File Copy
Surname
J. All
Linwood
Lamb
Williams
Selfridge

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

AUG 29 1956

Mr. C. L. Hewitt, President
Swansea Mines, Inc.
Post Office Box 904
Helena, Montana

Re: Docket No. DMEA-4030 (Copper-Lead)
Swansea Mines, Inc.
Silver Bell Mine
Lewis and Clark County, Montana

Dear Mr. Hewitt:

Your application for aid for an exploration project and other reports available to us in Washington concerning your application have been reviewed.

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

Careful study of all our information, although noting a small amount of copper-lead mineralization on your lease, indicates to us that the probability of disclosing significant ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

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

Sincerely yours,

Frank E. Johnson
ACTING Administrator

JWAlt/cr 8/27/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Pennington, USBM
Mr. Kiilsgaard, USGS
Region I, NW Dist. (2)
Chron.

File Copy
Surname
J. Cee.

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

500

August 27, 1956

Memorandum

To: The Administrator

From: Chief, Base Metals Division

Subject: Denial of Application, Docket No. DMEA-4030, Swansea Mines, Inc., Silver Bell Mine, Lewis and Clark County, Montana, Lead-Copper.

The cited application, dated October 15, 1955, was received by this office on October 24. The application was referred to the Field Team for a field examination, but due to snow conditions an examination of the property could not be made until sometime after June 1956. The Applicant stated that it would have the road opened to the mine by about June 18. The lower part of the mine was examined early in December, but an examination of the upper part could not be made because of deep snow.

The exploration proposed by the Applicant consists of three diamond drill holes of 1,800 feet of drilling and costs incidental to the drilling. Total estimated cost is $11,150.00. The purpose of the exploration was to drill 400 feet below the lowest or the No. 4 level in an attempt to get below the zone of oxidation.

The mine workings consist of 4 adit levels with connecting raises and winzes. The most extensive work was done on the No. 4 adit level which is the lowest level where 5,100 feet of crosscutting and drifting was completed.

From 1901 to 1942, the mine produced 1,486 tons of ore containing 561 ounces of gold, 17,839 ounces of silver, 12,826 pounds of copper and 4,693 pounds of lead.

The Field Team states:

"The Silver Bell mine has produced a small tonnage of gold ore with a minor content of copper, all from the oxidized zone and there appeared to be some hope that drilling might discover a zone of copper enrichment under the oxidized ore shoots. Unfortunately, Pinckney's examination reveals that limonite is nowhere more than moderately abundant in the oxidized zone, suggesting that the primary mineralization was not in itself very strong. Further, although chalcopyrite and chalcocite are found on the No. 4 level, indicating that the secondary "enriched" zone has already been reached, there is no significant increase in copper content. There is, consequently, no reason to expect that deeper drilling would find better grade ore and we concur in Pinckney's recommendation for denial."

We concur with the recommendations of the Field Team and the commodity members of the USGS and the USBM that the application be denied.

W. R. Griswold

W. R. Griswold

JWAlt/er

Copy to: Docket
Base Metals
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION 500
WASHINGTON 25, D. C.

August 27, 1956

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W. R. Griswold

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

August 20, 1956

Memorandum

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

From: Commodity Specialist, Branch of Base Metals

Subject: Review of Examination Report, Docket No. DMEA 4030 (copper-lead), Swansea Mines, Inc., Silver Bell Mine, Lewis & Clark County, Montana. $11,150.00

The examination report of this property by Darrell M. Pinckney, Geological Survey, has been reviewed.

It was proposed to explore for a zone of primary sulfides by 3 diamond drill holes totaling 1,800 feet at an estimated cost of $11,150.00.

Pinckney believes that the No. 4 level may be near the top of a possible enriched zone and the purpose of drilling should be for a zone of enrichment rather than a zone of primary sulfides. However, Pinckney also believes that any secondary enriched zone would be insignificant.

As a result, both Pinckney and the Field Team recommend that the exploration is not justified and that the application be denied.

I agree with the recommendation.

J. W. Pennington

J. W. Pennington

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

RECEIVED
AUG 30 1956

August 20, 1956

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

IN REPLY REFER TO:

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

August 17, 1956

Re: DMEA 4030
Swansea Mines, Inc.,
Silver Bell Mine
Lewis and Clark Co., Mont.
$11,150 - Copper, lead-silver

Memorandum

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

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

Subject: Review of Field Team report.

The applicant requested assistance in diamond drilling a copper-bearing quartz vein in granodiorite below the zone of oxidation in search of a sulfide zone. The drilling, 3 'down' holes, would be done from a station on the No. 4 level, the lowest level in the mine.

The examiner concludes: "On the No. 4 level the lack of limonite and the presence of some chalcopyrite and sooty chalcocite along with the secondary copper minerals indicate that thorough leaching did not reach to this level but rather that the No. 4 level may be near the top of a possible enriched zone. The purpose of drilling the vein should be to look for a zone of enrichment rather than a zone of primary sulfides, as is the intent of the applicant. Primary sulfides probably are distributed in a very irregular manner within the vein and exploration based upon the hope of finding them alone does not seem warranted. While an enriched zone in which the grade could be expected to be higher seems possible, the chance of finding such a zone containing significant amounts of copper ore is probably poor. Exploration for the existence of a zone of secondary enrichment which may not exist, and which if it does exist will probably not contain a significant ore body, is not believed to be justified, and therefore it is recommended that this application be denied".

The conclusion is apt. The consulting engineer's report says: "The drift on the Main Vein on the No. 4, or lowest, adit opened up the vein directly below this good ore. But the vein was not commercial....This northeast drifting was in almost completely barren material. From the above results it could appear that the ore shoot had bottomed somewhere below the No. 3 adit and above the lowest level."

RECEIVED
AUG 21 1956

The opinions of the Field Team examiner and the consultant are not identical but both are unfavorable and amply sustain the recommendation of the examiner and the Field Team that the application be denied.

I concur with that recommendation.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

August 27, 1956

Re: DMEA 4030
Swansea Mines, Inc.,
Silver Bell Mine
Lewis and Clark Co., Mont.
$11,150 - Copper, lead-silver

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AUG 21 1956

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I concur with that recommendation.

N. E. Nelson

N. E. Nelson

NENelson:btr
G 8/17/56

cc: J. W. Pennington, 3623
~~O. M. Bishop, 3617~~
Director's reading file(4212)
Branch reading file (4212)
DMEA (3)
Chrom. file
Docket file

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D. C.~~
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
AUG 13 1956

August 10, 1 956

Mr. George C. Selfridge, Chairman
DMEA Operating Committee
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-4030 (Copper-Lead)
Swansea Mines, Inc.
Silver Bell Mine
Lewis & Clark County, Montana

Dear Mr. Selfridge:

Enclosed are four copies of a memorandum from Darrell M. Pinckney, U. S. Geological Survey, recommending denial of an application to explore the Silver Bell mine by three diamond drill holes. In accordance with our request of October 19, 1955, Mr. Hewitt provided the six copies of consent to lien on a later form, three copies of maps 1 and 2, and three copies of a report by the Galagher Co. on the Silver Bell. These are sent to complete your files.

The Silver Bell mine has produced a small tonnage of gold ore with a minor content of copper, all from the oxidized zone and there appeared to be some hope that drilling might discover a zone of copper enrichment under the oxidized ore shoots. Unfortunately, Pinckney's examination reveals that limonite is nowhere more than moderately abundant in the oxidized zone, suggesting that the primary mineralization was not in itself very strong. Further, although chalcopyrite and chalcocite are found on the No. 4 level, indicating that the secondary "enriched" zone has already been reached, there is no significant increase in copper content. There is, consequently, no reason to expect that deeper drilling would find better grade ore and we concur in Pinckney's recommendation for denial.

By Field Team, Region I, NW Dist.

Reviewed by
DMEA OPERATING COMMITTEE
8-17-56
(date)

A. E. Weissenborn
A. E. Weissenborn, Exec. Officer
U. S. Geological Survey

Thomas E Howard
for Wing G. Agnew, Member
U. S. Bureau of Mines

Enclosures

cc: USBM (2)
USGS(SRO)
Pinckney

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
AUG 13 1956

August 9, 1956

MEMORANDUM

To: DMEA Field Team, Region I, Northwest District

From: Darrell M. Pinckney, Geologist, U. S. Geological Survey

Subject: Examination report, Docket No. DMEA-4030 (Copper-Lead), Swansea Mines, Inc., Silver Ball Mine, Lewis & Clark County, Montana

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the oxidized zone contains scant amounts of copper oxide minerals; that on the lowest level, which is close to the bottom of the oxidized zone, copper sulfides, often fairly fresh chalcopyrite and chalcocite, are not overly abundant; and that, although there may be a zone of enrichment at greater depth, the chance of discovering a significant body of copper ore is poor. Therefore, it is recommended that this application be denied.

LOCATION AND ACCESSIBILITY

The property is on the west side of the Continental Divide about 40 miles northwest of Helena, Montana. It is reached by a good road, part of which is paved, extending over Stemple Pass between Helena and Lincoln, Montana. A road extends from the mine along a gulch tributary to the North Fork of Poorman Creek and joins the Helena-Lincoln road about 1½ miles west of Stemple Pass. The property can also be reached from Missoula, Montana, via Lincoln.

The region around the mine is a gently rolling old age erosion surface cut by deep "V"-shaped valleys the bottoms of which are as much as 2,000 feet below the old surface. The hills are heavily timbered with pine suitable for mine timber.

Reviewed by
DMEA OPERATING COMMITTEE
8-17-56
(date)

THE PROPERTY

Claims

The property, according to the application, consists of three patented claims, one of which is a millsite, and 17 unpatented claims. No claim map accompanied the application.

Mine Workings

The mine workings consist of several old shafts of unknown depth and four adit levels with crosscuts to the vein. The highest or No. 1 level is caved but probably is connected by a shaft to the surface; it is claimed by the applicant to have produced considerable ore. The No. 2 level (elevation 6,000 feet) is caved at the portal but according to maps submitted with the application, it is connected to the No. 3 (elevation 5,867 feet) by a winze. The No. 3 level was the major producing level of the mine from which three stopes were partly mined. It has recently caved under one of the stopes so that most of the level is now inaccessible. Two winzes connect the No. 3 level to an intermediate level 100 feet lower. The No. 4 level (elevation 5,475 feet) consists of a 2,420-foot crosscut to the vein, a 640-foot drift on the vein and considerable crosscutting and drifting beyond the vein (fig. 1). The crosscut to the vein is equipped with track, pipe, and ventube.

History and Production

The early history and production of the mine is unrecorded, but according to the application the upper three levels were driven by an English corporation before 1900. In 1940 the applicant obtained control of the property, installed a mill, and treated some ore. In 1946 the mill was remodeled, and the mine was in production when the mill burned in 1949. After the fire the applicant drove the No. 4 level in order to develop enough ore to justify building another mill, but very little ore was found.

The Silver Bell mine has a recorded production of only 1,486 tons of which 697 tons probably are concentrates which were produced by the applicant in 1940 and 1941. The applicant states that in 1949 there were 170 tons of concentrates produced, but this production is not shown in the production figures furnished by the U. S. Bureau of Mines (table 1).

According to the longitudinal section accompanying the application, ore reserves of about 54,000 tons are indicated at the present time. This ore may have an average content of about 8 ounces of silver to the ton, 1 percent copper, and a little lead.

Table 1. Production of the Silver Bell mine

Gold, silver, copper and lead production of the Silver Bell mine, Stemple-Gould district, Lewis and Clark County, Montana, from 1901 through 1955, in terms of gross metals

Year	Ore (short tons)	Gold (fine ounces)	Silver (fine ounces)	Copper (pounds)	Lead (pounds)
1901-04.....	No production recorded				
1905.....	20	121	828	3,205	---
1906.....	No production recorded				
1907.....	1	12	106	---	---
1908.....	1	4	56	81	---
1909-33.....	No production recorded				
1934.....	1	1	24	30	---
1935.....	13	2	104	---	---
1936.....	463	135	1,687	189	141
1937.....	212	100	1,901	316	739
1938.....	78	15	349	85	369
1939.....	No production recorded				
1940.....	197	24	2,713	4,362	---
1941.....	500	147	10,071	4,558	3,444
1942-55.....	No production recorded				
Total.....	1,486	561	17,839	12,826	4,693

(Above production figures supplied by Mineral Industries Division, U.S.Bureau of Mines, Region I, Albany, Oregon. Rec'd at Spokane 2/27/56)

GEOLOGY

The mine area is near the southern edge of a granodiorite stock of Late Cretaceous or Early Tertiary age that has intruded the Spokane formation of the Belt series. The granodiorite is a porphyritic medium-gray rock with a fine-grained groundmass containing phenocrysts of very abundant plagioclase and common hornblende or biotite. The Spokane shale has been thermally metamorphosed to a gray to greenish hornfels.

The Silver Bell vein can be traced on the surface or in the mine workings for a length of over 3,000 feet and a vertical distance of nearly 1,000 feet. The vein trends northeast, dips very steeply northwest and commonly is 6 to 8 feet wide; in places it is over 12 feet wide.

Vein Structure

The vein occupies a steeply dipping northeast-trending zone of fracturing and brecciation in both the hornfels and the granodiorite. In the hornfels the vein consists only of thin irregular stringers of barren quartz but within the granodiorite the vein ranges in width from thin stringers to more than 12 feet. Near the south edge of the intrusive the vein follows a southwest-trending dike of granodiorite exposed in trenches and is from a few feet to 10 feet wide, but it becomes weak and consists of only a few stringers where it passes from the end of the dike into the hornfels.

Within the granodiorite the vein seems to consist mostly of large bodies of quartz roughly lens-shaped in plan and as much as 600 feet long. The edges of these lenses contain many thin horses of wall rock separated from each other and cut by stringers of quartz. The distribution of these lenses as shown on the map (fig. 1) indicates that the major structure is a wide zone containing several large quartz lenses that may overlap in places and which are separated by a few to several feet of fairly fresh wall rock. Because of the possibility of overlapping quartz lenses separated by horses of wall rock, drill holes should be extended at least 30 feet beyond the farthest edge of the vein.

Vein Quartz

The principal vein material is milky quartz of two varieties: (1) a sugary fine- to medium-grained variety that probably represents a replacement of granodiorite and (2) very coarse euhedral to subhedral crystals, commonly as much as 8 inches long. Many

clusters of large crystals appear to have grown upon the finer grained quartz and probably indicate a reopening of the vein during the time of mineralization. Because of the many openings among the quartz crystals the vein is an excellent channel for percolating ground water.

Ore Minerals and their Distribution

The ore minerals in the Silver Bell vein in the order of abundance are malachite, azurite, limonite, chrysocalla, chalcopyrite, and pyrite. Malachite, azurite, and chrysocalla are the most common ore minerals present in the vein from the highest outcrop to the No. 4 level, a vertical distance of about 1,000 feet. Limonite is quite widespread in the outcrops of the vein and on the upper levels but it is only moderately abundant and has an uneven distribution. It occurs almost entirely as botryoidal masses partly filling cavities in quartz and is indigenous material left from the oxidation of an iron-bearing sulfide mineral, probably chalcopyrite. The vein contains no gossan. Chalcopyrite and pyrite are completely lacking in the outcrops and upper levels except as rare small grains sealed in quartz, which seems to indicate intense leaching of the upper part of the vein. The chalcocite is almost all of the sooty variety and is fairly abundant in the small ore shoot on the No. 4 level where it replaces chalcopyrite and fills small cracks and irregular cavities in the quartz gangue. The applicant reports some chalcocite without chalcopyrite also in the oxidized ore on the winze sublevel below the No. 3 level, about 300 feet above the No. 4 level. Pyrite is most common in the incompletely oxidized part of the vein on the No. 4 level, but even here it is quite rare and may never have been abundant in the vein.

Little is known of the distribution of ore minerals within the vein because the vein has been very unsystematically explored. Parts of the vein contain almost nothing but quartz. Three ore bodies, probably thoroughly leached, may have existed near the southwest end of the vein. One of these may have been mined from the old No. 1 shaft and adit and also partly from the No. 2 level, a second may have been partly mined from the "J" stope above the No. 3 level, and the third was explored from the surface by an old shaft (elevation 6,347 ft.) to a depth of perhaps 60 feet. A fourth possible ore body seems to be indicated from near the northernmost raise on the No. 2 level to the No. 4 level near the winze and probably passed through the stoped area above and below the No. 3 level between the two winzes. Farther to the northeast (north of the No. 3 portal) another ore body probably also thoroughly leached is indicated by material from several large pits.

Leaching and Enrichment

The erosion surface of moderate to low relief indicated by Pardee and Schrader (Metalliferous deposits of the greater Helena mining region, Montana: U. S. Geol. Survey Bull. 842, pp. 3 and 77, 1933) may have been formed in Early Tertiary time so that veins that crop out on it may have been subjected to leaching throughout most of Tertiary time. Outcrops of such veins could not be expected to contain metals except those that may be held in stable secondary minerals. Intense leaching of the Silver Bell vein is indicated by its position on this erosion surface and the complete lack of any sulfides in cavities now partly occupied by limonite. According to Bateman (Economic Mineral Deposits, second edition, pp. 252-253) the presence of indigenous limonite in a vein indicates the former presence of chalcopyrite and little or no pyrite. If this is the case in the Silver Bell vein, the limonite-filled cavities representing probably a few percent of the total volume of the vein may have originally been filled with chalcopyrite which was subsequently leached from the upper part of the vein.

On the No. 4 level the lack of limonite and the presence of some chalcopyrite and sooty chalcocite along with the secondary copper minerals indicate that thorough leaching did not reach to this level but rather that the No. 4 level may be near the top of a possible enriched zone. The purpose of drilling the vein should be to look for a zone of enrichment rather than a zone of primary sulfides, as is the intent of the applicant. Primary sulfides probably are distributed in a very irregular manner within the vein and exploration based upon the hope of finding them alone does not seem warranted. While an enriched zone in which the grade could be expected to be higher seems possible, the chance of finding such a zone containing significant amounts of copper ore is probably poor. Exploration for the existence of a zone of secondary enrichment which may not exist, and which if it does exist will probably not contain a significant ore body, is not believed to be justified, and therefore it is recommended that this application be denied.

Attachment

Distribution:
DMEA (4)
USBM (2)
USGS(SRO)
Docket
Pinckney

RECEIVED

AUG 13 1956

xxxxxxxxxxxxxxxx
So. 157 Howard Street
Spokane 4, Washington

August 1., 1 956

Mr. George C. Selfridge, Chairman
DMEA Operating Committee
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-4030 (Copper-Lead)
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Silver Bell Mine
Lewis & Clark County, Montana

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By Field Team, Region I, NW Dist.

Reviewed by
DMEA OPERATING COMMITTEE

8/21/56
(date)

A. E. Weissenborn, Exec. Officer
U. S. Geological Survey

Enclosures

Wing G. Agnew, Member
U. S. Bureau of Mines

cc: USBM (2)
USGS(SRO)
Pinckney

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
AUG 13 1956

August 9, 1956

MEMORANDUM

To: DMEA Field Team, Region I, Northwest District

From: Darrell M. Pinckney, Geologist, U. S. Geological Survey

Subject: Examination report, Docket No. DMEA-4030 (Copper-Lead), Swansea Mines, Inc., Silver Bell Mine, Lewis & Clark County, Montana

CONCLUSIONS AND RECOMMENDATIONS

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DMEA OPERATING COMMITTEE

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(date)

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The property, according to the application, consists of three patented claims, one of which is a millsite, and 17 unpatented claims. No claim map accompanied the application.

Mine Workings

The mine workings consist of several old shafts of unknown depth and four adit levels with crosscuts to the vein. The highest or No. 1 level is caved but probably is connected by a shaft to the surface; it is claimed by the applicant to have produced considerable ore. The No. 2 level (elevation 6,000 feet) is caved at the portal but according to maps submitted with the application, it is connected to the No. 3 (elevation 5,867 feet) by a winze. The No. 3 level was the major producing level of the mine from which three stopes were partly mined. It has recently caved under one of the stopes so that most of the level is now inaccessible. Two winzes connect the No. 3 level to an intermediate level 100 feet lower. The No. 4 level (elevation 5,475 feet) consists of a 2,420-foot crosscut to the vein, a 640-foot drift on the vein and considerable crosscutting and drifting beyond the vein (fig. 1). The crosscut to the vein is equipped with track, pipe, and ventube.

History and Production

The early history and production of the mine is unrecorded, but according to the application the upper three levels were driven by an English corporation before 1900. In 1940 the applicant obtained control of the property, installed a mill, and treated some ore. In 1946 the mill was remodeled, and the mine was in production when the mill burned in 1949. After the fire the applicant drove the No. 4 level in order to develop enough ore to justify building another mill, but very little ore was found.

The Silver Bell mine has a recorded production of only 1,486 tons of which 697 tons probably are concentrates which were produced by the applicant in 1940 and 1941. The applicant states that in 1949 there were 170 tons of concentrates produced, but this production is not shown in the production figures furnished by the U. S. Bureau of Mines (table 1).

According to the longitudinal section accompanying the application, ore reserves of about 54,000 tons are indicated at the present time. This ore may have an average content of about 8 ounces of silver to the ton, 1 percent copper, and a little lead.

Table 1. Production of the Silver Bell mine

Gold, silver, copper and lead production of the Silver Bell mine, Stemple-Gould district, Lewis and Clark County, Montana, from 1901 through 1955, in terms of gross metals

Year	Ore (short tons)	Gold (fine ounces)	Silver (fine ounces)	Copper (pounds)	Lead (pounds)
1901-04.....	No production recorded				
1905.....	20	121	828	3,205	---
1906.....	No production recorded				
1907.....	1	12	106	---	---
1908.....	1	4	56	81	---
1909-33.....	No production recorded				
1934.....	1	1	24	30	---
1935.....	13	2	104	---	---
1936.....	463	135	1,687	189	141
1937.....	212	100	1,901	316	739
1938.....	78	15	349	85	369
1939.....	No production recorded				
1940.....	197	24	2,713	4,362	---
1941.....	500	147	10,071	4,558	3,444
1942-55.....	No production recorded				
Total.....	1,486	561	17,839	12,826	4,693

(Above production figures supplied by Mineral Industries Division, U.S.Bureau of Mines, Region I, Albany, Oregon. Rec'd at Spokane 2/27/56)

GEOLOGY

The mine area is near the southern edge of a granodiorite stock of Late Cretaceous or Early Tertiary age that has intruded the Spokane formation of the Belt series. The granodiorite is a porphyritic medium-gray rock with a fine-grained groundmass containing phenocrysts of very abundant plagioclase and common hornblende or biotite. The Spokane shale has been thermally metamorphosed to a gray to greenish hornfels.

The Silver Bell vein can be traced on the surface or in the mine workings for a length of over 3,000 feet and a vertical distance of nearly 1,000 feet. The vein trends northeast, dips very steeply northwest and commonly is 6 to 8 feet wide; in places it is over 12 feet wide.

Vein Structure

The vein occupies a steeply dipping northeast-trending zone of fracturing and brecciation in both the hornfels and the granodiorite. In the hornfels the vein consists only of thin irregular stringers of barren quartz but within the granodiorite the vein ranges in width from thin stringers to more than 12 feet. Near the south edge of the intrusive the vein follows a southwest-trending dike of granodiorite exposed in trenches and is from a few feet to 10 feet wide, but it becomes weak and consists of only a few stringers where it passes from the end of the dike into the hornfels.

Within the granodiorite the vein seems to consist mostly of large bodies of quartz roughly lens-shaped in plan and as much as 600 feet long. The edges of these lenses contain many thin horses of wall rock separated from each other and cut by stringers of quartz. The distribution of these lenses as shown on the map (fig. 1) indicates that the major structure is a wide zone containing several large quartz lenses that may overlap in places and which are separated by a few to several feet of fairly fresh wall rock. Because of the possibility of overlapping quartz lenses separated by horses of wall rock, drill holes should be extended at least 30 feet beyond the farthest edge of the vein.

Vein Quartz

The principal vein material is milky quartz of two varieties: (1) a sugary fine- to medium-grained variety that probably represents a replacement of granodiorite and (2) very coarse euhedral to subhedral crystals, commonly as much as 8 inches long. Many

clusters of large crystals appear to have grown upon the finer grained quartz and probably indicate a reopening of the vein during the time of mineralization. Because of the many openings among the quartz crystals the vein is an excellent channel for percolating ground water.

Ore Minerals and their Distribution

The ore minerals in the Silver Bell vein in the order of abundance are malachite, azurite, limonite, chrysocalla, chalcopyrite, and pyrite. Malachite, azurite, and chrysocalla are the most common ore minerals present in the vein from the highest outcrop to the No. 4 level, a vertical distance of about 1,000 feet. Limonite is quite widespread in the outcrops of the vein and on the upper levels but it is only moderately abundant and has an uneven distribution. It occurs almost entirely as botryoidal masses partly filling cavities in quartz and is indigenous material left from the oxidation of an iron-bearing sulfide mineral, probably chalcopyrite. The vein contains no gossan. Chalcopyrite and pyrite are completely lacking in the outcrops and upper levels except as rare small grains sealed in quartz, which seems to indicate intense leaching of the upper part of the vein. The chalcocite is almost all of the sooty variety and is fairly abundant in the small ore shoot on the No. 4 level where it replaces chalcopyrite and fills small cracks and irregular cavities in the quartz gangue. The applicant reports some chalcocite without chalcopyrite also in the oxidized ore on the winze sublevel below the No. 3 level, about 300 feet above the No. 4 level. Pyrite is most common in the incompletely oxidized part of the vein on the No. 4 level, but even here it is quite rare and may never have been abundant in the vein.

Little is known of the distribution of ore minerals within the vein because the vein has been very unsystematically explored. Parts of the vein contain almost nothing but quartz. Three ore bodies, probably thoroughly leached, may have existed near the southwest end of the vein. One of these may have been mined from the old No. 1 shaft and adit and also partly from the No. 2 level, a second may have been partly mined from the "J" stope above the No. 3 level, and the third was explored from the surface by an old shaft (elevation 6,347 ft.) to a depth of perhaps 60 feet. A fourth possible ore body seems to be indicated from near the northernmost raise on the No. 2 level to the No. 4 level near the winze and probably passed through the stoped area above and below the No. 3 level between the two winzes. Farther to the northeast (north of the No. 3 portal) another ore body probably also thoroughly leached is indicated by material from several large pits.

Leaching and Enrichment

The erosion surface of moderate to low relief indicated by Pardee and Schrader (Metalliferous deposits of the greater Helena mining region, Montana: U. S. Geol. Survey Bull. 842, pp. 3 and 77, 1933) may have been formed in Early Tertiary time so that veins that crop out on it may have been subjected to leaching throughout most of Tertiary time. Outcrops of such veins could not be expected to contain metals except those that may be held in stable secondary minerals. Intense leaching of the Silver Bell vein is indicated by its position on this erosion surface and the complete lack of any sulfides in cavities now partly occupied by limonite. According to Bateman (Economic Mineral Deposits, second edition, pp. 252-253) the presence of indigenous limonite in a vein indicates the former presence of chalcopyrite and little or no pyrite. If this is the case in the Silver Bell vein, the limonite-filled cavities representing probably a few percent of the total volume of the vein may have originally been filled with chalcopyrite which was subsequently leached from the upper part of the vein.

On the No. 4 level the lack of limonite and the presence of some chalcopyrite and sooty chalcocite along with the secondary copper minerals indicate that thorough leaching did not reach to this level but rather that the No. 4 level may be near the top of a possible enriched zone. The purpose of drilling the vein should be to look for a zone of enrichment rather than a zone of primary sulfides, as is the intent of the applicant. Primary sulfides probably are distributed in a very irregular manner within the vein and exploration based upon the hope of finding them alone does not seem warranted. While an enriched zone in which the grade could be expected to be higher seems possible, the chance of finding such a zone containing significant amounts of copper ore is probably poor. Exploration for the existence of a zone of secondary enrichment which may not exist, and which if it does exist will probably not contain a significant ore body, is not believed to be justified, and therefore it is recommended that this application be denied.

Attachment

Distribution:
DMEA (4)
USBM (2)
USGS(SRO)
Docket
Pinckney

MF-203
Revised March 24, 1955

RECEIVED
NOV 7 1955
U. S. G. S.
SPOKANE, WASH.

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator
Docket No. DMEA-
Contract No. Idm-E
Contract Date

RECEIVED
AUG 13 1956

CONSENT TO LIEN

To the United States of America:

Referring to that certain land in the County of Lewis and Clark, State of Montana, described as follows:1/

Fully described in Exhibit A hereto annexed.

Under option and lease to Swansea Mines, Inc.

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby—

1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

2. Grants to the Government a lien upon all of the undersigned's right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of a percentage royalty on production as may be provided for by the contract;2/ and represents and undertakes that there are no claims, liens, or encumbrances upon the undersigned's right, title, or interest in the land prior to that hereby granted to the Government other than the following:3/

none.

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: _____

A copy of Resolution of Board of Directors of New Silver Bell Mining Company authorizing the undersigned to execute this instrument, ~~certified by the Secretary of said Company to be a true and correct~~ copy, is hereto annexed, marked Exhibit B.

Dated this 1st day of November, 1955.

NEW SILVER BELL MINING COMPANY, [Seal]

(Corporate seal)

By Lucille G. Bogy [Seal]

Its President.

Attest: [Seal]

C. E. Pew, Secretary.

I, C. E. Pew, certify that I am the Secretary (Secretary, etc.) of the corporation named herein; that Lucille G. Bogy who signed this agreement was then President (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

[Corporate Seal]

ANNEX TO OWNER'S CONSENT TO LIEN

-of-

NEW SILVER BELL MINING COMPANY

RECEIVED
AUG 13 1956

1. Patented Quartz Lode Mining Claims:

Stuart Lode,	U.S.Survey #1424-A,	Lot 37B
Stuart Mill Site,	U.S.Survey #1424,	Lot 37A
Silver Bell Lode,	U.S.Survey #1425-A,	Lot 38A

2. Unpatented Quartz Lode Mining Claims, Certificates of Location of which are of record in Book 26 of Lode Locations, records of the Clerk and Recorder of Lewis and Clark County, Montana, described by name and page of said record as follows:

	Page.		Page
Mary,	548	Marion,	543
Silver Bell Extension,	547	Jim,	544
Silver Dollar,	500	Bruce,	455
Rita,	549	Edith,	456
McDonald,	542	Silver Hill,	457
Sue,	496	Swansea,	458
Eva,	497	United,	592
Magma,	352	States,	593.

3. Unpatented Placer Claim:

Irene Placer, Book of Ranches and Ditches, Page 115.

Exhibit AT

MINUTES OF MEETING OF BOARD OF DIRECTORS OF NEW SILVER BELL MINING COMPANY, A MONTANA CORPORATION, HELD ON NOVEMBER 1, 1955, AT THE HOUR OF 10 O'CLOCK A.M., AT THE PRINCIPAL OFFICE OF SAID CORPORATION AT HELENA, MONTANA.

Present: Lucille G. Bogy, Tom V. Bogy, and C.E.Pew, being all the members of said Board.

The meeting being called to order, the Secretary reported to the meeting that under date of March 7, 1955, the President and Secretary of this corporation, as authorized by resolution of this Board of the same date, executed on behalf of this corporation an "Owners Consent to Lien" in connection with the contract of Swansea Mines, Inc., with the DMEa for exploratory work upon the New Silver Bell Mining Company's mines then and now under lease and option to said Swansea Mines, Inc.; and that the DMEA now requires such consent to lien to be executed upon forms now in use by said DMEA.

After due consideration the following resolution was unanimously adopted by said meeting:

> BE IT RESOLVED by the Board of Directors of New Silver Bell Mining Company, a Montana corporation, that the President and Secretary of this corporation be and they are hereby authorized and directed to execute and deliver to Swansea Mines, Inc., for filing with the D.M.E.A., the Owner's Consent to Lien upon Form MF 203, revised March 24, 1955."

No further business coming before the meeting, the same was adjourned.

C.E. Pew
Secretary.

Approved:
Lucille G. Bogy
President.

State of Montana,)
SS.
County of Lewis and Clark,)

I, C.E.Pew, Secretary of the New Silver Bell Mining Company, a Montana corporation, hereby certify that the foregoing is a true and correct copy of the minutes of a meeting of the Board of Directors of said Company held at the time therein specified, and that said minutes contain a true and correct copy of resolution of said Board authorizing the President and Secretary of said corporation to execute Owner's Consent to Lien in the matter of the application of Swansea Mines, Inc. to the D. M.E.A for a development loan.

Witness my hand and the seal of said corporation this 1st day of November, 1955.

C.E. Pew
Secretary of New Silver Bell Mining Company.

(Corporate seal)

Exhibit B

MF-203
Revised March 24, 1955

RECEIVED
NOV 7 1955
U. S. G. S.
SPOKANE, WASH.

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator
Docket No. DMEA-
Contract No. Idm-E
Contract Date

RECEIVED
AUG 13 1956

CONSENT TO LIEN

To the United States of America:

Referring to that certain land in the County of Lewis and Clark, State of Montana, described as follows:1/

Fully described in Exhibit A hereto annexed.

Under option and lease to Cornsea Mines, Inc.

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby--

1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

2. Grants to the Government a lien upon all of the undersigned's right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of a percentage royalty on production as may be provided for by the contract;2/ and represents and undertakes that there are no claims, liens, or encumbrances upon the undersigned's right, title, or interest in the land prior to that hereby granted to the Government other than the following:3/

none.

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: _____

A copy of Resolution of Board of Directors of The Silver Bell Mining Company authorizing the undersigned to execute this instrument, certified by the Secretary of said Company to be a true and correct copy, is hereto attached, marked Exhibit "A".

Dated this 14 day of November, 1955

The Silver Bell Mining Company, _____ [Seal]

(Corporate seal) Lucille G. Bogy _____ [Seal]

Its President.

Attest: C. Estes _____ [Seal]

Secretary.

I, C. Estes, Secretary, certify that I am the Secretary (Secretary, etc.) of the corporation named herein; that Lucille G. Bogy who signed this agreement was then President (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

C. Estes

[Corporate Seal]

ANNEX TO OWNER'S CONSENT TO LIEN

-of-

NEW SILVER BELL MINING COMPANY

RECEIVED
AUG 13 1956

1. Patented Quartz Lode Mining Claims:

Stuart Lode,	U.S.Survey #1424-A,	Lot 37B
Stuart Mill Site,	U.S.Survey #1424,	Lot 37A
Silver Bell Lode,	U.S.Survey #1425-A,	Lot 38A

2. Unpatented Quartz Lode Mining Claims, Certificates of Location of which are of record in Book 26 of Lode Locations, records of the Clerk and Recorder of Lewis and Clark County, Montana, described by name and page of said record as follows:

	Page.		Page
Mary,	548	Marion,	543
Silver Bell Extension,	547	Jim,	544
Silver Dollar,	500	Bruce,	455
Rita,	549	Edith,	456
McDonald,	542	Silver Hill,	457
Sue,	496	Swansea,	458
Eva,	497	United,	592
Magma,	352	States,	593.

3. Unpatented Placer Claim:

Irene Placer, Book of Ranches and Ditches, Page 115.

Exhibit AT

MINUTES OF MEETING OF BOARD OF DIRECTORS OF NEW SILVER BELL MINING COMPANY, A MONTANA CORPORATION, HELD ON NOVEMBER 1, 1955, AT THE HOUR OF 10 O'CLOCK A.M., AT THE PRINCIPAL OFFICE OF SAID CORPORATION AT HELENA, MONTANA.

Present: Lucille G. Bogy, Tom V. Bogy, and C.E.Pew, being all the members of said Board.

The meeting being called to order, the Secretary reported to the meeting that under date of March 7, 1955, the President and Secretary of this corporation, as authorized by resolution of this Board of the same date, executed on behalf of this corporation an "Owners Consent to Lien" in connection with the contract of Swansea Mines, Inc., with the DMEa for exploratory work upon the New Silver Bell Mining Company's mines then and now under lease and option to said Swansea Mines, Inc.; and that the DMEA now requires such consent to lien to be executed upon forms now in use by said DMEA.

After due consideration the following resolution was unanimously adopted by said meeting:

> BE IT RESOLVED by the Board of Directors of New Silver Bell Mining Company, a Montana corporation, that the President and Secretary of this corporation be and they are hereby authorized and directed to execute and deliver to Swansea Mines, Inc., for filing with the D.M.E.A., the Owner's Consent to Lien upon Form MF 203, revised March 24, 1955."

No further business coming before the meeting, the same was adjourned.

C.E.Pew
Secretary.

Approved:

Lucille G. Bogy
President.

State of Montana,)
SS.
County of Lewis and Clark,)

I, C.E.Pew, Secretary of the New Silver Bell Mining Company, a Montana corporation, hereby certify that the foregoing is a true and correct copy of the minutes of a meeting of the Board of Directors of said Company held at the time therein specified, and that said minutes contain a true and correct copy of resolution of said Board authorizing the President and Secretary of said corporation to execute Owner's Consent to Lien in the matter of the application of Swansea Mines, Inc. to the D.M.E.A for a development loan.

Witness my hand and the seal of said corporation this 1st day of November, 1955.

C.E.Pew
Secretary of New Silver Bell Mining Company.

(Corporate seal)

Exhibit B

MF-203
Revised March 24, 1955

RECEIVED
NOV 7 1955
U. S. G. S.
SPOKANE, WASH.

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator _____
Docket No. DMEA- _____
Contract No. Idm-E _____
Contract Date _____

RECEIVED
AUG 13 1956

CONSENT TO LIEN

To the United States of America:

Referring to that certain land in the County of Lewis and Clark, State of Montana, described as follows:1/

Fully described in Exhibit A hereto annexed.

Under option and lease to Kennecott Mines, Inc.

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby—

1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

2. Grants to the Government a lien upon all of the undersigned's right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of a percentage royalty on production as may be provided for by the contract;2/ and represents and undertakes that there are no claims, liens, or encumbrances upon the undersigned's right, title, or interest in the land prior to that hereby granted to the Government other than the following:3/

none.

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: _____

A copy of Resolution of Board of Directors of New Silver Bell Mining Company authorizing the undersigned to execute this instrument, certified by the Secretary of said Company to be a true and correct copy, is hereto annexed, marked Exhibit B.

Dated this 12th day of November, 1955

NEW SILVER BELL MINING COMPANY [Seal]

(Corporate seal) By Lucille G. Bogy [Seal]

Its President.

Attest: O. E. Pew [Seal]

Secretary.

I, O. E. Pew, certify that I am the Secretary (Secretary, etc.) of the corporation named herein; that Lucille G. Bogy who signed this agreement was then President (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

O. E. Pew

[Corporate Seal]

ANNEX TO OWNER'S CONSENT TO LIEN

-of-

NEW SILVER BELL MINING COMPANY

RECEIVED
AUG 13 1970

1. Patented Quartz Lode Mining Claims:

Stuart Lode,	U.S.Survey #1424-A,	Lot 37B
Stuart Mill Site,	U.S.Survey #1424,	Lot 37A
Silver Bell Lode,	U.S.Survey #1425-A,	Lot 38A

2. Unpatented Quartz Lode Mining Claims, Certificates of Location of which are of record in Book 20 of Lode Locations, records of the Clerk and Recorder of Lewis and Clark County, Montana, described by name and page of said record as follows:

	Page.		Page
Mary,	548	Marion,	543
Silver Bell Extension,	547	Jim,	544
Silver Dollar,	500	Bruce,	455
Rita,	549	Edith,	456
McDonald,	542	Silver Hill,	457
Sue,	496	Swansea,	458
Eva,	497	United,	592
Magma,	352	States,	593.

3. Unpatented Placer Claim:

Irene Placer, Book of Ranches and Ditches, Page 115.

Exhibit A

MINUTES OF MEETING OF BOARD OF DIRECTORS OF NEW SILVER BELL MINING COMPANY, A MONTANA CORPORATION, HELD ON NOVEMBER 1, 1955, AT THE HOUR OF 10 O'CLOCK A.M., AT THE PRINCIPAL OFFICE OF SAID CORPORATION AT HELENA, MONTANA.

Present: Lucille G. Bogy, Tom V. Bogy, and C.E.Pew, being all the members of said Board.

The meeting being called to order, the Secretary reported to the meeting that under date of March 7, 1955, the President and Secretary of this corporation, as authorized by resolution of this Board of the same date, executed on behalf of this corporation an "Owners Consent to Lien" in connection with the contract of Swansea Mines, Inc., with the DMEA for exploratory work upon the New Silver Bell Mining Company's mines then and now under lease and option to said Swansea Mines, Inc.; and that the DMEA now requires such consent to lien to be executed upon forms now in use by said DMEA.

After due consideration the following resolution was unanimously adopted by said meeting:

> BE IT RESOLVED by the Board of Directors of New Silver Bell Mining Company, a Montana corporation, that the President and Secretary of this corporation be and they are hereby authorized and directed to execute and deliver to Swansea Mines, Inc., for filing with the D.M.E.A., the Owner's Consent to Lien upon Form MF 203, revised March 24, 1955."

No further business coming before the meeting, the same was adjourned.

C.E.Pew
Secretary.

Approved:

Lucille G. Bogy
President.

State of Montana,)
) SS.
County of Lewis and Clark,)

I, C.E.Pew, Secretary of the New Silver Bell Mining Company, a Montana corporation, hereby certify that the foregoing is a true and correct copy of the minutes of a meeting of the Board of Directors of said Company held at the time therein specified, and that said minutes contain a true and correct copy of resolution of said Board authorizing the President and Secretary of said corporation to execute Owner's Consent to Lien in the matter of the application of Swansea Mines, Inc. to the D.M.E.A for a development loan.

Witness my hand and the seal of said corporation this 1st day of November, 1955.

C.E.Pew
Secretary of New Silver Bell Mining Company.

(Corporate seal)

Exhibit B

MF-203
Revised March 24, 1955

RECEIVED
NOV 7 1955
U. S. G. S.
SPOKANE, WASH.

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator_____
Docket No. DMEA-_____
Contract No. Idm-E_____
Contract Date_____

RECEIVED
AUG 13 1956

CONSENT TO LIEN

To the United States of America:

Referring to that certain land in the County of Lewis and Clark, State of Montana, described as follows:1/

Fully described in Exhibit A hereto annexed.

Under option and lease to Swanson Mines, Inc.

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby--

1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

2. Grants to the Government a lien upon all of the undersigned's right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of a percentage royalty on production as may be provided for by the contract;2/ and represents and undertakes that there are no claims, liens, or encumbrances upon the undersigned's right, title, or interest in the land prior to that hereby granted to the Government other than the following:3/

none.

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: _____

A copy of Resolution of Board of Directors of New Silver Bell Mining Company authorizing the undersigned to execute this instrument, certified by the Secretary of said Company to be a true and correct copy, is hereto annexed, marked Exhibit B.

Dated this 12th day of November, 1955

NEW SILVER BELL MINING COMPANY, [Seal]

(Corporate seal) By Lucille G. Bogy [Seal]

Its President.

Attest: [Seal]

I, C. E. Lew, Secretary. certify that I am the Secretary (Secretary, etc.) of the corporation named herein; that Lucille G. Bogy who signed this agreement was then President (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

[Corporate Seal]

ANNEX TO OWNER'S CONSENT TO LIEN

-of-

NEW SILVER BELL MINING COMPANY

RECEIVED
AUG 13 1956

1. Patented Quartz Lode Mining Claims:

Stuart Lode,	U.S.Survey #1424-A,	Lot 37B
Stuart Mill Site,	U.S.Survey #1424,	Lot 37A
Silver Bell Lode,	U.S.Survey #1425-A,	Lot 38A

2. Unpatented Quartz Lode Mining Claims, Certificates of Location of which are of record in Book 26 of Lode Locations, records of the Clerk and Recorder of Lewis and Clark County, Montana, described by name and page of said record as follows:

	Page.		Page
Mary,	548	Marion,	543
Silver Bell Extension,	547	Jim,	544
Silver Dollar,	500	Bruce,	455
Mitn,	549	Edith,	456
McDonald,	542	Silver Hill,	457
Sue,	496	Swansea,	458
Eva,	497	United,	592
Magma,	352	States,	593.

3. Unpatented Placer Claim:

Irene Placer, Book of Ranches and Ditches, Page 115.

Exhibit A

MINUTES OF MEETING OF BOARD OF DIRECTORS OF NEW SILVER BELL MINING COMPANY, A MONTANA CORPORATION, HELD ON NOVEMBER 1, 1955, AT THE HOUR OF 10 O'CLOCK A.M., AT THE PRINCIPAL OFFICE OF SAID CORPORATION AT HELENA, MONTANA.

Present: Lucille G. Bogy, Tom V. Bogy, and C.E.Few, being all the members of said Board.

The meeting being called to order, the Secretary reported to the meeting that under date of March 7, 1955, the President and Secretary of this corporation, as authorized by resolution of this Board of the same date, executed on behalf of this corporation an "Owners Consent to Lien" in connection with the contract of Swansea Mines, Inc., with the DMEA for exploratory work upon the New Silver Bell Mining Company's mines then and now under lease and option to said Swansea Mines, Inc.; and that the DMEA now requires such consent to lien to be executed upon forms now in use by said DMEA.

After due consideration the following resolution was unanimously adopted by said meeting:

> BE IT RESOLVED by the Board of Directors of New Silver Bell Mining Company, a Montana corporation, that the President and Secretary of this corporation be and they are hereby authorized and directed to execute and deliver to Swansea Mines, Inc., for filing with the D.M.E.A., the Owner's Consent to Lien upon Form MF 203, revised March 24, 1955."

No further business coming before the meeting, the same was adjourned.

C.E.Few
Secretary.

Approved:
Lucille G Bogy
President.

State of Montana,)
) SS.
County of Lewis and Clark,)

I, C.E.Few, Secretary of the New Silver Bell Mining Company, a Montana corporation, hereby certify that the foregoing is a true and correct copy of the minutes of a meeting of the Board of Directors of said Company held at the time therein specified, and that said minutes contain a true and correct copy of resolution of said Board authorizing the President and Secretary of said corporation to execute Owner's Consent to Lien in the matter of the application of Swansea Mines, Inc. to the D.M.E.A for a development loan.

Witness my hand and the seal of said corporation this 1st day of November, 1955.

C.E.Few
Secretary of New Silver Bell Mining Company.

(Corporate seal)

Exhibit B

MF-203
Revised March 24, 1955

RECEIVED
NOV 7 1955
U. S. G. S.
SPOKANE, WASH.

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator _____
Docket No. DMEA- _____
Contract No. Idm-E _____
Contract Date _____

CONSENT TO LIEN

RECEIVED
AUG 13 1956

To the United States of America:

Referring to that certain land in the County of Lewis and Clark, State of Montana, described as follows:1/

Fully described in Exhibit A hereto annexed.

Under option and lease to Swanson Mines, Inc.

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby--

1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract, and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

2. Grants to the Government a lien upon all of the undersigned's right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of a percentage royalty on production as may be provided for by the contract;2/ and represents and undertakes that there are no claims, liens, or encumbrances upon the undersigned's right, title, or interest in the land prior to that hereby granted to the Government other than the following:3/

none.

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: _____

A copy of Resolution of Board of Directors of New Silver Bell Mining Company authorizing the undersigned to execute this instrument, ~~certified by the Secretary of said Company to be a true and correct~~ copy, is hereto annexed, marked Exhibit B.

Dated this 1st day of November, 1955

NEW SILVER BELL MINING COMPANY, [Seal]

(Corporate seal) By Lucille G. Bogy [Seal]

Its President.

Attest: [Seal]

I, O. E. Tew, Secretary, certify that I am the Secretary (Secretary, etc.) of the corporation named herein; that Lucille G. Bogy who signed this agreement was then President (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

[Corporate Seal]

ANNEX TO OWNER'S CONSENT TO BIDS

-of-

MEC SILVER BELL MINING COMPANY

RECEIVED
AUG 13 1956

1. Patented Quartz Lode Mining Claims:

Stuart Lode,	U.S.Survey #1424-A,	Lot 37B
Stuart Mill Site,	U.S.Survey #1423,	Lot 37A
Silver Bell Lode,	U.S.Survey #1425-A,	Lot 38A

2. Unpatented Quartz Lode Mining Claims, Certificates of Location of which are of record in Book 26 of Lode Locations, records of the Clerk and Recorder of Lewis and Clark County, Montana, described by name and page of said record as follows:

	Page.		Page
Mary,	549	Marion,	503
Silver Bell Extension,	547	Jim,	504
Silver Dollar,	500	Bruce,	455
Rita,	549	Edith,	456
McDonald,	542	Silver Hill,	457
Sue,	496	Kansas,	458
Eva,	497	Valted,	592
Kagin,	352	States,	593.

3. Unpatented Placer Claim:

Irene Placer, Book of Ranches and Ditches, Page 115.

Exhibit A

MINUTES OF MEETING OF BOARD OF DIRECTORS OF NEW SILVER BELL MINING COMPANY, A MONTANA CORPORATION, HELD ON NOVEMBER 1, 1955, AT THE HOUR OF 10 O'CLOCK A.M., AT THE PRINCIPAL OFFICE OF SAID CORPORATION AT HELENA, MONTANA.

Present: Lucille G. Bogy, Tom V. Bogy, and C.E.Few, being all the members of said Board.

The meeting being called to order, the Secretary reported to the meeting that under date of March 7, 1955, the President and Secretary of this corporation, as authorized by resolution of this Board of the same date, executed on behalf of this corporation an "Owners Consent to Lien" in connection with the contract of Swansea Mines, Inc., with the DMEA for exploratory work upon the New Silver Bell Mining Company's mines then and now under lease and option to said Swansea Mines, Inc.; and that the DMEA now requires such consent to lien to be executed upon forms now in use by said DMEA.

After due consideration the following resolution was unanimously adopted by said meeting:

"BE-IT RESOLVED by the Board of Directors of New Silver Bell Mining Company, a Montana corporation, that the President and Secretary of this corporation be and they are hereby authorized and directed to execute and deliver to Swansea Mines, Inc., for filing with the D.M.E.A., the Owner's Consent to Lien upon Form MP 203, revised March 24, 1955."

No further business coming before the meeting, the same was adjourned.

C.E.Few
Secretary.

Approved:
Lucille G Bogy
President.

State of Montana,)
) SS.
County of Lewis and Clark,)

I, C.E.Few, Secretary of the New Silver Bell Mining Company, a Montana corporation, hereby certify that the foregoing is a true and correct copy of the minutes of a meeting of the Board of Directors of said Company held at the time therein specified, and that said minutes contain a true and correct copy of resolution of said Board authorizing the President and Secretary of said corporation to execute Owner's Consent to Lien in the matter of the application of Swansea Mines, Inc. to the D.M.E.A for a development loan.

Witness my hand and the seal of said corporation this 1st day of November, 1955.

C.E.Few
Secretary of New Silver Bell Mining Company.

(Corporate seal)

Exhibit B

MF-203
Revised March 24, 1955

RECEIVED
NOV 7 1955
U. S. G. S.
SPOKANE, WASH.

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator _____
Docket No. DMEA- _____
Contract No. Idm-E _____
Contract Date _____

RECEIVED
AUG 13 1956

CONSENT TO LIEN

To the United States of America:

Referring to that certain land in the County of Lewis and Clark, State of Montana, described as follows:1/

Fully described in Exhibit A hereto annexed.

Under option and lease to Swansea Mines, Inc.

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby--

1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

2. Grants to the Government a lien upon all of the undersigned's right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of a percentage royalty on production as may be provided for by the contract;2/ and represents and undertakes that there are no claims, liens, or encumbrances upon the undersigned's right, title, or interest in the land prior to that hereby granted to the Government other than the following:3/

none.

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: _____

A copy of Resolution of Board of Directors of New Silver Bell Mining Company authorizing the undersigned to execute this instrument, ~~certified by the Secretary of said Company to be a true and correct~~ copy, is hereto annexed, marked Exhibit B.

Dated this 1st day of November, 1955.

~~NEW SILVER BELL MINING COMPANY,~~ [Seal]

(Corporate seal) By Lucille G. Bogy [Seal]

Its President.

Attest: [Seal]

I, ~~C. E. Pew,~~ Secretary. certify that I am the ~~Secretary~~ (Secretary, etc.) of the corporation named herein; that Lucille G. Bogy who signed this agreement was then President (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

[Corporate Seal]

RECEIVED
AUG 13 1956

ANNEX TO COURT'S ORDER TO LIST

-of-

NEW SILVER BELL MINING COMPANY

1. **Patented Quartz Lode Mining Claims:**

Stuart's Lode,	U.S.Survey 4135-A,	Lot 37B
Stuart's Hill Site,	U.S.Survey 4135,	Lot 37A
Silver Bell Lode,	U.S.Survey 4135-A,	Lot 38A

2. **Unpatented Quartz Lode Mining Claims,** Certificates of Location of which are of record in Book 5 of Lode Locations, records of the Clerk and Recorder of Lewis and Clark County, Montana, described by name and page of said record as follows:

	Page.		Page
Mary,	340	Marion,	543
Silver Bell Extension,	347	Ida,	544
Silver Dollar,	500	Bruce,	455
Site,	549	Smith,	456
McDonald,	549	Silver Bill,	457
Ore,	496	Swanson,	460
Eve,	497	United,	492
Regina,	352	Clayton,	541.

3. **Unpatented Placer Claim:**

Irene Placer, Book of Bonds and Patents, Page 315.

MINUTES OF MEETING OF BOARD OF DIRECTORS OF NEW SILVER BELL MINING COMPANY, A MONTANA CORPORATION, HELD ON NOVEMBER 1, 1955, AT THE HOUR OF 10 O'CLOCK A.M., AT THE PRINCIPAL OFFICE OF SAID CORPORATION AT HELENA, MONTANA.

Present: Lucille G. Bogy, Tom V. Bogy, and C.E.Few, being all the members of said Board.

The meeting being called to order, the Secretary reported to the meeting that under date of March 7, 1955, the President and Secretary of this corporation, as authorized by resolution of this Board of the same date, executed on behalf of this corporation an "Owners Consent to Lien" in connection with the contract of Swansea Mines, Inc., with the DMEA for exploratory work upon the New Silver Bell Mining Company's mines then and now under lease and option to said Swansea Mines, Inc.; and that the DMEA now requires such consent to lien to be executed upon forms now in use by said DMEA.

After due consideration the following resolution was unanimously adopted by said meeting:

> BE IT RESOLVED by the Board of Directors of New Silver Bell Mining Company, a Montana corporation, that the President and Secretary of this corporation be and they are hereby authorized and directed to execute and deliver to Swansea Mines, Inc., for filing with the D.M.E.A., the Owner's Consent to Lien upon Form MV 203, revised March 24, 1955."

No further business coming before the meeting, the same was adjourned.

C.E.Few
Secretary.

Approved:

Lucille G Bogy
President.

State of Montana,)
) ss.
County of Lewis and Clark,)

I, C.E.Few, Secretary of the New Silver Bell Mining Company, a Montana corporation, hereby certify that the foregoing is a true and correct copy of the minutes of a meeting of the Board of Directors of said Company held at the time therein specified, and that said minutes contain a true and correct copy of resolution of said Board authoring the President and Secretary of said corporation to execute Owner's Consent to Lien in the matter of the application of Swansea Mines, Inc. to the D.M.E.A for a development loan.

Witness my hand and the seal of said corporation this 1st day of November, 1955.

C.E.Few
Secretary of New Silver Bell Mining Company.

(Corporate seal)

Exhibit B

C O P Y

THE GALIGHER COMPANY

Salt Lake City 4, Utah

September 12, 1952

RECEIVED
AUG 13 1953

Mr. C. L. Hewitt, Pres.
Swansea Mines, Inc.
545 N. Rodney (P.O. Box 904)
Helena, Montana

Subject:- Report on Recent Examination of Silver Bell Mine

Dear Sir:-

I have just completed the examination you requested on the Silver Bell Mine, located near Lincoln, in Lewis and Clark County, Montana.

The report on the property, which you suggested be brief, is herewith submitted in letter form. Accordingly many of the usual details that accompany a longer and more formal report will be omitted. Such particulars as the history of the property, previous work and investigations, general geology and past production are available to you from other sources; and your own operation also. As this letter is primarily designed for the management and stockholders of your company the details of ownership and incorporation will also be omitted.

It is understood that the primary purpose of my examination was to determine the present situation at the mine with regard to the possibilities of developing additional ore and to make specific recommendations as to the most prudent and feasible course of action to be followed, at this point.

In arriving at conclusions that might influence decisions regarding continued development work, several factors had to be weighed. Among these, were, of course, the primary objective of the recent and extensive development work and the results obtained.

In this connection, it is understood also that a successful operation was in progress at the mine at the time of the fire which destroyed the mill. Good milling ore was exposed and recoveries were being obtained that permitted all costs to be covered and an operating profit to be shown.

It is also understood that future operations, if any, are to be based on milling ore and not to be dependent on the discovery of high grade, direct-shipping ore in appreciable quantities. Further, that the average grade of ore

milled in the recent past contains, at today's prices and costs, a satisfactory profit margin.

The scope and purpose of the examination did not call for any sampling of the material exposed. Information as to the grade of both the ore presently exposed and the lower grade material was supplied by you and accepted as being accurate. In the same manner data on the extent of the work between levels which bears directly on the tonnage assumed to remain in certain areas was also supplied by you, together with figures on costs and recoveries all of which have, of course, a bearing on the classification of material as ore and the tenor of the material that must be exposed in future development work.

It is also appreciated that the extensive development work in the lower, or No. 4 adit, well-planned and justified as it obviously was, had not revealed any commercial ore and had on the whole been very disappointing. The money already spent on this well executed piece of work represents obviously an appreciable investment and this factor, plus the fact that an organization and good and adequate equipment is on hand to carry on, must be carefully weighed also.

In essence, the problem is one of evaluating the possibilities of finding enough ore to justify the construction of a new mill. In such an evaluation the cost of the necessary work is an important factor, as is also the estimated cost of a new mill and the amount of ore that you and the stockholders of your company feel is required before the investment in a mill becomes a safe and attractive venture.

As I understand it, you feel that a new mill may be built for approximately $75,000.00 utilizing certain material and equipment you have on hand. You also expressed the opinion that at least 75,000 tons of profitable milling ore should be blocked out, or well indicated, before considering the investment.

Four days were spent in the field at your property mapping in careful detail all of your accessible workings. A few hours were also spent on the surface, and the vein and mineralization directly above your "J" stope was noted. A number of days have been spent in the office studying the data assembled, calculating ore reserves and preparing maps to show the location of the blocks of ore now indicated and to illustrate the geologic structure and other features of your deposit. All of this information is shown on Maps 1 and 2 and these should be considered an integral part of this report.

The principal development work at the property consists of three main adits, totalling about 7500 feet of work. This work has exposed a strong northeast-striking vein that dips steeply to the northwest. This vein is apparently a persistent structure and averages about eight feet in width. As exposed underground the vein has been developed over a length of more than a thousand feet. It is reported that the vein may be traced on the surface for a much greater distance. The vein is largely oxidized, where developed, even on the lowest level, though some scattered sulphides occur. Metals recovered in the milling of the ore include silver, gold, copper and lead. These metals occur mostly in oxide form.

The average grade of the material mined in the recent past, as stated by you, was approximately:

.06 oz. gold, 9.0 oz. silver, 1.5% copper and 1.5% lead.

The average calculated grade of the material left appears to be:

.05 oz. gold, 8.0 oz. silver, 0.8% copper and 0.9% lead.

A large fault, trending northeasterly, occurs in the workings to the west and south of your main drift development on the lower two levels. This strong fault structure, evidenced by heavy clays and intensely sheared material is accompanied, on your lower level, by a wide zone of broken ground which has made necessary a good deal of timbering.

To the west of this fault, on the No. 3 adit a vein has been exposed and developed that may be a continuation of your main vein on the other side of the fault, but has a somewhat different strike, and is reported to have somewhat different mineralogical characteristics. This vein was stoped, in what is called "J" stope, and the material extracted is reported to have averaged 0.06 oz. gold, 12.0 oz. silver, 2.1% copper and appreciable lead. Material of this grade is good milling ore. Directly above this exposure are surface indications, (noted particularly in the bulldozer cut and shallow shaft, near survey station No. 18) of a vein that appears to strike about the same as the vein in "J" stope and could be its upward projection.

The drifting on the main vein in your lowest adit has revealed only very lean material to date. The project designed to get under the above-mentioned vein exposed in "J" stope became involved in the heavy faulting occurring in this

area, and while some fragments of high grade ore were encountered in this intensely faulted and broken ground the vein itself has not been found. Your crosscut in this area is crossing the fault at an angle and your present face to the southwest appears to be entering firmer ground.

The country rock revealed by the underground work is almost entirely "granite", but crushed slate is encountered in the fault zone. On the surface slate outcrops near the previously mentioned survey station No. 18 and the vein in this area is enclosed in slate wells.

Ore Reserves

Based on sampling, assay and other data, submitted by you, calculations have been made of the reserve, probable and indicated blocks of ore exposed by the work done to date, that appear to remain in the mine. These blocks are shown in Longitudinal Section, on Map 2. They are also listed below with individual grades and widths, and in total tonnage and average grade and width:

Block No.	Tons-	Width-	Oz. Au-	Oz. Ag-	% Cu-	% Pb.
1	2,070	4.9'	0.06	6.5	1.05	?
2	7,000	6.0'	0.05	5.0	0.7	0.5
3	9,600	7.0'	0.045	9.3	0.9	1.1
4	1,650	7.0'	0.05	7.5	0.7	0.8
5	12,300	8.0'	0.04	8.6	0.6	0.9
6	6,000	8.0'	0.05	8.5	0.9	1.0
7	1,500	6.0'	0.06	4.5	1.1	0.8
8	7,100	8.0'	0.045	10.5	1.1	1.3
Total tons & aver. grade	47,220	7.3'	0.047	8.0	0.8	0.9

Discussion of Additional Ore Possibilities

Within reach of a relatively small amount of additional development work there are three possibilities of exposing additional ore and thus increasing the presently indicated tonnage.

The first of these involves a continuation of the effort to locate the vein exposed in "J" stope, on your lowest level west of the big fault. The crosscut that was designed to accomplish this, in the shortest manner possible, followed

a line that unfortunately caused it to pass through much heavy and broken, faulted ground before reaching the thick clays of the fault itself. Once this point had been reached you quite properly turned more to the west and got on the other side of the fault and appear to be entering firmer ground.

In the course of driving through this heavy ground you passed through the area into which the vein most likely projects. But in ground of this type which actually is part of a broad zone of faulting, one could not expect to find the vein in place, though "drag ore", in disjointed sections or evidenced by occasional fragments might be encountered. I understand that some pieces of such material were found, and in about the place where the vein was expected.

The work that has been done in this area and the proposed additional work are shown on Map 1. The proposed work is designated as Project C and it will be seen that it involves a crosscut from your present face, in a due west direction, which should take you into better ground and intersect the downward projection of the vein at about 105 feet. However, the vein could flatten a little in dip below the No. 3 adit level and the crosscut should be extended if necessary to a total distance of 225 to cover this possibility.

A second project, involving also only a small amount of work, is designed to go around the badly faulted area on the No. 3 adit and cut this same "J" stope vein on this upper level ahead of the southwest face of the drift which developed it, which face I understand assayed 0.03 oz. gold, 9.0 oz. silver and 0.1% copper and was showing continued improvement.

This project, labelled D on Map 1, requires 125' of crosscutting in a direction south 72 degrees west as shown. This project has considerable merit because, in addition to getting out ahead of a face of material that contains gold and silver with a gross value of about nine dollars and just ahead of a productive part of the vein, it also heads toward the little shaft on the surface above, where good ore was reported. If successful a considerable block of ore-bearing ground might be opened up.

The third project involves work on the main vein, on the lowest level directly under stoped areas above. In following the discussion to be presented, the Longitudinal Section on Map 2 should be consulted.

Some of the best ore encountered on the Main Vein was that exposed off the

winze below the No. 3 adit in what is called "H" stope. Here, material reported to average 8.0 feet wide and containing 0.05 oz. gold, 11.5 oz. silver, 0.76% copper and 1.2% lead was mined.

The drift on the Main Vein on the No. 4, or lowest, adit opened up the vein directly below this good ore. But the vein was not commercial. It has been generally supposed that the ore shoot in the Main Vein had a northerly rake and there is some evidence in the stoping above to support this concept. On the basis of this rake, and assuming it to have a plunge of about 45 degrees to the northeast in the plane of the vein, drifting to the northeast was done to cover the downward projection of the ore. This northeast drifting was in almost completely barren material.

From the above results it could appear that the ore shoot had bottomed somewhere below the No. 3 adit and above the lowest level. But the ore does extend some distance below the winze level and as shown in Block 5, it is assumed to go down at least 100 feet before becoming too lean to mine.

However, there is another possibility and in view of the limited work involved to prove or disprove it, it should be explored:

While there is some evidence supporting a northeast rake to the ore shoot, this evidence is not too compelling or too conclusive. What gives the appearance of rake to the ore shoot above the winze level and below the 3 level (and to some extent between the 2 and three levels) may be due only to erratic distribution of metal content and as a result areas of higher grade material occurring with no particular pattern. Or, irregular areas of higher grade material occurring, in a wide zone of mineralization that could, when viewed broadly, have a general rake to the south might be the case.

In any event, supporting a possible broad southerly rake is the <u>fact</u> that the southwest drift on the No. 4 level below the stoping above, shows considerably more copper stain than the northeast drift which contains almost completely barren white quartz. As a matter of fact in the last twenty feet of the southwest drift and the face itself there is evidence of further improvement. Furthermore, no work on the lower level has gone out under the ore encompassed by Blocks 6 and 7 on the 3 level above. And the possible downward extension of this ore, which if vertical would be about 300 feet ahead of the S.W. face of the drift on

the No. 4 level, should be explored also.

At least 100 feet of drifting should be done to test out these possibilities. If continued improvement is noted in the tenor of the vein, a total of 315 of drifting would be justified in this direction. This proposed work is labelled Projects A and B and is clearly shown on Map 2.

Recommendations

The work done to date in Lower Adit No. 4 represents a considerable investment. And while the results have been discouragingly negative they are not completely conclusive.

In view of the money spent and the ease, from an operational standpoint, with which development work could be resumed at this time, it appears as though a certain limited amount of additional work should be done.

The two projects on the lower level involve a minimum of 205 feet of work (and a maximum of 325 feet of work) to obtain meaningful results. A small crew could accomplish this work in about two months. While this lower level work was being pushed an additional pair of men could be preparing the upper adit for project D also, if desireable. The cost of such a program does not involve a large sum and an actual estimate of the money required can best be provided by you in view of the stated objective of this examination which was to be confined to a geologic study of the ore possibilities.

As noted in the discussion of ore reserves, you appear to have partly blocked out, or pretty well indicated, about 47,000 tons of milling grade ore. An additional 30,000 tons, of the proper grade might justify going ahead with plans for mill construction. On the other hand the failure to reveal any such additional tonnage should allow abandonment of the operation, at this time, with a feeling that the possibilities have been pretty well explored.

Any one of these projects, if completely successful in revealing ore up to full potentialities of the area involved, could provide the tonnage required. A combination of some ore found in two of the projects, or in all three could also provide the tonnage wanted.

There is, of course, no yardstick to measure the odds in such a program, but it appears that the limited work required for a more complete answer to the venture is justified, at this time.

Respectfully submitted,
/s/ I. G. Irving
I. G. Irving
The Galigher Co.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D. C.~~
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
AUG 13 1956

August 8, 1956

Docket

Mr. George C. Selfridge, Chairman
DMEA Operating Committee
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-4030 (Copper-Lead)
Swansea Mines, Inc.
Silver Bell Mine
Lewis and Clark County, Montana

Dear Mr. Selfridge:

In reply to Mr. Martin's letter of August 1, 1956, an examination report on the Swansea Mines, Inc. application is ready for typing and should be in the mail this week.

Sincerely yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I, NW District

cc: USBM (2)
Pinckney

File Copy
Surname
All
Swanson
Martin
Jefferson
Mattendorf

500

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

AUG - 1 1956

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region I
Northwest District
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA-4030 (Copper-Lead)
Swansea Mines, Inc.
Silver Bell Mine
Lewis and Clark County, Montana

Dear Mr. Weissenborn:

With reference to the cited property, will you please advise us as to when we may expect to receive the Field Team's report and recommendation regarding this application.

Sincerely yours,

W. S. Martin 857
ACTING Chairman, Operating Committee

APPROVED:

[illegible] 857
Member, Bureau of Mines

N. E. Nelson 857
Member, Geological Survey

JWAlt/bjl (7/31/56)

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Pennington
Mr. Kiilsgaard
Chron.

PLK.

VC7
new
HOW

Seagraves Mining Co.
3439 N.W. Sandy Blvd
Portland 13 Oregon
June 4, 1956

The Defense Minerals Adm.
Department of the Interior
South 157, Howard St.
Spokane 4, Washington

Gentlemen:

Last Fall your Engineers were not able to reach our mine due to the early snow fall. We are still desirous of Government assistance and your Engineer's report on our claims.

We will have the roads opened to the mine by about June 18th and would like to start securing a tentative date to meet your engineers at the mine. On the date selected we will have the water drained from the face of the vein. It is very important that we agree on a definite time because if there is a lapse of only a few days between draining the water from the vein and your engineers arrival water will start filling in again.

Telephone:
Portland BE 4-9317

Very truly yours,
SEAGRAVES MINING CO.

by _____
V. D. Warner, Secretary

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
DEC 19 1955

December 14, 1955

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Docket

Re: Docket No. DMEA-4030 (copper-lead)
Swansea Mines, Inc.
Silver Bell Mine
Lewis and Clark County, Montana

Dear Mr. Selfridge:

As a result of a telephone call on December 2 from Mr. C. L. Hewitt, president of Swansea Mines, Inc., Messrs. Darrell M. Pinckney and Don C. Alvord, geologists, examined the lower part of the Silver Belle mine but were unable to see the upper part because of deep snow. Evaluation of this property probably will require a look at the upper workings and certainly a detailed statement of production from stopes on the upper levels. Mr. Hewitt will supply as much information on recent production as he can; however, an examination of the upper workings may have to wait until spring.

Sincerely yours,

Verne C. Fryklund, Jr.

Verne C. Fryklund, Jr.
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I
Northwest District

cc: USBM(2)
Pinckney

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

Betty

November 21, 1955

Docket

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DME-4030 (copper-lead)
Swansea Mines, Inc.
Silver Bell Mine
Lewis and Clark County, Montana

Dear Mr. Selfridge:

We had hoped that an examination of the Silver Bell mine could be completed this fall; however, we have just received a telephone call from Mr. Hewitt saying the property is now inaccessible due to snow. Mr. Hewitt will inform us when the property is again accessible.

Sincerely yours,

Verne C. Frykland, Jr.
For: W. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I, N.W. District

cc: USBM (2)
Pinckney

RECEIVED
DEC - 2 1955

File Copy
Surname

All Selfridge
Zgrauer

500

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

NOV 17 1955

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region I
Northwest District
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA-4030 (Copper-Lead)
Swansea Mines, Inc.
Silver Bell Mine
Lewis and Clark County, Montana

Dear Mr. Weissenborn:

A review of the cited application of which you have retained a copy, indicates that there is much lacking in this application and that it will need a complete study by the Field Team.

In your letter of October 19, you stated that you would schedule an examination as soon as possible. Therefore we will hold this application in abeyance until we receive your recommendations.

Enclosed are copies of memorandums dated October 26 and November 4, 1955, by N. E. Nelson, USGS, and J. W. Pennington, USBM, respectively giving their recommendations.

Sincerely yours,

[illegible] By EST

Chairman, Operating Committee

JWAlt/er 11/15/55
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Pennington, USBM
Mr. Kiilsgaard, USGS
Chron.

Enclosures

APPROVED:

[illegible] By EST

Member, Bureau of Mines

N. E. Nelson By EST

Member, Geological Survey

R.C.S.

File Copy
Surname

Selfridge
Nelson
Stephan
Selfridge
Jefferson

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

NOV 17 1955

Mr. C. L. Hewitt, President
Swansea Mines, Inc.
Post Office Box 904
Helena, Montana

Re: Docket No. DMEA-4030 (Copper-Lead)
Swansea Mines, Inc.
Silver Bell Mine
Lewis and Clark County, Montana

Dear Mr. Hewitt:

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

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region I
Northwest District
South 157 Howard Street
Spokane 4, Washington

The Field Team will schedule a field examination of your property at an early date, if it has not already done so. Any assistance that you may give the Field Team during an examination will be greatly appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

JWAlt/er 11/16/55
Rewritten (11/15/55)
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Pennington
Mr. Kiilsgaard, USGS
Region I, NW Dist. (2)
Chron.

R.C.G.

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

RECEIVED
NOV - 4 1955

November 4, 1955

Memorandum

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

From: J. W. Pennington, Branch of Base Metals

Subject: Review of DMEA application Docket No. 4030 (Copper, Lead Silver), Swansea Mines, Inc., Silver Bell Mine, Lewis and Clark County, Montana, $11,150

This modest exploration program proposed by the applicant appears to have merit.

However, a Field Team examination of the property is necessary to obtain the information necessary for accurate analysis of the program.

The Field Team has announced its intention to examine the property, and I endorse the action.

J. W. Pennington

Copy to: Division of Minerals
Branch of Base Metals
J. W. Pennington
Thor Kiilsgaard, U.S.G.S.
F i l e s

RECEIVED
NOV 4 1955

November 4, 1955

Memorandum

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

From: J. W. Pennington, Branch of Base Metals

Subject: Review of DMEA application Docket No. 4030 (Copper, Lead Silver), Swansea Mines, Inc., Silver Bell Mine, Lewis and Clark County, Montana, $11,150

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However, a Field Team examination of the property is necessary to obtain the information necessary for accurate analysis of the program.

The Field Team has announced its intention to examine the property, and I endorse the action.

J. W. Pennington

J. W. Pennington

JWPennington/vr

Copy to: Division of Minerals
Branch of Base Metals
J. W. Pennington
Thor Kiilsgaard, U.S.G.S.
F i l e s

IN REPLY REFER TO:

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

October 26, 1955

aet

Re: DMEA 4030
Swansea Mines, Inc.
Silver Bell Mine
Lewis and Clark Co., Mont.
$11,150 - Copper-Lead-Silver

Memorandum

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

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

Subject: Review of application.

The Field Team has said it intends to make an examination of the Silver Bell mine; therefore, referral is a formality.

The work planned consists of:--

Cutting drill station	$ 650.00
1,800 ft. drilling at $4.50/ft.	8,100.00
Rehabilitation, camp, etc.	350.00
Operator of compressor	1,700.00
Incidentals	350.00
Total	$11,150.00

The application says the following work has been done in the mine:--

	Sinking	Drifting and crosscutting
Main shaft	200 feet	
No. 1 Tunnel		800 feet
No. 2 "		950 feet
No. 3 "		1,800 feet
No. 3 Sub.	100 feet	300 feet
No. 4		5,100 feet
Totals	300 feet	8,900 feet

Production is estimated at $285,000.00.

The applicant proposes to do 1,800 feet of diamond drilling to prospect at a depth of 400 feet below the lowest or No. 4 level in an attempt to get below the zone of oxidation. If ore is indicated the operator intends to sink to the ore at the operator's expense.

Surprisingly we have no information on this 75-80 year old property.

I concur with the expressed conclusion of the Field Team that an examination is warranted.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

RECEIVED
OCT 27 1955

October 26, 1955

Re: DMEA 4030
Swansea Mines, Inc.
Silver Bell Mine
Lewis and Clark Co., Mont.
$11,150 - Copper-Lead-Silver

Memorandum

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

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

Subject: Review of application.

The Field Team has said it intends to make an examination of the Silver Bell mine; therefore, referral is a formality.

The work planned consists of:--

Cutting drill station	$ 650.00
1,800 ft. drilling at $4.50/ft.	8,100.00
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Incidentals	350.00
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Surprisingly we have no information on this 75-80 year old property.

I concur with the expressed conclusion of the Field Team that an examination is warranted.

N. E. Nelson

NENelson:iml
G-10/26/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
N. M. Meyer, 3623

October 24, 1955

Subject: 4030
Re: Silver Bell Mine

Swansea Mines, Inc.,
P.O. Box 904
Helena, Montana

Gentlemen:

The receipt of your application dated October 15, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4030 and referred to the Base Metals Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

60932

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

October 24, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region I (NW)

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region I (NW).

DMEA-4030 Swansea Mines, Inc.

Robert E. Adams
Chief, Operation's Control
and Statistics Division

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

October 19, 1955

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

DMEA 4030

Re: Transmittal of Application for Aid
in an Exploration Project
Swansea Mines, Inc. (Silver Bell Mine)
Lewis and Clark County, Montana

Dear Mr. Selfridge:

Enclosed are three copies of an application for aid in an exploration project submitted by Swansea Mines, Inc., for work at the Silver Bell mine, Lewis and Clark County, Montana.

We seem to have no information on this property in our DMEA files. We will schedule an examination as soon as possible.

The applicant submitted Form MF-203 (Revised 7/1/54) which we are sending to you, but we are asking the company to re-submit this form using Form MF-203 (Revised 3/24/55).

The applicant also submitted a single copy of a map, which we have retained, and we have requestedthe company to submit additional copies as well as anyother supporting data available.

Sincerely yours,

Verne C. Fryklund Jr.
Verne C. Fryklund, Jr.
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I
Northwest District

Enclosures
cc: USBM(2)
Geologist

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.
So. 157 Howard Street
Spokane 1, Washington

RECEIVED
OCT 24 1955

October 14, 1955

Mr. George L. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Transmittal of Application for Aid
in an Exploration Project
Swansea Mines, Inc. (Silver Bell Mine)
Lewis and Clark County, Montana

Dear Mr. Selfridge:

Enclosed are three copies of an application for aid in an exploration project submitted by Swansea Mines, Inc., for work at the Silver Bell mine, Lewis and Clark County, Montana.

We seem to have no information on this project, in our DMEA files. We will schedule an examination as soon as possible.

The applicant submitted Form DE-203 (Revised 7/1/54) which we are sending to you, but we are asking the company to resubmit this form using Form DE-203 (Revised 3/24/55).

The applicant also submitted a single copy of a map, which we have retained, and we have requested the company to submit additional copies as well as anyother supporting data available.

Sincerely yours,

Norman L. Krysinski, Jr.
for: F. A. Weisenborn
Executive Officer, DMEA
Field Team, Region 1
Northwest District

Enclosures
cc: [illegible] (2)
Geologist

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
OCT 24 1955

October 19, 1955

Mr. C. L. Hewitt, President
Swansea Mines, Inc.
P.O. Box 904
Helena, Montana

Re: Application for Aid in an
Exploration Project
Silver Bell Mine
Lewis and Clark County, Montana

Dear Mr. Hewitt:

This will acknowledge receipt of the Swansea Mines, Inc. application for work at the Silver Bell mine.

You submitted Form MF-203 (Revised 7/1/54), Owner's Consent to Lien, instead of Form MF-203 (Revised 3/24/55), Consent to Lien. We are enclosing seven copies of Form MF-203 (Revised 3/24/55), and ask that you send six copies of this form to us and retain one copy for your files.

You also submitted only one copy of the composite map, and we will need three more copies. Would you please send us anyother supporting geologic and assay data, or examination reports, you may have.

Sincerely yours,

Verne C. Fryklund, Jr.
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region 1
Northwest District

Enclosures
cc: DMEA(2)
GSW(2)
Geologist

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Bu[illegible]2-R1035.2.

RECEIVED
OCT 24 1955

RECEIVED
OCT 18 1955
U. S. G. S.
SPOKANE, WASH.

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

Not to be filled in by applicant.

Docket No. 4030
Metal or Mineral Copper-lead
Date Received 10-24-55
Estimated Cost 11,150.
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Swansea Mines, Inc. (Montana Corp), P.O. Box 904, Helena, Montana
C. L. Hewitt, Helena, Montana, President; Walter McLean, Wenatchee, Washington, Dir.
M. D. Armstrong, Pateros, Washington, Vice President; James H. Smith, Wenatchee, Wash, Director; George Zahn, Methow, Washington, Director.

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Silver Bell Mine which includes two patented lode mining claims, one patented mill site and 11 unpatented lode mining claims. Names and descriptions attached.

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it none

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

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

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

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

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

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

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

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

(*c*) The work will start within 30 days and be completed within 4 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

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

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

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

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated Oct. 15, 1955

Swansea Mines, Inc.
(Applicant)

By C. L. Hewitt
President

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

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

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4A - Development on Stuart and Silver Bell Claims consists of a 200 foot shaft from surface of Stuart claim on Silver Bell vein, #1 tunnel, down Silver Bell vein 800 feet. #2 tunnel driven on Silver Bell vein 950 feet. #3 tunnel, a crosscut for 600 feet where Silver Bell vein was intersected and driven on for 1200 feet. A winze 100 feet on Silver Bell vein from #3 adit level with 300 feet drifting from bottom of winze.

No. 4 adit, a crosscut for 2400 feet where Silver Bell vein was intersected 300 feet below No. 3 level and approximately 700 feet of drifting on Silver Bell vein. The crosscut was continued 2000 feet farther with no other veins of importance disclosed.

Surface shafts #1 and #2 tunnels inaccessible. #3 and #4 tunnels open and vein can be seen on these levels. Twenty pound rail, air, water and vent pipe installed in #4 adit and ready to go.

4B - Early operations from shallow shafts and tunnels in the 1870's and 80's produced high grade ore which was hauled by ox team to Corine, Utah, then to San Francisco where it went by water transportation around the "Horn" and up to Swansea, Wales, for treatment. No authentic records available but what record I could obtain from sons of former employees and manager's son indicate $75,000 net returns, gold, silver, and copper. #2 and 3 adits were driven by an English corporation who were operating a cyanide plant in Marysville, Montana. They planned on installing a cyanide plant on Silver Bell property, but tests through their Marysville plant proved that ore contained too much copper to permit cyaniding.

In 1940, Swansea Mines opened #3 adit and installed a 50 ton flotation plant which started production in late 1941. Approximately $50,000 was produced in copper, lead, silver-gold concentrate when operations were suspended by order L-208. In 1946, mill was remodeled and electric power brought in from Montana Power line. In 1949 mill was completely destroyed by forest fire after producing approximately $60,000 in concentrates. This milling ore was produced from #3 adit and from winze on #3 level. The mill feed averaged Cu .8%, Pb 2.1%, Ag 6 oz., Au .03 oz. The ore from winze was approximately 25% higher in Cu content, with lower Au values.

4C - The Silver Bell vein has a width of approximately 6 feet and within 3 degrees of vertical, hard walls in granite, a true fissure vein with surface exposure of 4000 feet. The vein filling is a friable quartz, averaging 88% silica. The vein is ideal for shrinkage stoping with no timbers required.

At the point where we propose to explore by driling, the Cu content has increased to approximately 1% and the Ag content to 8 oz. The Au lowered to .02 oz. The Pb to 2%.

We believe that the #4 level is nearly low enough to be at the permanent water level and that primary ore will soon predominate. The greater part of ore above the #4 level is badly leached and oxidized with only small amounts of chalcopyrites showing as primary ore. The primary ore always shows much better Cu and Ag values than the oxidized ore, in this deposit.

The ore that we now have blocked out is nearly all an oxide ore and it is too low grade to mine and mill at a profit. Our milling recovery was fairly good, about 86% but the reagent cost was high. We believe that by sinking 400 feet below our present lowest level, that #4 adit level, we can find ore with more sulphide present and consequently much higher copper values. The company will do the sinking necessary, provided that the ore indicated in the drilling program warrants further development.

4D - The Silver Bell mine is situated 40 miles northwest from Helena. We have a black top highway to within 16 miles of the property. The remaining 16 miles is a good graveled country road kept in good condition winter and summer. The county maintains the road right to our camp, at the portal of the #4 adit. The railroad shipping point is Silver City, Montana, on the Great Northern Railroad, with a low freight rate to the A.S. & R. smelter in East Helena, or the A.C.M. Washoe sampler in Butte. Silver City is 23 miles from the mine.

We have ample housing facilities, including a boarding house all furnished and cottages for the employees. We also have a good compressor-shop building and change room with showers. We have a splendid compressor installation, 650 C.F.M. direct connected to 125 HP motor, complete shop, mucking machine, storage battery trammer, hoist, drills and all equipment needed for mining and development. If any other equipment is required, we will purchase it out-right.

4E - Manpower is available on day's pay or by contract. Material supply, Helena and Butte. Ample water already developed. Our own power line connected to Montana Power provides all the electric power desired.

5A - Minerals for which we wish to explore, copper, lead, and silver.

5B - We propose to core drill three holes on 45° down angle, fanned out from drill station to be cut in our crosscut. Total drilling 1800 feet. See plan map enclosed.

5D - General supervision under C. L. Hewitt and all work will be under contract to independent contractor. Compressed air and water to be furnished by company.

6 - Cutting drilling station -	$ 650.00
1800 ft. drilling @ $4.50 ft. -	8100.00
Rehabilitate camp, water lines, etc., and get eq in shape for opr. - -	350.00
Compressor operator, electric power and maintenance for 70 days drilling time (to be paid for outside of contract) - - - - - - - - - - - - - - -	1700.00
Incidentals -	350.00
	11,150.00

In addition to these costs, the company will have to repair power line at a cost of approximately $1600.00 which we will pay for, as well as other small costs outside of the $350 included for Incidentals.

7A - Yes

7B - Would like to get credit for use of equipment and will furnish balance of our 50% in cash.

We propose to purchase new battery for our locomotive at a cost of $1900, also repair our other equipment and power line. Cost of these items to be paid by Swansea Mines, Inc.

Item 3

Stuart Mill site,	Pat. Survey #1424	Lot #37A
Stuart Lode	Pat. Survey #1424-A	Lot #37B
Silver Bell Lode	Pat. Survey #1425-A	Lot #38A

Mary Lode unpatented	Book of Lodes	26	Page 548
Silver Bell extention		26	547
Silver Dollar		26	500
Rita		26	549
McDonald		26	542
Sue		26	496
Eva		26	497
Magma		26	352
Marion		26	543
Jim		26	544
Bruce		26	455
Edith		26	456
Silver Hill		26	457
Swansea		26	458
United		26	592
States		26	593
Irene - Placer	Book of Ranches & ditches		115

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MF-203
(Revised July 1, 1954)

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of Montana, County of Lewis and Clark, described as follows:1/

The undersigned is the owner of a group of mining claims situated in Lewis and Clark County, Montana, fully described in annex hereto attached.

which is the subject of a proposed exploration project contract, hereinafter called the "contract", between the United States of America, hereinafter called the "Government", and

2/ Swansea Mines, Inc.

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production and to other rights and equities which do or may conflict with or be adverse to the rights of the undersigned:

NOW THEREFORE, the undersigned, in consideration of said contract and as an inducement to the Government to enter into same, undertakes and agrees as follows:

1. The Government's equity in and right to dismantle, sever, take possession of, and remove and dispose of facilities, buildings, fixtures, equipment, or other items as provided in the contract or any amendment thereof shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned, and the Government is authorized to enter upon the land for such purposes.

2. To secure the payment to the Government of the percentage royalty on production3/ provided for under the terms of said exploration project contract or any amendment thereof there is hereby granted to the Government a lien upon the land above referred to and upon any production of minerals therefrom until said royalty is fully paid or ten years have elapsed from the date of the contract, whichever occurs first.

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Insert the name of the Operator as it will appear in the exploration project contract.

3/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

(OVER)

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions In paragraph 2 the words "the period fixed in the contract or any amendment thereof has" are substituted for "ten years have."

A copy of Resolution authorizing the undersigned to execute this instrument, certified by the Secretary of the New Silver Bell Mining Company, to be a true and correct copy, is hereto attached.

Dated this 7th day of March, 1955.

NEW SILVER BELL MINING COMPANY [Seal]

By Lucile G. Bogy [Seal]
Its President

[Seal]

ATTEST:

Secretary

(Corporate Seal)

ANNEX TO OWNER'S CONSENT TO LIEN
of
NEW SILVER BELL MINING COMPANY

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1. Patented Quartz Lode Mining Claims:

Stuart Lode,	U.S. Survey #1424-A,	Lot 37B
Stuart Mill Site,	U.S. Survey #1424,	Lot 37A
Silver Bell Lode,	U.S. Survey #1425-A,	Lot 38A

2. Unpatented Quartz Lode Mining Claims, certificates of location of which are of record in Book 26 of Lode Locations, records of the Clerk and Recorder of Lewis and Clark County, Montana, described by name and page of said record as follows:

Mary Lode, unpatented,	Page 548	Marion	Page 543
Silver Bell extension,	547	Jim	544
Silver Dollar	500	Bruce	455
Rita	549	Edith	456
McDonald	542	Silver Hill	457
Sue	496	Swansea	458
Eva	497	United	592
Magma	352	States	593

3. Unpatented Placer Claim:

Irene Placer, Book of Ranches and Ditches, Page 115.

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MEETING OF BOARD OF DIRECTORS
OF
NEW SILVER BELL MINING COMPANY, A MONTANA CORPORATION,
HELD ON MARCH 7th, 1955 AT THE HOUR OF TWO O'CLOCK, P.M.
AT THE PRINCIPAL OFFICE OF SAID CORPORATION AT HELENA, MONTANA.

Present: Lucille G. Bogy, Tom V. Bogy, and C. E. Pew, being all the members of the Board.

The meeting being called to order, the Secretary reported to the meeting that Swansea Mines, Inc., which holds a lease and option upon the mining properties of the New Silver Bell Mining Company, has applied for a D.M.E.A. Loan for the purpose of sinking upon the vein, and that it is necessary, in order to obtain such loan, this Corporation execute an "Owner's Consent to Lien", as prescribed by the regulations of the D.M.E.A.

After due consideration the following Resolution was unanimously adopted:

> BE IT RESOLVED by the Board of Directors of New Silver Bell Mining Company, a Montana Corporation, that the President and Secretary of this corporation be and they are hereby authorized and directed to execute and deliver to Swansea Mines, Inc., for filing with the D.M.E.A., the Owner's Consent to Lien prescribed by said D.M.E.A.

No further business coming before the meeting, the same was adjourned.

Lucille G. Bogy
Secretary

APPROVED: C. E. Pew
President

STATE OF MONTANA)
: SS.
COUNTY OF LEWIS AND CLARK)

OFFICE OF THE SECRETARY
OF
NEW SILVER BELL MINING
COMPANY

I, C. E. Pew, Secretary of the New Silver Bell Mining Company, hereby certify that the foregoing is a true and correct copy of the Minutes of a meeting of the Board of Directors of said Company held at the time therein specified, and that said Minutes contain a true and correct copy of Resolution of said Board authorizing the President and Secretary of said Corporation to execute Owner's Consent to Lien in the matter of the application of Swansea Mines, Inc. to the D.M.E.A. for a development loan.

WITNESS MY HAND and the seal of said Corporation this 7th of March, 1955.

C. E. Pew
Secretary of New Silver Bell Mining Company

A G R E E M E N T

This agreement made this 6th day of October, 1942, by and between New Silver Bell Mining Company, a Montana corporation, First Party, and Swansea Mines, Inc., a Montana corporation, Second Party, WITNESSETH:

WHEREAS, under date of September 20, 1939, H. C. Pickett, then trustee for the creditors and stockholders of Silver Bell Mining Company, executed a certain lease and option in favor of F. W. Seieroe covering the Silver Bell and Stuart lode mining claims and the Stuart mill site and other mining ground, a copy of which original lease and option appears at page 42 and following of the minute book of First Party and thereafter under date of October 11, 1940 John N. Glass, as trustee for creditors and stockholders of said Silver Bell Mining Company, entered into an agreement with Second Party herein and others modifying said original lease and option of September 20, 1939, a copy of which appears at page 36 and following of said minute book, and thereafter under date of October 31, 1941 the First Party herein entered into an agreement with Second Party further modifying said original and first modifying agreements, a copy of which appears at page 32 and following of said minute book, and thereafter under date of June 17, 1942 said agreements and modifications thereof were temporarily modified as expressed in a letter and memorandum appearing at page 65 and following of said minute book, and thereafter under date of July 30, 1942, the First Party herein entered into an agreement with Second Party further modifying said original and modifying agreements, a copy of which appears at page 69 and following of said minute book; and

WHEREAS, First Party herein is the owner of all mining property covered by said agreements and Second Party is the sole successor in interest and lease under all of said agreements; and

WHEREAS, for the purpose of clarifying the rights and duties of the Parties hereto as contained and established in said various agreements, it is deemed desirable to enter into a new contract embodying all of the present terms and conditions of the agreement between the Parties and present conditions due to the war have made it extremely difficult for Second Party to secure necessary equipment and supplies and labor, and such conditions will apparently continue for an indefinite time in the future, and as a result thereof it has become necessary for Second Party to suspend the mining of ore and milling thereof and both Parties hereto are desirous of modifying certain terms and provisions now contained in said original agreement and various modifications thereof,

NOW THEREFORE, it is hereby agreed as follows:

1. That each and all of said contracts dated September 20, 1939, October 11, 1940, October 31, 1941, June 17, 1942 and July 30, 1942, be, and the same are, hereby abrogated and rescinded by mutual consent of the Parties and the present agreement is substituted in the place and stead thereof and the present agreement embodies all of the terms and conditions between First Party and Second Party with relation to the matters herein contained, provided, however, that nothing herein stated shall operate or be construed in any way affect any right of either Party hereto which has accrued to it by virtue of said previous agreements and any act or omission occurring prior to the date hereof.

2. In consideration of the covenants herein contained to be performed by Second Party and the work and labor previously expended by Second Party upon the property hereinafter mentioned and the payments made by Second Party to First Party or its predecessors, First Party does hereby grant to Second Party the exclusive right to purchase, at the price and upon the terms and conditions hereinafter set forth, those certain quartz lode mining claims situated in Township 13 North, Range 8 West, M.P.M. in Lewis and Clark County, Montana and described as follows:'

> The Silver Bell, patented, designated by the United State Surveyor General as Lot Numbered 38-A; the Stuart mining claim and Stuart mill site, patented, designated by the United States Surveyor General as Lots Numbered 37-A and 37-B.

Also those certain unpatented mining claims situated in the vicinity of the above described patented mining claims, said unpatented claims being named as follows:

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Mary, Silver Bell Extension, Marion, Rita, McDonald, Stuart Fraction, Silver Dollar, Eva, Sue, Magma, Jim, Bruce and Irene Placer.

Also all other mining claims adjoining the above named claims, or any of them, and which may be acquired by First Party;

Together with all water, water rights, water ditches, reservoirs and other means of conserving, conveying and using water appertinent to said mining claims, or any thereof, particularly including any and all water rights owned by First Party in Poorman Creek or in Silver Bell Creek and any and all other tenements,hereditaments and appurtenances in way wise belonging or appertaining to said mining claims or any thereof.

3. The purchase price for said mining claims and appurtenances is the sum of Forty-Five Thousand Dollars ($45,000), of which Second Party has already paid to First Party or its predecessors or for their account the sum of Five Thousand Four Hundred and Eighty-One Dollars and Thirty-One Cents ($5,481.31), leaving an unpaid balance as of the date of this agreement in the sum of Thirty-Nine Thousand Five Hundred and Eighteen Dollars and Sixty-Nine Cents ($39,518.69) Any and all payments which shall be made hereafter shall be delivered to John N. Glass, the President of First Party, who shall give his receipt therefor.

4. From the time of the execution and delivery thereof, Second Party shall continue to have the right to the possession of the property hereby optioned, so long as it shall keep, observe and perform all of the terms and conditions hereof on its part, and shall have the right to explore and develop said mining property and extract ore therefrom and ship the same in crude form, or mill the same and ship the concentrates or other products of such milling, and market the same and retain the proceeds thereof, subject to the payments as hereinafter provided.

Second Party shall have the right, during the life of this agreement, to install upon said mining claims, or any thereof, such buildings, mill, treatment plants, machinery, equipment, power lines, telephone lines, roadways, ditches, flumes, reservoirs, and other facilities as it may see fit, and use and operate the same in the carrying on of operations hereunder.

5. Second Party shall take accurate and complete samples of all ore shipped or milled to establish the average values of crude ore for any monthly shipping or milling period and the payments hereinafter provided shall be computed in accordance with said monthly values. Upon crude ore, concentrates, or any other product of such mining or milling operations, Second Party shall make payments to First Party as follows:

(a) 5% of the net smelter returns, as hereinafter defined, upon all crude ore shipped, or concentrates or bullion derived from crude ore, which shall have an average gross value of not to exceed Eight Dollars ($8.00) per ton.

(b) 10% of the net smelter returns, as hereinafter defined, upon all crude ore shipped which shall have an average gross value in excess of Eight Dollars ($8.00) and not to exceed Twenty Dollars ($20.00) per ton.

(c) 15% of the net smelter returns, as hereinafter defined, upon all crude ore shipped which shall have an average gross value in excess of Twenty Dollars ($20.00) and not to exceed Forty Dollars ($40.00) per ton.

(d) 20% of the net smelter returns, as hereinafter described, upon all crude ore shipped which shall have an average gross value in excess of Forty Dollars ($40.00) and not to exceed Sixty Dollars ($60.00) per ton.

(e) 25% of the net smelter returns, as hereinafter defined, upon all crude ore shipped which shall have an average gross value in excess of Sixty Dollars ($60.00) per ton.

(f) 10% of the net smelter returns, as hereinafter defined, upon all concentrates or bullion derived from crude ore which shall have an average gross value in excess of Eight Dollars ($8.00) per ton.

The term "net smelter returns" means the amount paid for ores or concentrates by the smelter or other purchaser after deducting all smelting charges and deductions, railroad freight and hauling charges, provided that no hauling charge in excess of Two Dollars and Twenty-five cents ($2.25) per ton shall be ductible.

6. In making any shipments of ore, concentrates or bullion, such shipments shall be so labeled as to indicate that they come from the Silver Bell Mine in Lewis and Clark County, Montana.

No ore or concentrates shall be shipped to any smelter outside the State of Montana until Second Party shall have notified First Party, in writing, of its intention to ship to such smelter, giving the name and address of such smelter.

Any smelter to which any such shipment shall be made is hereby directed to segregate the payments herein provided for and shall transmit the same to John N. Glass of Helena, Montana; and said John N. Glass is hereby directed to credit such payments to First Party. Such smelter is also directed to transmit the First Party, in care of John N. Glass, Helena, Montana, at the time of making any such transmittal of payments, a copy of the returns from the shipment upon which such payments are made.

7. All shipments of bullion shall be made to the United States Treasury Department at Denver, Colorado, as long as the Denver branch of said department continues to purchase such bullion, but if such branch should discontinue the purchasing of such bullion, then such shipments shall be made to the nearest branch of said department purchasing such bullion; but Second Party shall, before shipping to such other branch, give First Party written notice of the branch to which such shipments are so made.

Second Party shall deposit with the purchaser of such bullion instructions to segregate the payment and transmit the same with a copy of the returns to Said John N. Glass, and said John N. Glass is instructed to credit such payments and deliver said copy of such returns to First Party.

8. All percentage payments as provided in Paragraph 5 hereinabove shall be credited as payments upon the unpaid balance of purchase price.

9. The deeds of mining claims herein described which have heretofore been placed in escrow at Piatt & Heath Company are, by agreement of the Parties, delivered to John W. Chapman, 314 Fuller Avenue, Helena, Montana, to be held by him in escrow and delivered to Second Party upon delivery to him of authentic receipts of First Party showing payment in full to First Party of the balance of said purchase price in accordance with the terms of this agreement. In the event that said Chapman shall leave the City of Helena before delivery of said deeds or prior termination of this contract, said deeds shall be by him delivered to another escrow agent to be selected and agreed upon by the Parties hereto.

10. All claims located by Second Party during the life of this agreement, any part of which shall be within fifteen hundred (1500) feet of any boundary line of either the Stuart or Silver Bell Claims, shall be located in the name of First Party, and in the event of the location of any such claims First Party shall, at the request of Second Party, execute and place in escrow with said escrow holder a quit claim deed or deeds conveying such claims to Second Party, which deed or deeds shall be delivered to Second Party if and when the deeds above provided for shall be delivered, in accordance with the terms hereof, and without the payment of further consideration therefor; such locations to be made at the cost of Second Party.

It is understood and agreed thatSecond Party is the owner of the three unpatented mining claims known as the Edith, the Swansea, and the Silver Hill, free of any claim by First Party, in accordance with a certain agreement dated October 19, 1939, between N. G. Pickett, Trustee, and Swansea Mines, Inc., which agreement is written upon a certain map designated as "Map A Report H.M.L."

11. Through the period of one year after the execution of this agreement, Second Party shall not be required to mine or mill any ore or make any payments on account of the purchase price for the property hereinabove described. During said period Second Party shall be required to perform development work from the lower tunnel level of the Stuart Claim either in drifting, crosscutting, raising or sinking therefrom. Second Party is hereby required to perform not less than fifty (50) linear feet in drifting or crosscutting or thirty-seven and one-half (37½) linear feet in raising or sinking in each calendar month after the execution of this agreement.

12. Commencing with the first day of October 1943 and at all times thereafter up to the first day of October 1944 Second Party shall mill not less than seven hundred (700) tons of ore from said mining claims in each calendar month, and during each calendar month after October 1, 1944 Second Party shall mill not less than fifteen hundred (1500) tons per calendar month during the life of this agreement, provided, however, that the foregoing requirements as to tonnage to be milled shall be wholly or partially suspended as may be made necessary by weather or road conditions making it impossible for Second Party to comply with such requirements.

13. Second Party shall, on or before the 15th day of each calendar month transmit to First Party in care of John W. Glass, Helena, Montana, a written report showing the development work done, an estimate of tonnage mined, an estimate of tonnage milled and assay reports on all head, tail and mine samples taken, during the proceding calendar month.

14. Beginning with the year 1943 and during the life of this agreement, Second Party shall, at its own cost, prior to June 1st of each year, perform upon the unpatented claims above described all work, and place thereon all improvements, necessary to comply with the provisions of Section 2324 of the U. S. Revised Statutes relating to annual work upon unpatented mining claims, so as to keep the same in good standing, and shall furnish to First Party, prior to said date, information as to the work done and improvements made, so that the proper affidavits of annual representation may be filed within the time provided by law. In the event of a suspension by Congress of the requirements of said section during any year, Second Party shall have the benefit of such suspension provision.

Second Party shall also, at its own cost, perfect such of the unpatented mining claims above described as have not been completely located, and shall make such amendments or re-locations of any of said unpatented claims as may be necessary to comply with the provisions of the law relating to the location of mining claims.

15. Second Party shall at its own cost keep all insurable improvements placed upon said mining claims insured in standard fire insurance companies for at least seventy per cent (70%) of their insurable value, including what is commonly termed "eight point coverage"; all such policies to be issued to and approved by First Party, subject to the rights of Second Party as they shall appear.

In case of the destruction of the mill by any hazard covered by such insurance policies, Second Party may, at its election, credit the monies paid to First Party under such policies for such loss upon the balance of the purchase price then unpaid, or may reconstruct said mill and use such insurance money in such reconstruction and, in such event, if it shall prosecute the work of reconstruction of said mill with reasonable diligence, such work of reconstruction shall fully satisfy all work and milling requipements herein contained for a period of three (3) months during which work or milling is required by the foregoing provisions hereof, or at the election of Second Party, Second Party may cancel this agreement and retain in its own right all money payable on account of such insurance remaining after payment to First Party for its interest in the buildings or other property not removable by Second Party as provided in paragraph 26 hereinafter.

16. The payments hereinabove provided for are not royalties but are payments upon the purchase price for said mining claims and appurtenances and

Second Party, in making its returns to net proceeds from operations hereunder to the Board of Equalization of the State of Montans, shall not include any of such payments as royalty deductions in such returns.

17. It is understood and agreed that Second Party is neither the agent nor partner of First Party and that First Party shall not in any manner be responsible for any debts, obligations or other liabilities of Second Party, and that Second Party shall conduct operations hereunder in such a manner as not to subject First Party or any of said property to any liability for any such debts, obligations or other liabilities, and Second Party agrees to hold First Party and said property harmless of and from any and all such debts, obligations and other liabilities and all costs and expenses arising therefrom. Second Party shall post and keep posted in a conspicuous place at the portal of the main tunnel upon the Stuart claim and at two other places upon said property a written notice to the effect that Second Party is operating said property as the lessee and optionee of First Party and that Second Party alone is responsible for all debts and other obligations incurred in such operation and that said property is not and shall not be subject to any lien for labor or materials furnished to Second Party in any such operations.

18. Second Party shall, during the life of this agreement, keep itself qualified under on the Plans of the Montana Workmen's Compensation Act, so that all accidental injuries arising out of employment shall be compensated under one of said Plans.

19. All work shall be done in a workmanlike and minerlike manner, timbering to be done wherever necessary.

20. First Party, its attorneys or agents, shall have the right at all reasonable hours to enter upon such property and into the workings thereon and into the mill and other impoovements thereon, and to inspect the same, and for the purpose of sampling, and may, in making such inspection or sampling, use any appliances upon said property, without interfering with any operations of Second Party hereunder.

21. It is understood and agreed that the provisions of this agreement are notobligatory upon Second Party, and that its failure to comply with such provisions shall render this agreement subject to forfeiture only, except that Second Party shall be required to pay to First Party all payments which may accrue hereunder.

22. All ore, waste and other material taken from any working upon the mining claims hereinabove described shall be deposited upon some of the ground covered by said mining claims, and no ores shall be removed from any of said property by Second Party except for milling and/or marketing; and all ores extracted and concentrates made and not marketed at the time of the termination of this agreement, other than by purchase, shall belong to the First Party, and no such ores nor any concentrates shall be removed from said premises by Second Party after the termination of this agreement.

23. After July 1, 1943 any tailings and other residues of milling operations shall be impounded upon some of the mining claims hereinabove described by retaining dams and in depressions in the ground which are reasonably free from stumps, fallen timber, rocks and other obstructions which would interfere with the later handling of such tailings or other residue for further milling or other treatment or disposal.

24. In the event Second Party shall sink any winze or other working and shall install therein pumping equipment for the purpose of keeping the same dewatered, it shall, before permitting such working to fill in whole or in part with water, give First Party ten (10) days written notice of its intention so to do, to enable First Party to inspect and take samples from said workings, and shall, for that purpose, at its own cost, keep such working dewatered for a period of ten (10) days or until, within said time, First Party shall notify Second Party in writing that it has completed such inspection and sampling and, in the event of the forfeiture of this agreement or of its abandoment by Second Party, Second Party shall, at its own cost, keep dewatered for a period of ten (10) days after such determination any workings upon said property then being kept dewatered by it, to enable First Party to examine the workings so dewatered.

25. Time is of the essence of this agreement. In the event Second Party shall fail to keep, observe and perform each and every term and condition hereof on its part, this agreement shall be subject to forfeiture at the election of First Party, but in the event First Party shall elect to declare this agreement forfeited, it shall give Second Party written notice of its intention to declare such forfeiture, and if Second Party shall, within thirty (30) days after giving such notice by First Party, cure all defaults of which it shall then be guilty, then this agreement shall continue in force as though such default had not occurred; but if Second Party shall not, within said period of thirty (30) days, cure all such defaults, then this agreement shall be terminated and at an end upon the expiration of such thirty (30) day period, and Second Party shall surrender up the possession of said mining claims and appurtenances upon demandof First Party, subject to its right to remove property as hereinafter provided. In the event of the forfeiture of this contract, all payments theretofore made to First Party or its predecessors by Second Party and all payments made by Second Party for the account of First Party or its predecessors shall be forfeited to First Party as liquidated damages and consideration for the option herein contained.

26. In the event of the forfeiture of this agreement of in the event of its abandonment by Second Party, Second Party shall have sixty (60) days after such forfeiture or abandonment in which to remove from said mining claims any machinery or other similar equipment placed thereon by it, but Second Party shall not, in any event, revoce from said premisesany buildings or similar structure, power transmission lines, or telephone lines, or underground piping, wiring or trackage, but the same shall become the property of First Party.

In the event Second Party shall be prevented from removing such machinery, etc. within said sixty (60) day period by reason of the highway, between Helena and the point where the road running from the said mine contacts said highway, being impassable, then the time for the removal of such machinery, etc. shall be extended during the time that such highway shall so be impassable, so that Second Party shall have thirty (30) days during which said highway is passable in which to remove such machinery, etc.

Second Party shall not remove any machinery or other equipment from said mining property after the termination of this agreement until it shall have executed and delivered to First Party a written release of this agreement, in form satisfactory bo First Party, and acknowledged by Second Party so as to entitle the same to record.

27. The waiver of any default shall not prevent First Party from declaring a forfeiture for a subsequent default.

28. Any notice to First Party may be given by personal service upon any officer or director of First Party and notice to Second Party may be given either by personal service upon any officer of Second Party or by mailed to the United States Post Office at Helena, Montana in a sealed envelope addressed to Second Party at Helena, Montana, with postage fully prepaid thereon.

Any notice given Second Party hereunder shall be binding upon Second Party, its heirs, personal representative, successors or assigns, except that if there shall be filed with said escrow holder an executed original assignment of this lease and option, notice shall be given such assignee in the same manner as above provided in the case of Second Party, but if such assignee shall file with First Party an instruction in writing to mail notices to some other address, than such notices shall be so mailed.

29. This agreement shall be assignable by Second Party and shall be binding upon, and inure to the benefit of, the successors and assigns of the respective Parties hereto to the same extent as the same is binding upon, and inures to the benefit of, the Parties themselves.

IN WITNESS WHEREOF the Parties hereto have caused this agreement to be executed by their proper corporate officers thereunto duly authorized and empowered

and their corporate seals to be hereunto affixed the day and year first hereinabove written.

NEW SILVER BELL MINING COMPANY

By: /s/ John N. Glass
Its President

Attest

/s/ Lucille G. Bogy
Its Secretary

FIRST PARTY

(CORPORATE SEAL)

SWANSEA MINES, INC.

By /s/ C. L. Hewitt
Its President

Attest:

Its Secretary

SECOND PARTY

(CORPORATE SEAL)

STATE OF MONTANA)
) SS.
County of Lewis and Clark)

On this 6th day of October, 1942 before me, John W. Chapman, a Notary Public for the State of Montana, personally appeared John N. Glass, known to me to be the President of the New Silver Bell Mining Company, the corporation that executed the foregoing instrument and acknowledged to me that said corporation executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate first above written.

/s/ John W. Chapman
Notary Public in and for the State of Montana, residing at Helena, Montana. My commission expires May 1, 1944.

STATE OF MONTANA)
) SS
County of Lewis and Clark)

On this 6th day of October, 1942 before me, John W. Chapman, a Notary Public for the State of Montana, personally appeared C. L. Hewitt, known to me to be the President of Swansea Mines, Inc., the corporation that executed the foregoing instrument and acknowledged to me that said corporation executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate first above written

/s/ John W. Chapman
Notary Public for the State of Montana, residing at Helena, Montana. My commission expires May 1, 1944.

A G R E E M E N T

This agreement made this 1st day of December, 1942, between New Silver Bell Mining Company, a corporation, First Party, and Swansea Mines, Inc., a corporation, Second Party, WITNESSETH:

WHEREAS, for several years past Second Party has been conducting mining operations upon mining claims owned by First Party which are commonly known as the Silver Bell group of claims, and Second Party has expended large sums of money in developing and improving said property and has erected a suitable mill thereon and has paid substantial sums of money to First Party on account of such operations and as partial payments of the purchase price for said claims, and

WHEREAS, on October 6, 1942 the Parties hereto revised all previous agreements between themselves and executed a new lease and option embodying all terms and conditions of the agreement between the Parties effective as of that date, reference to which agreement is hereby made for exact particulars, and

WHEREAS, on or about October 7, 1942 the Government of the United States ordered that all mining and development upon mines not producing strategic minerals be terminated not later than October 15, 1942, and said order compelled Second Party to terminate all mining and development work on or about October 15, 1942 and Second Party is, and will be, unable to resume such work for an indefinite period of time because of such order, and

WHEREAS, it will be to the mutual benefit and advantage of both Parties hereto to keep said agreement of October 6, 1942 in full force and effect.

NOW THEREFORE, IT IS AGREED as follows:

1.

Said agreement of October 6, 1942 shall be and remain in full force and effect as modified hereby, and Second Party shall not

be required to do any mining or development work or keep said mine free of water or do any other thing required by the terms of said agreement as long as Second Party shall be prohibited from doing mining or development work because of said order of the Government or any other governmental regulation and no limitation of time for the performance of any obligation or condition by Second Party, as provided by said agreement, shall be operative so long as any such governmental prohibition of work shall be in effect, provided, however, that in any year when annual assessment work shall be required to hold any of the unpatented mining claims covered by said agreement of October 6, 1942, Second Party shall perform the necessary assessment work at its own cost and furnish proof thereof as required by the terms of said agreement of October 6, 1942.

II.

The terms and conditions of said agreement of October 6, 1942 shall again become obligatory upon Second Party as soon as Second Party is able to obtain permission from the Government to recommence development work for the production of metals or silicious ore or other useful materials and therefore Second Party shall perform all things required of it by said agreement in the manner and to the extent specified therein, provided, however, that the time for performance of any obligation or condition by Second Party shall be computed as though said agreement had been dated and executed upon the date when resumption of operations was permitted instead of October 6, 1942, and Second Party shall have the same length of time for such performance from and after the date of permission as it would have had after October 6, 1942 if such operations had not been stopped by the Government.

III.

Nothing herein contained shall subject Second Party to any liability for damages or any penalty other than forfeiture of

its rights under said agreement for failure to resume operations after permission for operating may be obtained from the Government.

IN WITNESS WHEREOF the Parties hereto have caused this agreement to be signed by their proper corporate officers and their corporate seals to be affixed the day and year first hereinabove written.

NEW SILVER BELL MINING COMPANY

By: /s/ J. N. Glass
Its President

ATTEST:

/s/ Lucille G. Bogy
Its Secretary

SWANSEA MINES, INC.

By: /s/ C. L. Hewitt
Its President

ATTEST:

/s/ F. W. Seieroe
Its Secretary

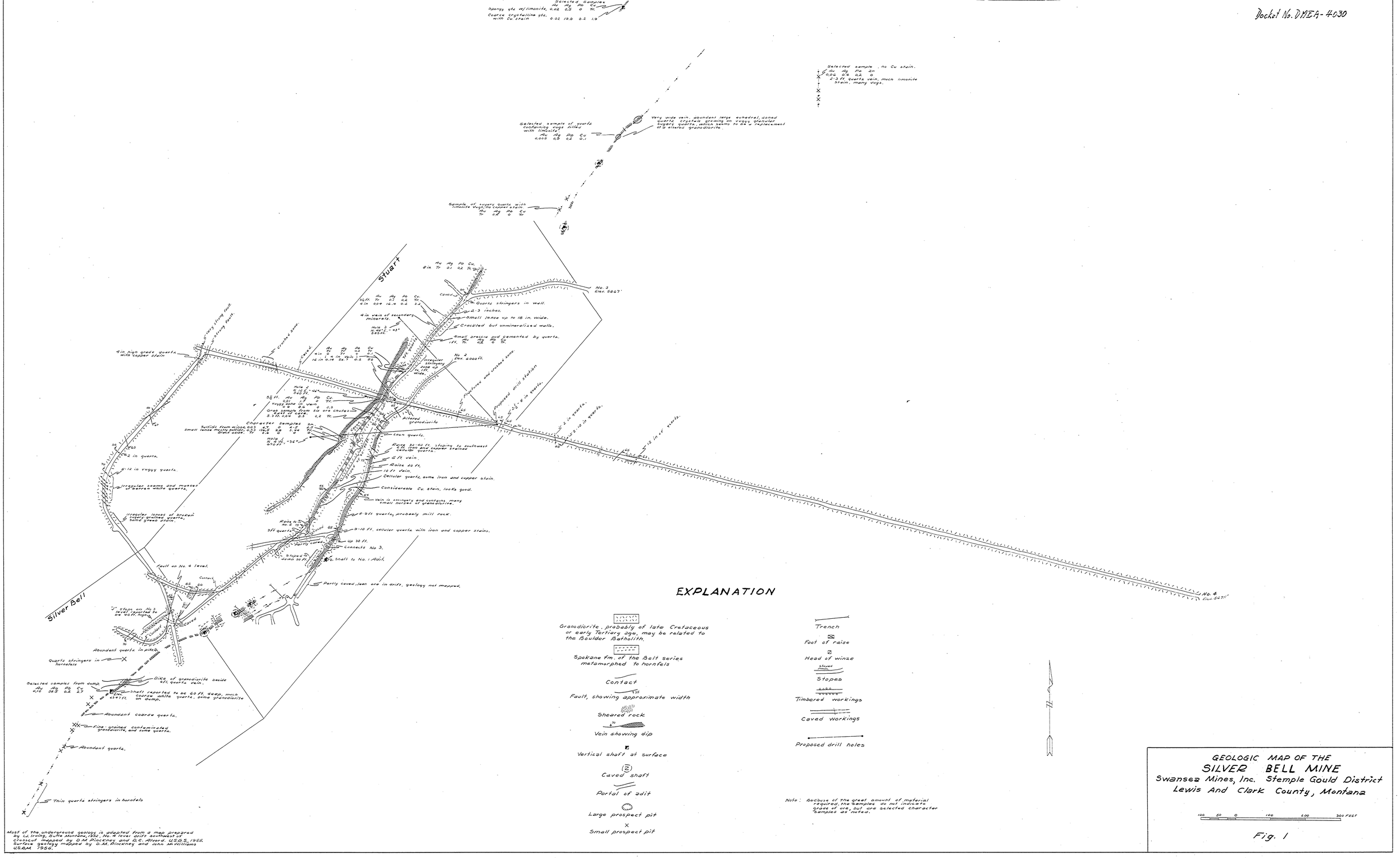
STATE OF MONTANA)
) SS.
County of Lewis and Clark)

On this 1st day of December, 1942, before me, John W. Chapman, a Notary Public for the State of Montana, personally appeared John N. Glass, known to me to be the President of the New Silver Bell Mining Company, and C. L. Hewitt, known to me to be the President of Swansea Mines, Inc., each of whom then and there acknowledged to me that said respective corporations executed the foregoing agreement.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my Notarial Seal the day and year first hereinabove written.

/s/ John W. Chapman
Notary Public for the State of Montana, residing at Helena, Montana. My commission expires May 1, 1944.

Docket No. DMEA-4030



EXPLANATION

Granodiorite, probably of late Cretaceous or early Tertiary age, may be related to the Boulder Batholith.

Spokane fm. of the Belt series metamorphed to hornfels

Contact

Fault, showing approximate width

Sheared rock

Vein showing dip

Vertical shaft at surface

Caved shaft

Portal of adit

Large prospect pit

Small prospect pit

Trench

Foot of raise

Head of winze

Stopes

Timbered workings

Caved workings

Proposed drill holes

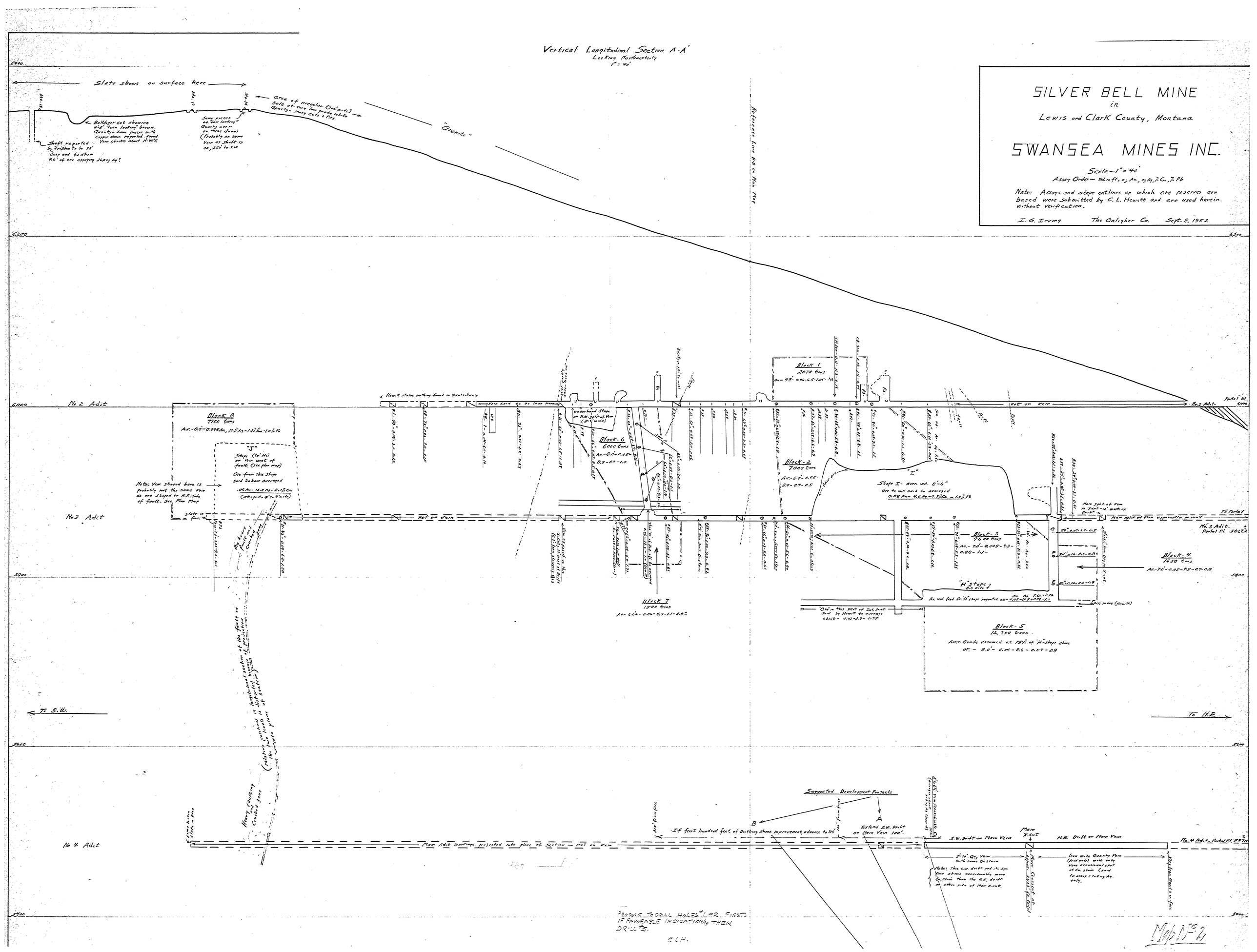
Note: Because of the great amount of material required for samples, do not indicate grade of ore, but are selected character samples as noted.

Most of the underground geology is adapted from a map prepared by I.J. Irving, Butte Mon. 1932. No. 4 level drift southwest of crosscut mapped by D.M. Pincelney and A.C. Alvord, USGS, 1955. Surface geology mapped by D.M. Pincelney and John McWilliams USBM 1952.

GEOLOGIC MAP OF THE
SILVER BELL MINE
Swansea Mines, Inc. Stemple Gould District
Lewis And Clark County, Montana

100 50 0 100 200 300 FEET

Fig. 1


Vertical Longitudinal Section A-A'
Looking Northwesterly
1" = 40'
SILVER BELL MINE
in
Lewis and Clark County, Montana
SWANSEA MINES INC.
Scale - 1" = 40'
Assay Order ~ Wd in ft; oz Au, oz Ag, % Cu, % Pb
Note: Assays and stope outlines on which ore reserves are based were submitted by C. L. Hewitt and are used herein without verification.
I. G. Irving
The Gallagher Co.
Sept. 8, 1952
Slate shows on surface here
Bulldozer cut showing H-S "Iron looking" brown Quartz - Some pieces with Copper stain reported found Vein strikes about N-45°E
Shaft reported by Trubbe to be 25' deep and to show 40' of ore assaying 2 oz Ag?
Some pieces of Iron looking Quartz seen on these dumps (Probably on same vein as Shaft 13 on, 250' to S.W.)
Area of irregular (300' wide) belt of very low grade wallrock Quartz - many veins & Pegs
"Granite"
Reference line PB on Plan Map
6400
6200
6000
5800
5600
5400
No 2 Adit
No 3 Adit
No 4 Adit
Portal El. 6000
No 2 Adit
Block 8
7700 tons
Av. - 8.0' - 0.045 Au, 10.5 Ag - 1.1% Cu - 1.0% Pb
"J"
Stope (50' lg) on Vein west of fault. (See plan map)
Ore from this stope said to have averaged
.06 Au - 12.0 Ag - 2.1% Cu
(stoped - 8' to 9' wide)
Note: Vein stoped here is probably not the same vein as one stoped on N.E. side of fault. See Plan Map
Hewitt states nothing found in X-cuts here
Vein said to be lean here
Underhand Stope on N.W. split of vein (5.0' wide)
Block 6
6000 tons
Av. - 8.0' - 0.05 - 8.5 - 0.7 - 1.0
Block 1
2070 tons
Av. - 4.9' - 0.06 - 6.5 - 1.05 - % Pb
Block 2
7000 tons
Av. - 6.0' - 0.05 - 5.0 - 0.7 - 0.5
Stope I - aver. wd. 8'-6"
Ore to mill said to averaged
0.08 Av. - 4.0 Ag - 0.5% Cu. - 1.0% Pb
"I"
Not on vein
Main split of vein in X-cut - 10' north of Drift
Main split of vein apparently in west
To Portal
No. 3 Adit - Portal El. 5867.2
Block 3
96.00 tons
Av. - 7.0' - 0.045 - 9.3 - 0.08 - 1.1 -
"H" stope
80 tons
Av. mill feed for "H" stope reported as - 0.08 - 11.5 - 0.7% - 1.2
Block 4
1650 tons
Av. - 7.0' - 0.05 - 7.5 - 0.7 - 0.8
Block 5
12,300 tons
Aver. Grade assumed at 75% of "H" stope above
or: - 8.0' - 0.04 - 8.6 - 0.57 - 0.9
Block 7
1500 tons
Av. - 6.0' - 0.06 - 4.5 - 1.1 - 0.8%
Block 7 Bulkhead Barricaded (Gold from Mount Hope)
Vein exposed in this X-cut is east of fault (Gold from Mount Hope)
Vein exposed in this X-cut is west of fault
Vein exposed in this X-cut is east of fault
Vein exposed in this X-cut is west of fault
Heavy footwall Crushed zone
(relative position in horizontal section of the fault as projected into the plane of section)
Suggested Development Projects
A
B
Extend S.W. Drift on Main Vein 100'.
If first hundred feet of Drifting shows improvement, advance to 315'.
100' from face
200' from face
S.W. Drift on Main Vein
Main X-cut
N.E. Drift on Main Vein
5'-10' Qtz. Vein with some Cu stain
Note: This S.W. drift and its S.W. face shows considerably more Cu stain than the N.E. drift on other side of Main X-cut.
Main Crosscut at approx. 5875' from Portal
Lean wide Quartz Vein (8'-10' wide) with only very occasional spot of Cu. stain. Could be assay 1 to 2 oz Ag. only.
No. 4 Adit - Portal El. 5470
Main Adit Workings projected into plane of Section - not on vein
PROPOSE TO DRILL HOLES #1 & #2 FIRST. IF FAVORABLE INDICATIONS, THEN DRILL #3.
C.L.H.
To S.W.
To N.E.
Map IV-2