01	trace	none
S-29	84"	0.02	0.05	0.01	0.010	0.05
S-30	30"	0.02	0.05	0.01	trace	none
S-31	36"	0.02	0.05	0.01	trace	0.10
S-32	8"	0.58	0.78	0.01	0.318	0.30
S-33	12"	0.40	0.05	0.01	trace	0.15
S-34	5"	0.10	0.05	0.01	0.045	0.05
S-35	48"	0.10	0.25	0.01	0.175	0.25
S-36	4"	0.10	0.20	0.01	0.390	0.10
S-37	GRAB	1.48	0.20	0.01	0.185	0.65
S-38	12"	1.13	0.57	0.01	0.590	0.50
S-39	1"	0.40	0.05	0.01	0.340	0.60
S-40	25"	0.51	0.05	0.01	0.075	0.15

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
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S-43		0.02	0.23	0.01	0.110	0.05
S-44	24"	0.32	0.05	0.01	0.020	0.15
S-45	4"	0.07	0.05	0.01	0.020	0.05
S-46	12"	8.50	0.40	0.04	1.630	1.10
S-47	12"	24.31	0.05	0.01	0.080	0.90
S-48	12"	0.34	0.18	0.01	0.270	0.10
S-52	5"	0.37	2.72	0.01	2.190	0.60
S-53	3"	0.15	1.20	0.01	2.820	0.10
S-54	5"	0.02	0.05	0.01	0.030	0.15
S-55	12"	0.02	0.05	0.01	0.030	0.05
S-56	14"	0.02	0.83	0.01	1.530	none
S-57	4"	0.02	0.05	0.01	0.030	0.05
S-58	10"	2.16	0.05	0.01	0.040	0.05
S-59	11"	1.27	0.05	0.01	0.030	0.05
S-60	4"	0.67	0.54	0.09	0.670	0.10

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
S-61	10"	8.41	0.10	0.01	0.325	0.45
S-62	4"	0.05	0.10	0.01	0.090	0.05
S-63	30"	0.02	0.05	0.01	0.020	0.05
S-64	14"	0.02	2.08	0.01	1.770	0.05
S-65	12"	0.23	0.93	0.11	1.500	0.10
S-66	14"	0.04	0.10	0.01	0.110	trace
S-67	16"	0.02	0.05	0.01	0.325	0.10
S-68	36"	0.48	0.05	0.01	0.020	0.35
S-69	6"	0.02	0.05	0.01	0.010	0.20
S-70	48"	0.02	0.05	0.01	0.060	0.05
S-71	48"	0.04	0.05	0.01	0.010	0.05
S-72	48"	0.18	0.05	0.01	0.090	trace
S-73	4"	7.17	0.70	0.04	1.075	0.30
S-74	6"	0.05	1.05	0.01	1.350	0.45
S-75	1"	0.06	1.08	0.09	0.830	0.30
S-76	16"	0.50	0.05	0.01	0.020	0.45
S-77	1"	0.30	0.05	0.01	0.050	0.20

SAMPLE NUMBER	WIDTH INCHES	% COPPER	% COBALT	% NICKEL	OZ./TON GOLD	OZ./TON SILVER
S-78	30"	0.05	0.05	0.01	0.020	0.15
S-79	4"	0.02	2.24	0.01	1.630	0.20
S-80	7.5"	0.05	0.05	0.01	0.010	0.05
S-81	60"	0.03	0.05	0.01	0.005	0.05
S-82		4.43	0.05	0.01	0.020	0.30
S-83	12"	0.23	0.05	0.01	0.020	0.15
S-84	5"	0.82	0.05	0.01	0.080	0.05
S-85	6"	11.30	0.10	0.01	1.690	0.65
S-86	8"	4.68	0.05	0.01	0.040	0.70
S-87	18"	0.05	0.05	0.01	0.005	0.20
S-88	4"	1.25	4.15	0.01	2.310	0.40
S-89	2"	8.02	0.05	0.01	0.570	0.70
S-95	3"	5.43	0.05	0.01	0.625	0.90
S-96	2"	2.18	0.05	0.01	0.010	0.40
S-97	4.5"	26.83	0.05	0.01	0.005	74.60
S-98	9"	5.20	0.05	0.01	0.050	1.45

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