DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

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DMA Docket No. 3333

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To:	Open Comm	Date	8-18-54
To:	Open Com	Date	10/12/54
To:	Open Comm	Date	10-18-54
To:	Open Com.	Date	11-3-54
To:	Open Comm	Date	11-5-54
To:	Open Comm	Date	1-12-55
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BATES NO. USGSPO 00004406

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

RECEIVED

January 27, 1955

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

Re: Docket No. DMEA-3333 (lead-zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

This is in reply to your letter of January 13, 1955, inquiring about the Old Constitution mine, Shoshone County, Idaho.

The mine is operating. Twenty-seven lessees produce about 100 tons a day, and there are three company employees. No drilling or other exploration is planned because of the financial status of the company.

Any geological maps and other material that we can obtain will be added to the docket.

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)
Fryklund

File Copy
Surname
Griswold
Selfridge
Hedges
Kiilsgaard

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

500

JAN 13 1955

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

Re: Docket No. DMEA-3333 (Lead-Zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Weissenborn:

A review of our files shows that we failed to answer your letter of November 30 covering the cited application, though we did advise the Applicant, as you had suggested, that we could not leave a contract in indefinte suspense.

We are not clear as to the present status of this mine, whether it is still active with the workings open or not. If it is still in operation it perhaps would be well to obtain any additional geological data which might be conveniently available, since it might have a bearing upon other Pine Creek area projects of a generally similar nature. Mr. Arthur B. Campbell, in his memorandum of August 9, 1954, mentioned that the 1600 level had recently been mapped by the company, though he had not seen a copy of the map. Possibly this, together with other material might be added to the docket. Likewise if the 2000 level is still open, the Operator would be well advised to expend a modest sum drilling the walls in order to determine whether or not the small stope is on the main structure.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

WRGriswold/er 1/12/55

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

APPROVED:

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

Thor H. Kiilsgaard
Member, Geological Survey (JHB)

R.C.R.

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

December 8, 1954

Memorandum

To: Administrator

From: Chief, Base Metals Division

Subject: Docket No. DMEA-3333, Spokane-Idaho Mining Company, Old Constitution Mine, Shoshone County, Idaho (lead-zinc)

The November 30 letter from Mr. Weissenborn covers the subject application. The contract, for a total sum of $219,800.00, covers one of the mines in the Pine Creek district of the Coeur D'Alenes.

The mine, as you may note from the longitudinal section attached to the contract, has been pretty well worked out as far as presently known ores are concerned. This project was set up as an attempt to rejuvenate the mine by seeking presently unknown ore shoots.

If you see fit to sign the letter to the Applicant, will you then please release the attached memorandum to Mr. Adams, notifying him that the contract is to be considered as withdrawn.

W. R. Griswold

W. R. Griswold

File Copy
Surname

500

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

December 8, 1954

Memorandum

To: Administrator

From: Chief, Base Metals Division

Subject: Docket No. DMEA-3333, Spokane-Idaho Mining Company, Old Constitution Mine, Shoshone County, Idaho (lead-zinc)

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The mine, as you may note from the longitudinal section attached to the contract, has been pretty well worked out as far as presently known ores are concerned. This project was set up as an attempt to rejuvenate the mine by seeking presently unknown ore shoots.

If you see fit to sign the letter to the Applicant, will you then please release the attached memorandum to Mr. Adams, notifying him that the contract is to be considered as withdrawn.

W. R. Griswold

W. R. Griswold

WRGriswold/bjl

Copy to: Base Metals
Docket
Chron.

File Copy
Surname

Finnwold
Selfridge
Mittendorf

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

NOV 5 - 1954

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

Re: Docket No. DMEA-3333 (Lead-Zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Weissenborn:

On October 19, we sent you the original and five copies of a contract for the cited project.

Shortly thereafter we received your letter of October 14, enclosing the memorandum of Mr. E. G. Erickson dated October 11, covering the Douglas Mine project of this same Operator (Docket No. DMEA-2862, Contract Idm-E482). We note that the Operator is in arrears on royalties to the extent of $2,890.62 on Douglas mine production, and also that this company is having financial difficulties.

Since the Constitution Mine project is of a major nature, and since it is definitely contrary to the best interest of the Government to enter into projects if the Operator is manifestly unable to finance its share of the costs, we suggest you investigate this situation.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

WRGriswold/er 11/3/54

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

APPROVED:

J. H. Hedges

Member, Bureau of Mines (JHB)

E. L. Newcomb

Member, Geological Survey (ELN)

R.C.1.

Mr. Bishop

Lands Minerals Administration
RECEIVED
DEC - 6 1954

XXXXXXXXXXXXXXXXX
No. 137 Howard Street
Spokane 4, Washington

November 30, 1954

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

Re: Docket No. IMGA-5333 (lead-zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

Your letter of November 5, 1954, suggesting that we investigate the financial situation of the Spokane-Idaho Mining Company before offering the Constitution contract (IMa-E730) to the operator for his signature has been received.

On receipt of the Constitution contract and before the arrival of your letter, the Executive Officer talked with Mr. Marr about this same situation. It was pointed out to him that in view of the fact that he had recently lost his technical staff through resignation it did not seem that he was at present in a position to undertake the work specified in the contract. It was emphasized that it would not be in the Government's best interest to enter into a contract the size of the Constitution unless there was a good assurance that it would be carried out, and that it would be unwise of him to undertake such an obligation unless he was prepared to carry it out.

Mr. Marr has written a letter which is enclosed requesting that the contract be held in abeyance. Because of the indefiniteness of this we cannot recommend that it be held in abeyance; rather, we think it would be better to withdraw the contract.

Mr. Marr is very definitely not a fly-by-night promoter but a serious, substantial, and respected mining man whose properties for the moment are beset with difficulties. He is making serious efforts to refinance and restaff the Douglas and Constitution properties and it is very possible that his efforts will be successful. If they are, it is quite likely that Mr. Marr will request that the present contract or a somewhat similar one be reinstated at some future date.

We are consequently returning the unsigned contract to you and suggest that it be placed in the dead file until such time as it may seem to be to the Government's interest to reactivate it.

By Field Team, Region II

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

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

Enclosures

cc: UKBM (2)
Frykland

~~Mr. Kuehle~~
Mr. Kielsgard

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
DEC - 6 1954

XXXXXXXXXXXXXXXX
No. 157 Howard Street
Spokane 4, Washington

November 30, 1954

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

Re: Docket No. DMEA-3333 (lead-zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

Your letter of November 5, 1954, suggesting that we investigate the financial situation of the Spokane-Idaho Mining Company before offering the Constitution contract (Idm-2730) to the operator for his signature has been received.

On receipt of the Constitution contract and before the arrival of your letter, the Executive Officer talked with Mr. Marr about this same situation. It was pointed out to him that in view of the fact that he had recently lost his technical staff through resignation it did not seem that he was at present in a position to undertake the work specified in the contract. It was emphasized that it would not be in the Government's best interest to enter into a contract the aims of the Constitution unless there was a good assurance that it would be carried out, and that it would be unwise of him to undertake such an obligation unless he was prepared to carry it out.

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By Field Team, Region II

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

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

Enclosures

cc: UNM (2)
Fryklund

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

Defense Minerals Adm.
RECEIVED
DEC 6 1954

November 30, 1954

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

Re: Docket No. DMEA-3333 (lead-zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

Your letter of November 5, 1954, suggesting that we investigate the financial situation of the Spokane-Idaho Mining Company before offering the Constitution contract (Idm-E730) to the operator for his signature has been received.

On receipt of the Constitution contract and before the arrival of your letter, the Executive Officer talked with Mr. Marr about this same situation. It was pointed out to him that in view of the fact that he had recently lost his technical staff through resignation it did not seem that he was at present in a position to undertake the work specified in the contract. It was emphasized that it would not be in the Government's best interest to enter into a contract the size of the Constitution unless there was a good assurance that it would be carried out, and that it would be unwise of him to undertake such an obligation unless he was prepared to carry it out.

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We are consequently returning the unsigned contract to you and suggest that it be placed in the dead file until such time as it may seem to be to the Government's interest to reactivate it.

By Field Team, Region II

A. E. Weissenborn

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

Wing G. Agnew

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

Enclosures

cc: USBM (2)
Fryklund

Supplies:

Bits and steel @ $4.05/ft. or $0.09/cu.ft.

The indicated need would be near $0.04 per cu.ft. or $1.80 per foot of drift.

Explosives @ $4.85/ft. or $0.11/cu.ft.

The indicated need would be near $0.08 per cu.ft. or $3.60 per foot of drift.

Timber @ $3.02/ft. throughout.

Timber should be allowed for as a separate item. It is recommended that $4/ft. be allowed for standard roof bolting and $6/ft. for a standard timber set.

Pipe: 3" and 2" @ $1.29/ft.

The indicated need is: 3" black iron pipe @ $0.89/ft., 2" black iron pipe @ $0.43/ft., and pipe accessories @ 10%, or $1.45/ft.

Track: 16# @ $0.94/ft.

Adding 10% for track accessories would bring this item to $1.03/ft.

Fan line @ $0.95/ft. is O.K.

Miscellaneous @ $0.15/ft. is O.K.

Recapitulation - Direct labor and supplies

Direct labor	$12.00 ft.
Bits and steel	1.80
Explosives	3.60
Pipe and accessories	1.45
Track and accessories	1.03
Fan line	0.95
Miscellaneous	0.15
Total	$20.98 ft.

Indirect and Overhead - See analysis under Schedule H.

Schedule D, E and F - not applicable

Schedule G

Diamond drilling @ $5.16/ft.

Mr. Erickson's estimate of $4/ft. is reasonable.

Schedule H - Indirect and overhead

Only drifting costs are discussed in this memorandum.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

August 25, 1954

Grunwald
Betty

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

Re: Docket No. DMEA-3333 (lead-zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

Enclosed are 4 copies of a cost analysis for Docket No. DMEA-3333 prepared by S. W. Zoldok, Bureau of Mines. This had been promised in our letter of August 10, 1954.

You will note that Mr. Zoldok has not made cost analyses for raising and winzing, inasmuch as your letter of July 6 does not favor this work.

The Field Team, however, feels that Mr. O. M. Bishop's comments on the raising and winzing are pertinent and agrees with him that some testing of vertical continuity can readily be justified as exploration. Should you agree to permit some raising and winzing, the costs of $70.00 per foot for raising and $110.00 per foot for winzing, as suggested by Mr. Erickson in his memorandum of May 29, 1954, would be appropriate.

By Field Team, Region II

A. E. Weissenborn

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

Wing G. Agnew

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

Enclosure
cc: USBM (2)
Campbell

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~

1201 N. Division St.
Spokane 2, Washington
August 23, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: Stephen W. Zoldok, Mining Engineer, U. S. Bureau of Mines

Subject: Answers to questions and cost analysis concerning Docket No. DMEA 3333 (lead-zinc), Spokane-Idaho Mining Company, Old Constitution Mine, Shoshone County, Idaho

Answers to certain questions raised in Mr. Selfridge's supplementary letter of July 6, 1954 follow:

Number of men employed - 14
Average daily tonnage mined - 70
Ore reserves @ 11¢ zinc - 22,000
Ore reserves @ 13¢ zinc - 55,000
Contract rate per foot of drift or crosscut - $12.00
Contractor furnishes no supplies.
Timbering:
N. side of shaft: 100% timbering all levels.
S. side of shaft: 100% timbering to and including 1600' level.
S. side of shaft: 75% timbering on 1800' level.

The above information was obtained from Mr. Dellinger, Manager of Mines.

Cost Analysis

This analysis is meant to supplant that written by Mr. E. G. Erickson under date of May 29, 1954.

Inasmuch as Mr. Selfridge's letter of July 6, 1954 states that no consideration will be given to the proposed raising and winzing, no analysis of these two items was made; only drifting costs will be discussed. The final costs were reviewed with the applicant and were acceptable to him.

Applicant's Schedule A, B & C.
Direct labor @ $12/ft (drift 6x7½ in clear).
This rate is applicable since it is the going contract rate at the Constitution mine.

Compressed air:

The compressed air cost at $1.12/ft. or $0.025/cu.ft. would not cover operating supplies. This item is believed to have been underestimated by at least 100%. The indicated cost is $2.24 per foot.

Hoisting:

Hoisting @ $2.98/ft. or ($2.98 ÷ $\frac{45}{12}$) = $0.79 per ton

Computed cost of hoisting:

1 hoistman @ $16.27 per day + O.T.
1 cager @ $15.83
1 top motorman @ $15.83
1 bottom " @ $15.83
1 surfaceman-mechanic @ $16.70
Total labor $80.46

Depreciation on, say, an $18,000.00 hoist installation

Depreciation = ($\frac{1}{60}$ x 18,000) ÷ 26 = $11.54 per day

Assuming a 15' daily advance in a 6x7½ drift =

$\frac{6 \times 7.5}{12} \times 15$ or 56 tons of exploration rock

The mine also produces 70 tons of ore daily.

Computed cost of hoisting is

(80.46 + 11.54) ÷ (56 + 70) = $0.73 per ton

Other miscellaneous costs would bring the total to $0.79 per ton or higher. The applicant's request for $2.98 per foot for hoisting is considered reasonable and should be allowed.

Haulage @ $0.64/ft. or $0.17 per ton.

The indicated cost would approach $0.20 per ton or $0.75 per foot of drift.

Assaying @ $0.18 per foot.

This should properly be a separate item. The indicated need is for 1000 samples @ $1.80 each, or $1800.00.

Drilling machines @ $0.56/ft. or $0.15 per ton.

The indicated cost will be near $0.18 per ton or $0.68 per foot.

Pumping at $0.84 per foot.

This item is difficult to evaluate and the applicant claims his actual costs exceed this figure. Under the circumstances this item might be left at $0.84 per foot.

Ventilation @ $1.08 per foot. The applicant claims that his operating and maintenance costs run $1.08 per foot. This is difficult to see, and this item therefore is cut to $0.50 per foot.

Mucking machine @ $0.24 per foot or $0.06 per ton. This item has been underestimated by over 100% and the indicated cost would be nearer $0.48 per foot.

Shop expense @ $1.48 per foot.

This charge is considered reasonable and should be allowed.

Miscellaneous underground expense @ $0.46/ft.

This charge is considered reasonable and should be allowed.

Administrative @ $0.50/ft.

There is a certain amount of cost involved in administering a contract from the Operator's standpoint. This item should properly be incorporated under Engineering and Supervision.

Engineering and Supervision @ $0.93/ft.

This item has been underestimated by at least 100% despite the fact that some of the supervisory personnel will split their time between the Constitution and Douglas mines.

The indicated cost is $1.86 per foot with an additional $0.14 per foot for accounting and office, or $2.00 per foot.

Office expense @ $0.64/ft.

This charge is considered excessive for a unit cost project and is allowed for under Engineering and Supervision.

Warehouse @ $0.08/ft.

This charge is considered reasonable and should be allowed.

General expense @ $0.82/ft.

The applicant's explanation of this item was a little vague and covered expenses already allowed for; it is therefore deleted.

Insurance and taxes @ $1.71/ft.

This item is applicable and should be allowed.

Depreciation @ $2.00/ft.

This item is applicable and should be allowed.

Recapitulation - Indirect and Overhead

Compressed air	$2.24 per foot
Hoisting	2.98
Haulage	0.75
Drilling machines	0.68
Pumping	0.84
Ventilation	0.50
Mucking machine	0.48
Shop expense	1.48
Miscellaneous underground	0.46
Engr. Supervision, accounting	2.00
Warehouse	0.08
Insurance and taxes	1.71
Depreciation	2.00
Total	$16.20 per foot

Total drift costs $37.18 - Say $37.00

Recommended Unit Costs

Item	Units	Unit cost	Total
Drifting (6'x7½' min)	4500 ft.	$37.00	$166,500.00
Roof bolting	3500 ft.	4.00	14,000.00
Standard timber	500 ft.	6.00	3,000.00
Diamond drilling	3000 ft.	4.00	12,000.00
Assaying	1000 samples	1.80	1,800.00
			$197,300.00

Orig. & 3 cys - Wash.
USGS (2)
DMEA
Engr

Stephen W. Zoldok

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
~~XXXXXXXXXXXXXXXXX~~
No. 157 Howard Street
Spokane 4, Washington

August 25, 1954

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

Re: Docket No. DMEA-3133 (lead-zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

Enclosed are 4 copies of a cost analysis for Docket No. DMEA-3133 prepared by S. W. Zoldok, Bureau of Mines. This had been promised in our letter of August 10, 1954.

You will note that Mr. Zoldok has not made cost analyses for raising and winzing, inasmuch as your letter of July 6 does not favor this work.

The Field Team, however, feels that Mr. O. M. Bishop's comments on the raising and winzing are pertinent and agrees with him that some testing of vertical continuity can readily be justified as exploration. Should you agree to permit some raising and winzing, the costs of $70.00 per foot for raising and $110.00 per foot for winzing, as suggested by Mr. Erickson in his memorandum of May 29, 1954, would be appropriate.

By Field Team, Region II

W. E. Weissenborn, Executive Officer
U. S. Geological Survey

Paul G. Spaw, Member
U. S. Bureau of Mines

Enclosure
cc: USBM (2)
Campbell

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~

1201 N. Division St.
Spokane 2, Washington
August 23, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: Stephen W. Zeldek, Mining Engineer, U. S. Bureau of Mines

Subject: Answers to questions and cost analysis concerning Docket No. DMEA 3333 (lead-zinc), Spokane-Idaho Mining Company, Old Constitution Mine, Shoshone County, Idaho

Answers to certain questions raised in Mr. Selfridge's supplementary letter of July 6, 1954 follow:

Number of men employed - 14
Average daily tonnage mined - 70
Ore reserves @ 11¢ zinc - 22,000
Ore reserves @ 13¢ zinc - 55,000
Contract rate per foot of drift or crosscut - $12.00
Contractor furnishes no supplies.
Timbering:
N. side of shaft: 100% timbering all levels.
S. side of shaft: 100% timbering to and including 1600' level.
S. side of shaft: 75% timbering on 1800' level.

The above information was obtained from Mr. Dellinger, Manager of Mines.

Cost Analysis

This analysis is meant to supplant that written by Mr. E. G. Erickson under date of May 29, 1954.

Inasmuch as Mr. Selfridge's letter of July 6, 1954 states that no consideration will be given to the proposed raising and winzing, no analysis of these two items was made; only drifting costs will be discussed. The final costs were reviewed with the applicant and were acceptable to him.

Applicant's Schedule A, B & C.
Direct labor @ $12/ft (drift 6x7½ in clear).
This rate is applicable since it is the going contract rate at the Constitution mine.

Supplies:

Bits and steel @ $4.05/ft. or $0.09/cu.ft.

The indicated need would be near $0.04 per cu.ft. or $1.80 per foot of drift.

Explosives @ $4.85/ft. or $0.11/cu.ft.

The indicated need would be near $0.08 per cu.ft. or $3.60 per foot of drift.

Timber @ $3.02/ft. throughout.

Timber should be allowed for as a separate item. It is recommended that $4/ft. be allowed for standard roof bolting and $6/ft. for a standard timber set.

Pipe: 3" and 2" @ $1.29/ft.

The indicated need is: 3" black iron pipe @ $0.89/ft., 2" black iron pipe @ $0.43/ft., and pipe accessories @ 10%, or $1.45/ft.

Track: 16# @ $0.94/ft.

Adding 10% for track accessories would bring this item to $1.03/ft.

Fan line @ $0.95/ft. is O.K.

Miscellaneous @ $0.15/ft. is O.K.

Recapitulation - Direct labor and supplies

Direct labor	$12.00 ft.
Bits and steel	1.80
Explosives	3.60
Pipe and accessories	1.45
Track and accessories	1.03
Fan line	0.95
Miscellaneous	0.15
Total	$20.98 ft.

Indirect and Overhead - See analysis under Schedule H.

Schedule D, E and F - not applicable

Schedule G

Diamond drilling @ $5.16/ft.

Mr. Erickson's estimate of $4/ft. is reasonable.

Schedule H - Indirect and overhead

Only drifting costs are discussed in this memorandum.

Compressed air:

The compressed air cost at $1.12/ft. or $0.025/cu.ft. would not cover operating supplies. This item is believed to have been underestimated by at least 100%. The indicated cost is $2.24 per foot.

Hoisting:

Hoisting @ $2.98/ft. or ($2.98 ÷ $\frac{45}{12}$) = $0.79 per ton

Computed cost of hoisting:

1 hoistman @ $16.27 per day / 8.T.
1 cager @ $15.83
1 top moterman @ $15.83
1 bottom " @ $15.83
1 surfaceman-mechanic @ $16.70
Total Labor $80.46

Depreciation on, say, an $18,000.00 hoist installation

Depreciation = ($\frac{1}{60}$ x 18,000) ÷ 26 = $11.54 per day

Assuming a 15' daily advance in a 6x7½ drift =

$\frac{6 \times 7.5}{12}$ x 15 or 56 tons of exploration rock

The mine also produces 70 tons of ore daily.

Computed cost of hoisting is

(80.46 / 11.54) ÷ (56 / 70) = $0.73 per ton

Other miscellaneous costs would bring the total to $0.79 per ton or higher. The applicant's request for $2.98 per foot for hoisting is considered reasonable and should be allowed.

Haulage @ $0.64/ft. or $0.17 per ton.

The indicated cost would approach $0.20 per ton or $0.75 per foot of drift.

Assaying @ $0.18 per foot.

This should properly be a separate item. The indicated need is for 1000 samples @ $1.80 each, or $1800.00.

Drilling machines @ $0.56/ft. or $0.15 per ton.

The indicated cost will be near $0.18 per ton or $0.68 per foot.

Pumping at $0.84 per foot.
This item is difficult to evaluate and the applicant claims his actual costs exceed this figure. Under the circumstances this item might be left at $0.84 per foot.

Ventilation @ $1.08 per foot. The applicant claims that his operating and maintenance costs run $1.08 per foot. This is difficult to see, and this item therefore is cut to $0.50 per foot.

Mucking machine @ $0.24 per foot or $0.06 per ton. This item has been underestimated by over 100% and the indicated cost would be nearer $0.48 per foot.

Shop expense @ $1.48 per foot.
This charge is considered reasonable and should be allowed.

Miscellaneous underground expense @ $0.46/ft.
This charge is considered reasonable and should be allowed.

Administrative @ $0.50/ft.
There is a certain amount of cost involved in administering a contract from the Operator's standpoint. This item should properly be incorporated under Engineering and Supervision.

Engineering and Supervision @ $0.93/ft.
This item has been underestimated by at least 100% despite the fact that some of the supervisory personnel will split their time between the Constitution and Douglas mines.
The indicated cost is $1.86 per foot with an additional $0.14 per foot for accounting and office, or $2.00 per foot.

Office expense @ $0.64/ft.
This charge is considered excessive for a unit cost project and is allowed for under Engineering and Supervision.

Warehouse @ $0.05/ft.
This charge is considered reasonable and should be allowed.

General expense @ $0.82/ft.
The applicant's explanation of this item was a little vague and covered expenses already allowed for; it is therefore deleted.

Insurance and taxes @ $1.71/ft.
This item is applicable and should be allowed.

Depreciation @ $2.00/ft.
This item is applicable and should be allowed.

Recapitulation - Indirect and Overhead

Compressed air	$2.24 per foot
Hoisting	2.98
Haulage	0.75
Drilling machines	0.68
Pumping	0.84
Ventilation	0.90
Mucking machine	0.48
Shop expense	1.48
Miscellaneous underground	0.46
Engr. Supervision, accounting	2.00
Warehouse	0.08
Insurance and taxes	1.71
Depreciation	2.00
Total	$16.20 per foot

Total drift costs $37.18 - Say $37.00

Recommended Unit Costs

Item	Units	Unit cost	Total
Drifting (6'x7½' min)	4500 ft.	$37.00	$166,500.00
Roof bolting	3500 ft.	4.00	14,000.00
Standard timber	500 ft.	6.00	3,000.00
Diamond drilling	3000 ft.	4.00	12,000.00
Assaying	1000 samples	1.80	1,800.00
			$197,300.00

Orig. & 3 cys - Wash. ✓
USBM (2)
BMRA
Engr

Stephen W. Zaldek

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Spokane, Washington
August 10, 1954

Answered
Betty

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

Re: Docket No. DMEA 3333
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

This letter will try to answer the many questions raised in your two letters of July 6, 1954. We should point out at the start that we realize that those well acquainted with a district sometimes forget that others at a distance may not be as well acquainted with the details of a district as they are, and so leave out essential information from their memorandums. Mr. Campbell's memorandum thus tries to fill in some of these gaps.

We hope, moreover, that the additional information contained in Campbell's memorandum will relieve you of that "uneasy feeling that (you) are in an insecure and poorly qualified position..." by putting some confidence in the Field Team and its field men; Mr. Campbell has been studying the geology of the general Coeur d"Alene district for six years. The whole Coeur d'Alene project of the Geological Survey has been studying the district for eight years and they do not believe that it is possible to "correlate ore occurrences and controls...and stratigraphic relationships," because the controls of ore shoots are apparently not tied in with the stratigraphy in any usable manner. In general the stratigraphic units are so gross and the over-all characteristics so uniform that detailed relationships between such relatively small geologic units as ore bodies and mappable stratigraphic units have not been proven in any known mining area in the Coeur d'Alene district.

Considerable thought has been given to this mine and to the deposits of the general area by A. B. Campbell and S. W. Hobbs, but it is impossible at present to give you all the information for which you ask. A memorandum on the whole Pine Creek area by S. W. Hobbs and V. C. Fryklund, (dated August 3, and mailed to you on August 10) is

recommended to you for careful reading, as it gives an excellent background for considering exploration projects in the Pine Creek area.

We might point out, in connection with the second paragraph of your first letter of July 6, 1954, that sometimes raising (or sinking) on a favorable-looking zone is necessary before a discovery is made. Moreover, O. M. Bishop of the Bureau of Mines in Washington, makes the statement in his memorandum of June 29, 1954, to W. R. Griswold,"... 200 feet of raising on any ore discovery made...is essentially sound and is recommended."

We trust that most of the questions raised regarding geology are answered in Mr. A. B. Campbell's memorandum, four copies of which are enclosed. The questions regarding costs, number of men employed, daily tonnage mined, etc., will be covered in a subsequent memorandum by Mr. S. W. Zoldok.

We are aware that overhead, in the sense of general administration can not be covered by DMEA contracts. It is believed, however, that by 'overhead' the applicant is referring to such charges as hoisting, etc.

The ore reserves in the mine are difficult to estimate as the company has only 'fringe' ore left, and are about breaking even at the present price of metals. If the prices of metals goes up the company could keep going for several years; a drop in prices would probably close the mine down. At present prices a rough estimate gives the mine about 20,000 tons of ore.

By Field Team, Region II

Wing G. Agnew

Wing G. Agnew, Acting Exec. Officer
U. S. Bureau of Mines

John S. Vhay

John S. Vhay, Acting Member
U. S. Geological Survey

DMEA

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
So. 157 Howard Street
Spokane 4, Washington

AUG 13 1954

August 9, 1954

GS 10/14/54

Memorandum

To: DMEA Field Team, Region II

From: Arthur B. Campbell, Geologist, U. S. Geological Survey

Subject: Answers to questions concerning Docket No. DMEA-3333 (lead-zinc), Spokane-Idaho Mining Company, Constitution mine, Shoshone County, Idaho, raised by G. C. Selfridge, in two letters dated July 6, 1954.

The following comments are made in reply to the questions raised in the subject letters. They are numbered to correspond to the numbered questions in Mr. Selfridge's second letter of July 6.

1. The main tunnel level drift is inaccessible beyond a point approximately 800 feet southeast from the junction with the crosscut. The only geologic data available on the last 600 feet are presented on pages 17-19 of the Gillingham report. As that portion of the mine was inaccessible to Gillingham, the information is quoted from an earlier report by Oscar Hershey.

2. The only information immediately available is contained in the Gillingham report and in 200 feet to the inch geologic level maps which accompany the report. According to the level map, and as mentioned on page 18 of the Gillingham report, the intersection is apparently barren on the 200 level. The Redding fault was cut by a short southwest-trending crosscut near the end of the 400 level, but the drift was stopped in submarginal ore short of the vein-fault intersection. The southeast end of the 800 level was stopped in submarginal ore occurring in the merged Constitution vein and Redding fault. As stated on page 18 of Gillingham's report, this ore is not broken or sheared. In general, on all levels there is an increase to the south in amount of quartz gangue, an increase in lead content, and an increase in grain size of the sulfide ores.

3. Attached to this memorandum is a vertical longitudinal projection showing the projected trace of the intersection of the Redding fault and the Constitution vein and the trace of the bottom of bed QIII on the east and west walls of the vein. It should be stressed that because of the sub-parallel arrangement of the vein

and the fault a slight change in the strike of either will have a pronounced effect on the position of the intersection. Although the application states that the Redding fault has apparently been cut on the 1400 and 1600 levels, there seems to be little positive evidence that this is true. The applicant has since expressed doubt that the small fault cut on these levels is the Redding. At the time of the application, the 1600 level had not been mapped so that such a correlation was very unsound. As shown on the attached longitudinal section, the fault is believed to lie well ahead of the present faces on both levels.

4. and 6. The 800 level was not driven southeast as suggested by Gillingham. Why a mine operator fails to follow the advice of a geological consultant, whose advice he pays for, is sometimes a mystery--apparently it's one of the idiosyncrasies common to the profession. As stated in my earlier memorandum, "the mine has been grossly underdeveloped and underexplored."

5. Quartzites are present on both walls in blocks 51 and 52 on the 1200 level. The same area on the 1400 level has quartzites on the hanging wall and argillite on the footwall.

7. The 1600 level has only recently been mapped by the company but I have not seen a copy of the map. A telephone conversation with the mine manager revealed that the offset relationship of the quartzites on the 1600 level seems much the same as on the 1400 level.

8. No positive evidence has been found to substantiate either idea.

9. I would like to stress again the point presented in my June 1, 1954, memorandum that the work to the southeast is designed to test two geologic targets: (1) the quartzite zone as projected from levels above; and (2) the Redding fault-Constitution vein intersection. The first of these must be tested on the 1800 level. The second presents a choice of locations for prospecting. The possibility of doing the work from the 1000 level was of course considered as it is obviously the level extending farthest southeast. Two major items ruled this possibility out: (1) the level is very badly caved in several places between the shaft and the southeast face and would require an extensive rehabilitation job before being usable; and (2) drilling has indicated the Redding fault is nearly parallel to the vein on this level so that the intersection would lie well ahead of the present face (see attached longitudinal section). The decision to drive the 1800 level through the projected quartzite zone to the intersection of the vein and the fault was made in the interest of economy, and the contingent stage of drifting on the 1400 level was included as a guarantee that the fault-vein intersection would receive an adequate test in case of difficulties on the 1800 level. Should this arrangement seem unsatisfactory, I would then suggest that only the quartzite target be tested on the 1800 level by 1,000 feet of drifting and the fault-vein target be tested only on the 1400 level by 1,500 feet of drifting as proposed. Diamond drilling of the walls should be included on both levels.

10. According to the mine superintendent, the amount of iron in the vein has remained very constant with depth. Actually the only apparent change has been a decrease of iron in the zinc sulfide with depth.

11. The beds apparently flatten on both walls below the 1600 level, for as stated in my memorandum of June 1, 1954, a drift being driven to the southeast on the 1800 level has not encountered any of the quartzite beds. The Constitution vein "occupies a fault of considerable movement" (Gillingham, p. 10) and the beds adjacent to it are contorted so that a correct determination of flattening would be impossible to obtain.

12. The stope has not been worked out. It cannot be said with certainty that this mineralization is on a split from the main vein. Since the location of the main vein on this level is unknown (see question 13) it seems wise to drift along a shear which is known to be mineralized and to diamond drill the walls. If the drilling picks up the "main" vein and then proves to be mineralized, it might be wise to turn the drift toward it.

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16. For the reasons presented in my June 1, 1954, memorandum I believe the statement is correct. The work on the 1800 level has indicated a pronounced flattening of the dip of the transition zone quartzites between the 1600 level and the 1800 level. As it is reasonable to expect an approximate parallelism between these transition zone beds and the adjacent overlying Prichard-Burke contact, it follows that the contact is also flattening between the 1600 level and the 1800 level.

Enclosure — 1 Copy sent to D. C.

Distribution:
DMEA (4)
USFM (2)
USGS (SRO)
Docket
Campbell

C O P Y

C O P Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D. C.~~
Spokane, Washington
August 10, 1954

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

Re: Docket No. DMEA 3333
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

This letter will try to answer the many questions raised in your two letters of July 6, 1954. We should point out at the start that we realize that those well acquainted with a district sometimes forget that others at a distance may not be as well acquainted with the details of a district as they are, and so leave out essential information from their memorandums. Mr. Campbell's memorandum thus tries to fill in some of these gaps.

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/s/ Wing G. Agnew
Wing G. Agnew, Acting Exec. Officer
U. S. Bureau of Mines

/s/ John S. Vhay
John S. Vhay, Acting Member
U. S. Geological Survey

Orig. & 1 cc-Wash
USGS (2)
DMEA
Engr.

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
So. 157 Howard Street
Spokane 4, Washington

August 9, 1954

Memorandum

To: DMEA Field Team, Region II

From: Arthur B. Campbell, Geologist, U. S. Geological Survey

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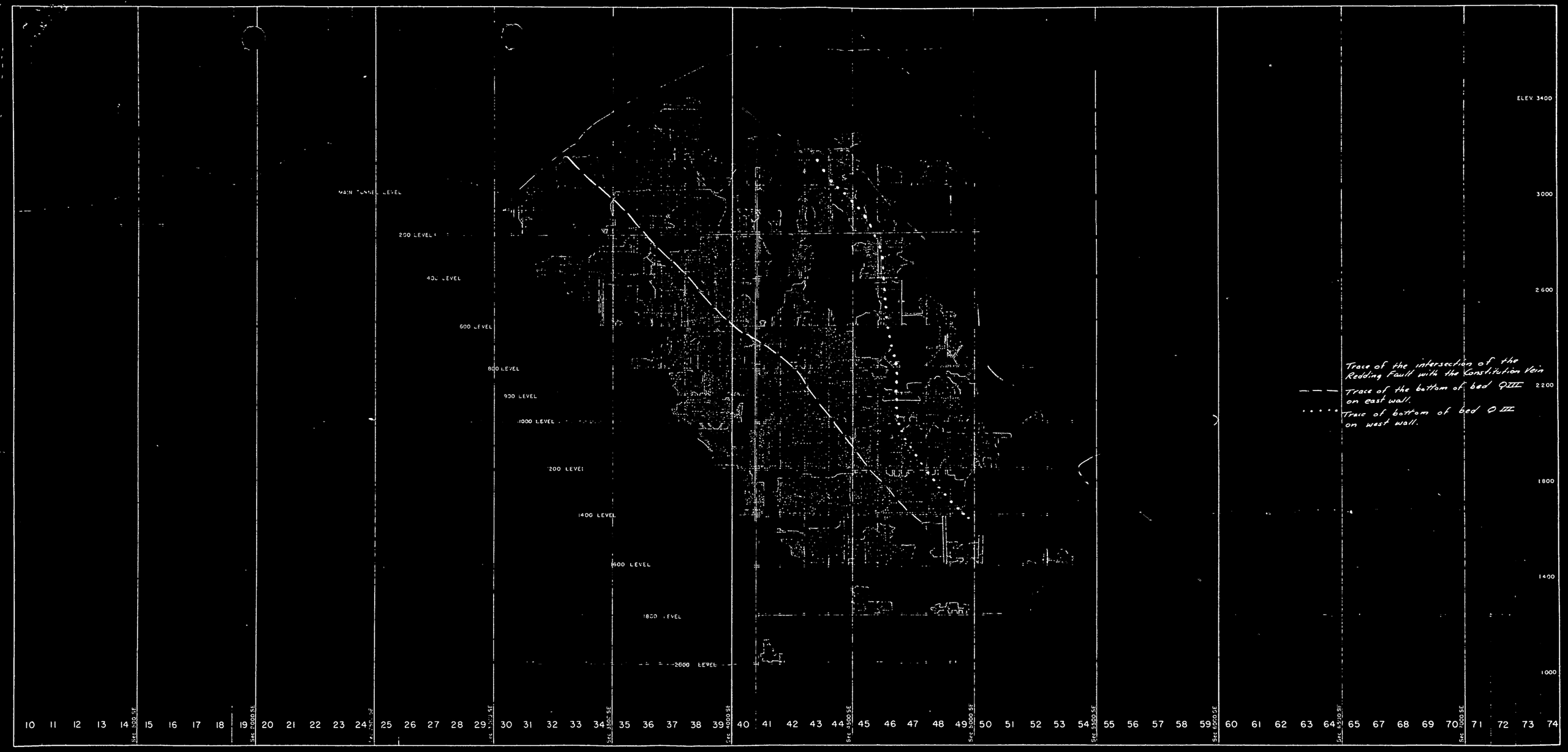
Campbell



CONSTITUTION MINE - VERT. LONG. PROJ.

Looking N 55 E 1" = 200'

File Copy
Surname

Griswold
Selfridge
K Johnson

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

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

JUL 6 - 1954

Re: Docket No. DMEA-3333 (Lead-Zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Weissenborn:

This will refer to your letter of June 10, covering the cited application, and enclosing memorandums by Mr. Arthur B. Campbell, dated June 1, and Mr. N. G. Erickson, dated May 29.

Before we could consider this application there are certain points which we wish to emphasize. First, we could not give consideration to the proposed raising or winzing. If any of the proposed drifting should encounter ore of significant grade and continuity, such work would, in itself, constitute a discovery. If, after such drifting on ore, we were to raise or sink in the ore shoot to delineate (or partly delineate) its extent, such work would be little other than normal and routine development.

Second, we would be willing to consider only one exploratory drift southeasterly. Mr. Campbell has stated: "I believe that a total of 2,000 feet of drifting southeast on the 1800 would be adequate to test both targets." We shall leave it to your good judgment as to whether to do such southeast drifting on the 1400 or 1800 levels. Offhand, since the 1400 level is a horizon known to be favorable to ore occurrence, whereas the 1800 level (as presently known) is not apparently favorable, it would seem that the 1400 level would offer more opportunity to encounter unknown ore bodies. On the other hand, and as has been suggested in the reports, there may be structural reasons for doing the work on the 1800 level.

In attempting to appraise these large-scale projects in this area, we are greatly handicapped in not having adequate geological maps and sections embracing the various mines so that we might attempt to correlate ore occurrences and controls, results of exploratory work, and stratigraphic relationships from one mine to another. Lacking such

RCJ.

vital background data, we are left with an uneasy feeling that we are in an insecure and poorly qualified position to deal with applications of such magnitude.

Third, the suggested drifting costs are considered to be badly out of line. In dealing with unit cost drifting, it is advisable that an agreed price be established for areas where timbering is not required with a separate agreed cost unit for such footage as requires timbering, usually about $6.00 per foot. Likewise, assaying should be set up independently with an allowance for a maximum of a certain number of assays at an agreed price per assay.

A review of the drifting cost details submitted by the Applicant follows:

"Direct labor" at $12.00 per foot is within reason. Under "Supplies", the timber item is deleted for separate consideration. The $4.05 per foot for bits and steel is beyond all reason.

Under "Indirect and Overhead", the hoisting charge of $2.98 per foot seems excessive. The "ventilation" charge of $1.08 per foot is not understandable, since the Applicant has already listed $.95 per foot for fan line under his supply account.

There are many charges of a general nature, such as shop expense, miscellaneous underground expense, administrative, engineering and supervision, office expense, warehouse, general expense, etc., which amount to an impressive total, much beyond what would be allowable.

We note that at the nearby Highland Surprise mine our agreed unit price for drifting, at about the same shaft depth, is $33.00 per foot.

It is obvious that in this case the Applicant is not conversant with our underlying DMEA policy, since he states:

> "It is assumed that the Constitution Mine, which is now in operation, will support its present overhead expense. The D.M.E.A. program will support its proportion of the added overhead expense. Should economic conditions deteriorate, causing cessation of production, the D.M.E.A. program would necessarily assume such additional overhead as might become necessary to its own support."

As a simple matter of fact, the DMEA program assumes no "overhead" expense of any sort. We try to allow a reasonable amount for necessary project supervision, technical services, and accounting, but beyond that we are not concerned with any general and overhead charges which the Applicant incurs in the course of its business.

The same is true in the matter of equipment depreciation. An Applicant might have a large and expensive surface plant and underground installation, but nevertheless we may only accept for depreciation purposes the value of such equipment as would be required to prosecute the work of the project.

We feel that the above matters should be discussed with this Applicant. It is undoubtedly sincere in its belief that we can properly accept a pro rata allotment of the general and overhead expenses of its organization, but, of course, such is not the case.

If this Applicant is willing to recast its cost estimates to conform with our specifications, and if such revised estimate appears to be proper and reasonable, we shall be glad to give consideration to this application.

We repeat, a unit cost price should be submitted for untimbered drifting with an additional agreed unit cost for such footage as requires timber. Also, the assaying should be set up separately.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JHB)

APPROVED:

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

Philip W. Guild (JHB)
Member, Geological Survey

WRGriswold/bjl (6/25/54)

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Bishop
Mr. Gildersleeve
Chron.

500

Surname
Selfridge
Yeftman

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

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

JUL 6 - 1954

Re: Docket No. DMEA-3333 (Lead-Zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Weissenborn:

To supplement a letter of today's date relative to the subject application, we are enclosing two copies each of memoranda by E. L. Newcomb, dated July 1, 1954, and O. M. Bishop, dated June 29, 1954, and noting a number of questions upon which we would appreciate your comments.

1. What geologic information is available for the last 600 feet of the Main Tunnel level southeast of the last stope?

2. What geologic conditions exist at the southeast ends of the 200, 400, and 800-foot levels?

3. Gillingham's report of October 30, 1951, mentions the intersection of the Constitution vein and the Redding fault on the Main Tunnel and 800-foot levels. Is this fault intersection present on the 200 and 400-foot levels? Page VI of the application states, "The Redding Fault has apparently been intersected on the 1400 and 1600 levels. Its structure is considerable weaker than above, . . ." Campbell's memorandum states the intersection is to be tested on the 1400-foot level. Can you furnish us with a longitudinal section, as submitted by the applicant, showing the intersection of the Redding fault and the Constitution vein? The section might also include the trace of the bottom of QIII as far as exposed.

4. The report mentions submarginal ore on the southeast end of the 800-foot level where the Redding fault and the Constitution vein are together. Why wasn't this face advanced?

5. What type of rock is present in Blocks 51 and 52 on the 1200 and 1400-levels?

6. Was the 800-level driven southeast as suggested by Gillingham? If so, what were the results?

7. How much of the quartzite series is exposed on the 1600-foot level and what is the offset relationship and attitude of the quartzite on the east and west walls respectively?

R.C.S.

8. Has any more information been developed whether or not the Constitution vein-fault represents a scissor or a hinge fault?

9. Mr. Campbell, in his memorandum of June 1, 1954, recommends that 2000 feet of work be done southeastward on the 1800-foot level. He also mentions the possibility that the work might not intersect the formation. If it doesn't, he recommends 1500 feet of drifting to the southeast (southwest in memorandum) to reach the Burke formation. The most productive part of the mine was between the 900 and 1400-foot levels. Seemingly, the shortest distance at the most favorable elevation to reach the Burke contact would be to drive the 1000-foot level to the southeast instead of the 1800.

10. Was the iron content with depth determined as suggested by Gillingham?

11. When Campbell speaks of the beds flattening below the 1600-foot level does he imply that the beds flatten on both walls? Can't the degree of flattening be determined from the argillites on the two lowest levels?

12. Is the small stope on the 2000-foot level worked out? If the stope is on mineralization on a footwall split of the Constitution vein, would't it be better to drift to the northwest on the main vein rather than on the split?

13. The composite map shows the southeast end of the Constitution vein beyond Section 4700 southeast dipping to the northeast to the 1600-foot level. Between the 1600 and 1800-foot levels the dip is reversed or vertical. Between the 1800-foot level and the 2000-foot level there appears to be an appreciable flattening of the dip to the northeast again. Is the 2000-foot level drift on the same structure represented by the upper levels?

14. Gillingham mentions that argillite lies to the northwest of the Constitution ore shoot. Apparently the vein structure weakens appreciably on the various levels to the northwest. What are the surface indications of the vein to the northwest as far as the adit shown by Section 1500 southeast on the composite map? Does the adit cut the extension of the Constitution vein? Are any favorable intersections thought to exist between the present face of the 1000-foot level and the Pine Creek fault?

15. What degree of reliance can be placed upon the projection of the Pine Creek fault to the 1000-foot level?

16. On page 4 of Campbell's memorandum it states the Pritchard-Burke contact is flattening above the 1800-foot level. Is this correct?

We would appreciate knowing how many men are employed at the Constitution Mine and what the average daily tonnage has been. If economic conditions remain the same, does the Constitution Mine have sufficient

reserves to continue its present production for the time necessary to accomplish all or any part of the exploration work as proposed by Campbell, if granted? We would appreciate a complete breakdown by yourfield engineer of the probable cost of $42 a foot as proposed by Mr. Erickson in his memorandum of May 29, 1954, taking into consideration that the same supervision and technical services now available at the Douglas Mine will be used at the Constitution Mine. If labor for driving drifts is to be paid on a footage basis, we would appreciate knowing the footage rate. If the contractor is to furnish any of the supplies, we would like to know just which ones. What percentage of the lowest levels is now timbered?

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

Approved:

J. H. Hedges (JHB)

Member, Bureau of Mines

Philip W. Guild (JHB)

Member, Geological Survey

Enclosures 2

GCSelfridge/esf (7/27/54)
cc to: Docket
Admr. Reading File
Operating Committee
Messrs: BGildersleeve, Rm. 5221
OMBishop, Rm. 3617
Griswold
Selfridge

of drifting and about 800 feet of drilling for parallel structures be approved. Unless the field team can provide more information to substantiate their more ambitious program, I regard the proposed work on the 1,000, 18,000, and 2,000 levels as very speculative exploration.

E. L. Newcomb

E. L. Newcomb
Geologist

IN REPLY REFER TO:

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

July 1, 1954

Memorandum

Re: DMEA-3333
Constitution Mine
Yreka District
Shoshone County, Idaho
$555,716.60
Lead-zinc

To: Mr. W. R. Griswold, DMEA

From: E. L. Newcomb, USGS

Subject: Review of field team report

The field team has recommended a project involving 6,000 feet of drifting, 4,000 feet of diamond drilling, and 800 feet of raising and winzing be approved. The proposed work on the 1,000, 1,400, 1,800, and 2,000 levels will cost about $265,000.

The program is planned to explore rather broad objectives in an effort to extend the life of a mine whose known ore reserves are nearly exhausted. Though the need to explore for additional ore deposits is a vital thing to the Company, exploration should be limited to objectives or areas that show the best promise for success.

The Gillingham report provides considerable useful information which supplements the field team report, but without his maps and sections it is difficult to fully understand the entire structural setting in the Constitution mine area. It is apparent from the available information that mineralization terminates rather abruptly on the northern end of the Constitution ore body. The presence of mineralization in the north face of the No. 10 level may be significant, but Gillingham does not consider it as important an objective as the Constitution vein - Redding fault intersection at the south end of the mine.

The field team has recommended this more favorable area (Constitution-Redding fault intersection and Pritchard-Burke contact) for exploration. The initial work would be done on the 1800 level and, if results are favorable, additional drifting would be done on the 1400 level. However, the field team suggests that due to possible flattening of the dip below the 1600 level, the Burke-Pritchard contact may not be intersected. Also, the projected location of the Redding fault on the 1800 level indicates more drifting is required for this work as compared to similar exploration which could be done equally as well on the 1400 level.

On the basis of the present information the best target area is southeastward from the 1400 level. I recommend 1500 feet

IN REPLY REFER TO:

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

July 1, 1954

Memorandum

Re: MA-3333
Constitution Mine
Yreka District
Shoshone County, Idaho
$555,716.60
Lead-zinc

To: Mr. W. R. Griswold, DMEA

From: V. L. Newcomb, USGS

Subject: Review of field team report

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The program is planned to explore rather broad objectives in an effort to extend the life of a mine whose known ore reserves are nearly exhausted. Though the need to explore for additional ore deposits is a vital thing to the Company exploration should be limited to objectives or areas that show the best promise for success.

The Gillingham report provides considerable useful information which supplements the field team report, but without his maps and sections it is difficult to fully understand the entire structural setting in the Constitution mine area. It is apparent from the available information that mineralization terminates rather abruptly on the northern end of the Constitution ore body. The presence of mineralization in the north face of the No. 10 level may be significant, but Gillingham does not consider it as important an objective as the Constitution vein - Redding fault intersection at the south end of the mine.

The field team has recommended this more favorable area (Constitution-Redding fault intersection and Pritchard-Burke contact) for exploration. The initial work would be done on the 1800 level and, if results are favorable, additional drifting would be done on the 1400 level. However, the field team suggests that due to possible flattening of the dip below the 1600 level, the Burke-Pritchard contact may not be intersected. Also, the projected location of the Redding fault on the 1800 level indicates more drifting is required for this work as compared to similar exploration which could be done equally as well on the 1400 level.

On the basis of the present information the best target area is southeastward from the 1400 level. I recommend 1500 feet

of drifting and about 800 feet of drilling for parallel structures be approved. Unless the field team can provide more information to substantiate their more ambitious program, I regard the proposed work on the 1,000, 18,000, and 2,000 levels as very speculative exploration.

E. L. Newcomb
Geologist

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

June 29, 1954

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM

Subject: Docket No. DMEA-3333 (Spokane-Idaho Mining Co., Constitution Mine, Shoshone County, Idaho)

Both the applicant and the field examiners of the DMEA team agree that additional exploration is warranted at the Constitution mine to test the ore potential to the southeastward in the quartzites. Campbell's proposal that some 2,000 feet of drifting to the southeast on the 1,800-foot level may well test both the Prichard-Burke contact, and the Burke quartzite adjacent to the Redding fault appears justified and adequate at this stage. Likewise, 200 feet of raising on any ore discovery made, with diamond drilling from the walls of the drift to test for parallel structures, is essentially sound and is recommended.

The Gillingham report states "The absence of quartzites and the general weakening of the vein structure in the soft argillites toward the north are factors that discourage exploration in that direction. However, a little more work should be done on the 1,000-foot level north, where a fair showing exists in the present face in Block 36." Campbell and the applicant, however, believe exploratory drifting to the north is warranted on the 1,000-foot level for some 1,500 feet or until the Pine Creek fault is intersected, with allowance of 800 feet of diamond drilling to test for parallel ore structures, and 200 feet of raising to further prove any ore discovery in the drift. This work appears fully justified by such facts as are developed in the report.

I recommend approval of the proposal as revised and approved with relation to extent of work and costs by the field team. It might be worth noting that it would be improper to exclude from royalty payments dumps or tailings derived from development work in which the Government participated. (See paragraph 6, page 2 of field team letter dated June 10, 1954.)

O. M. Bishop

O. M. Bishop

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

JUN 14 1954

June 10, 1954

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

Reviewed by
DMEA OPERATING COMMITTEE
6-21-54
(date)

Re: Docket No. DMEA-3333 (lead-zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

Enclosed are four copies of reports on the cited application by A. B. Campbell, Geological Survey, and E. G. Erickson, Bureau of Mines. Copies of geologic maps to accompany Campbell's report are included.

With reference to your letter of May 12, 1954, we recommend that the proposed project at the Constitution mine be treated separately from the applicant's project at the Douglas mine.

These two mines are about one mile apart on the surface and are not connected by any underground workings. They are serviced by separate surface plants. The Constitution mine is owned or controlled outright by the Spokane-Idaho Mining Company, whereas the Douglas mine is operated under a lease agreement. As the two mines are on different properties, exploring different veins and having different exploration objectives, it is believed each project would function more advantageously if operated under a separate contract.

The proposed exploration work is shown on the longitudinal section map of the Constitution mine and on the composite map, both of which accompany Campbell's report. It will be noted that work shown on the longitudinal section has been revised somewhat from that shown on the section submitted with the application.

We have discussed with the applicant the land suggested to be included in the contract. This land includes the patented and unpatented claims listed in the application, and which are shown on the composite claim map submitted with the application. The claim map shows two claims, the Alpha and the Beta to be separated from the rest of the claims by an unclaimed block of ground. The map also shows a block of ground in sections 1 and 2, lying north of claims

Trainer, May, June, July, August, September, and October, which is included in the proposed ground but which is not described in the application. To avoid complications that might arise from including ground in the contract whose legal description is not clear or which will not be benefited by the proposed work, the Field Team and the applicant have agreed that the following ground should be deleted from that listed in the application or shown on the applicant's claim map.

1. Alpha and Beta claims.

2. That unstaked block of ground in sections 1 and 2, north of claims Trainer through October and east of the Dupont Fraction and Wade claim.

The block of ground that we believe should be included in the contract is shown on the one copy of the claim map attached to this letter, the proposed areas to be deleted being outlined in red. As all exploration will be on or near the Constitution vein, we believe the remaining block of claims will be more than adequate for contract purposes.

From the above-described block of claims to be included in the contract, we recommend the following be excluded from royalty repayment:

1. All mine dumps, tailing ponds, or other stockpiled accumulations of mine products.

2. That area of the Constitution vein containing working stopes or known ore reserves, which is specifically delineated on the vertical longitudinal section map, copies of which are enclosed, and which is described as follows:

(a) That area of the Constitution vein enclosed on the north by an inclined plane passing through the north face of the 800 level and the north face of the 1400 level, and which extends from the surface to its intersection with the shaft at a point 1,500 feet below the main haulage level, said plane dipping 50 degrees to the south; thence by a vertical plane in the north wall of the shaft from the point of its intersection with aforementioned inclined plane to the sill of the 1800 level; thence by a plane along the sill of the 1800 level to the south for a distance of 1,150 feet, to that point marked on attached vertical longitudinal section as representing the face of the 1800 level south drift on May 18, 1954; thence by a vertical plane to the surface.

It will be noted that the above-outlined block does not exempt from royalty payment one stope on the 1700 level south and one stope on the 2000 level. The 1800 drift south was being advanced at the time our examiners visited the mine and they marked the face as of May 18. As this drift face may be at any point to the south by the time the contract becomes effective, it is believed that a southern boundary limit would be more effective through a known point than by passing it through a section line as proposed by the applicant. The Field Team would not, however, object if the southern boundary were placed through section line 55, as shown on the vertical longitudinal section, and as proposed by the applicant.

The stope on the 2000 level is believed to be on a vein in the hanging wall of the Constitution vein. As the vein location between the 1800 and 2000 levels is indefinite, and as diamond drilling and drifting on the 2000 level may explore either the Constitution vein or parallel structures it is believed that ground between the 1800 and 2000 levels stands to benefit from proposed exploration and should therefore be subject to royalty repayment.

The Field Team concurs with the examiners and recommends that a unit-cost contract be granted the applicant to explore the Constitution mine, the contract to incorporate the proposed unit costs in Erickson's memorandum.

By Field Team, Region II

A. E. Weissenborn

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

Wing G. Agnew

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

Enclosures 3
cc: USBM (2)
Campbell

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

June 1, 1954

Memorandum

To: DMEA Field Team, Region II

From: Arthur B. Campbell, Geologist, U. S. Geological Survey

Subject: Recommendations concerning an application for DMEA exploration assistance by the Spokane-Idaho Mining Company, Box 930, Kellogg, Idaho, for work at the Constitution Mine, Shoshone County, Idaho

The subject company has made application for an exploration program at the Constitution mine, Shoshone County, Idaho. The following report is based on two trips to the property, several conferences with the applicant, and a study of geologic maps and sections of the property made available by the applicant.

Summary of Recommendations

The geologic objectives of the applicant's proposed exploration are sound but can be tested by a less extensive program. I recommend that favorable consideration be given to a DMEA exploration contract for the following work (also shown on the accompanying section and plan):

Reviewed by
DMEA OPERATING COMMITTEE
6-21-54
(date)

Stage I

1. Drift 2,000 feet southeast on the 1800 level plus raising 200 feet on any promising oreshoot. A total of 1,200 feet of diamond drilling into the walls of the 1800 level.

2. Drift 1,500 feet (or until the Pine Creek fault is intersected) northwest on the 1000 level plus 200 feet of raise on any promising oreshoot and a total of 800 feet of diamond drilling into the walls.

3. Drift 1000 feet (or until the Pine Creek fault is intersected) northwest on the 2000 level plus a 200-foot raise and a 200-foot winze on any promising oreshoot and a total of 1,200 feet of diamond drilling into the walls.

Stage II (contingent upon results of item 1, Stage I)

1. Drift 1,500 feet southeast on the 1400 level plus 800 feet of diamond drilling into the walls to test for parallel structures.

Description of the Property

The Constitution mine is located in secs. 2, 3, 10, 11, 12, 13, and 14, T. 14 N., R. 2 E., in the Yreka mining district, Shoshone County, Idaho. It is 7 miles south of Kellogg, Idaho, and is reached by U. S. Highway 10 and a graded county road along Pine Creek--a total of 17 miles from Kellogg. The property consists of 21 patented claims and 29 unpatented claims.

The application adequately covers such matters as manpower, materials, and supplies, etc. The maps accompanying the application show the extent of the underground workings.

The mine appears to be well equipped and the company adequately staffed to enter into an exploration program of this size. Exploration at this property would be supervised by the same personnel who are directing the work under Docket No. DMEA-2862 (Douglas mine).

Geologic Setting

Description of the geology of the mine area is included in reports by Jones 1/ and Forrester and Nelson 2/; a surface geologic map of the Pine Creek area by Nelson and Smith 3/ is available.

Enclosed with this memorandum is a copy of a report on this property prepared in 1951 by Thomas E. Gillingham. Mr. Gillingham is well known as a capable geologist whose experience has included duty with the U. S. Geological Survey and with Bunker Hill and Sullivan Mining Company, Kellogg, Idaho. He is currently employed as a staff geologist by the Atomic Energy Commission in the New York Operations office. Although I do not agree with some of the details of his report, I include it as a comprehensive review of the geology at the mine. Mr. Gillingham spent considerable time at this property and was very familiar with the operation. Additional comments by me concerning the geologic setting of the Constitution vein would be repetitious, so the part of this memorandum which follows is intended to supplement the Gillingham report. Unfortunately, the maps which should accompany his

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1/ Jones, Edward L., A reconnaissance of the Pine Creek district, Idaho: U. S. Geol. Survey Bull. 710A, pp. 1-36, 1920.

2/ Forrester, J. D. and Nelson, V. E., Lead and zinc deposits of the Pine Creek area, Coeur d'Alene mining region, Shoshone County, Idaho: U. S. Geol. Survey Strategic Minerals Investigations mimeographed report, 1944.

3/ Nelson, V. E. and Smith, J. F., Jr., Surface geology of the Pine Creek area, Shoshone County, Idaho: U. S. Geol. Survey Strategic Minerals Investigations preliminary map, 1944.

report are not available for distribution but have been available to me during the preparation of this memorandum.

Some comments concerning the lower levels of the mine opened since Gillingham's report are in order. The longitudinal section which has been submitted with the application, and geologic maps of selected levels included with this report will be found useful in the consideration of this application.

From the 1000 level down, it has appeared that the productive strike length of the vein was diminishing, although the grade of ore has not changed significantly. The first significant structural change with depth was that the massive quartzite beds which had been dipping parallel to the rake of the ore in the stoped areas have apparently flattened suddenly and markedly between the 1600 and 1800 levels. A drift being driven to the southwest on the 1800 level has not as yet found these quartzite beds which are believed to be one of the oreshoot controls above, although the face of this drift is east of where the quartzite beds should have projected. The work done since Gillingham's report has not yet substantiated his prediction that "the corresponding quartzites on the two walls should become opposed a short distance below 1800 level." Another point of importance is that a small oreshoot has been found on the 2000 level at a point considerably north of the main ore body and apparently in the footwall of the Constitution vein.

Recommendations

It should be emphasized that the mine has been grossly underdeveloped and underexplored. Past mine management was apparently interested in nothing except production, an attitude which has resulted in the present condition of the property.

The exploration program proposed by the applicant appears excessive when the exploration targets are considered. In addition, certain phases of the program represent development work. I do feel that an exploration program is justified at the mine and that a program modified from that requested by the applicant is worthy of favorable consideration for a DMEA contract. The modified program presented below has been discussed with the applicant and meets with his approval.

The applicant proposes to drift southeast 2,000 feet on the 2000 level and 1,600 feet on the 1400 level. The 2000 level drift would be driven to test the downward projection of the quartzite zone which has been productive above. As mentioned before, this zone has apparently flattened between the 1600 and 1800 levels, and it should be noted that such flattening of bedding has localized the ore in some other Pine Creek veins. The drift southward on the 1400 level would be run to test the intersection of the Redding fault with the vein and to see if the vein would again make ore in the more brittle quartzitic Burke formation in the footwall of the Redding fault. Ore was found in this same structural

environment on the main tunnel level south but none of the levels below have been driven far enough south to test the downward extension of this fault intersection. The fault is pre-mineral, according to Gillingham.

I believe that these two geologic objectives justify a moderate amount of exploration; however, both of these objectives can be tested adequately on one level. The 1800 level could be driven on the vein to the southeast to intersect the quartzite zone (target 1) and then driven farther to test the Redding fault and Prichard-Burke formation contact (target 2). Currently the face of the 1800 drift is about 30 feet southeast of the 5200 section line shown on the longitudinal projection and composite plan submitted with the application. About 900 feet of drifting will be needed to reach the projection of the Redding fault and from 300 to 600 feet of drifting on the fault to reach the Prichard-Burke contact. The latter figure is indefinite because the dip of the contact is apparently flattening significantly above the 1800 level. Thus, I believe that a total of 2000 feet of drifting southeast on the 1800 would be adequate to test both targets.

The amount of raising and winzing requested for this work to the south is unrealistic for an exploration program. No raising or sinking would be warranted on any ore in the quartzite zone, as it is known to be a productive horizon above, and I feel that any work in addition to a drift should be considered as development. An ore discovery on the Redding fault or in the walls of the fault, however, would be a new discovery and would require a limited amount of raising. I believe that a 200-foot raise on the ore-bearing structure would be sufficient.

The walls of the new drifting on the 1800 level should be diamond drilled to test for parallel structures. The persistence of the mineralized structure on strike at this mine and at the adjoining Douglas mine indicates that closely spaced drilling is not necessary. Two 200-foot holes to the northeast and two 200-foot holes to the southwest should be sufficient. The location and direction of these holes should be decided as the work progresses. In addition to this drilling, I would recommend a 200-foot diamond drill hole northeast out of the shaft station on the 1800 level and a 200-foot drill hole southwest at some location in the current 1800 level drift to test for possible parallel structures, such as that found on the 2000.

The exploration work proposed to the northwest is also primarily designed to test two targets: (1) the drift on the 1000 level will explore the continuation of the Constitution vein into virgin ground; and, (2) the 2000-level drift will explore a parallel mineralized structure which has produced ore from a small stope on that level.

The narrowing of the vein toward the northwest is very striking in this mine. The longitudinal section shows this fact very well. At no place in the mine has any attempt been made to drift on the vein to the northwest beyond the ore so there is no geologic knowledge of this

structure out of the stoped area. Exploration to the north on the 1000 level will indeed be a "shot in the dark" but one that is warranted and would have been made before now in a mine where proper emphasis had been placed on exploration and development. This 1000 drift should be run on the vein for 1500 feet or until the Pine Creek fault is intersected, in which case the drift should be stopped. Allowance should be made for 800 feet of diamond drilling into the walls of this drift. It should be pointed out that there is submarginal ore in the present northwest face of the 1000 level; the grade appears to be quite high but it is too narrow to mine.

The discovery of a significant oreshoot in the 1000 drift northwest would warrant a 200-foot raise on the structure. This would be justifiable exploration in a virgin block of ground where the vertical continuity of ore could not be predicted.

The structure found on the 2000 level in the footwall of the main Constitution vein is probably a split from the main vein and deserves some exploration. An additional 1000 feet of drifting to the northwest on this level will adequately explore the block of ground between the shaft and the projection of the Pine Creek fault. If this fault is intersected the drift should be stopped.

The applicant's request for 2,000 feet of drifting to the northwest on the 2000 level cannot be considered in view of the presence of the Pine Creek fault. Here again I feel that a significant showing of ore in the drift would require some raising and/or sinking to complete the exploration. In this case I would recommend a 200-foot raise and a 200-foot winze on any promising oreshoot.

Allowance should be made for 1000 feet of diamond drilling from this level. Tentatively this would involve a 200-foot hole northeast from the 2000 level shaft station, two 200-foot holes northeast from the drift, and two 200-foot holes southwest from the drift, as shown on the enclosed maps.

A second stage should be considered as contingent upon the results of the southeast drifting on the 1800 level. As mentioned above, one of the targets of this drift is the exploration of the vein in the Burke formation. The projections of the Constitution vein, the Redding fault, and the Prichard-Burke contact (all shown on the accompanying composite plan) used in laying out the work on the 1800 level are subject to some question, therefore, it is possible, though not probable, that the proposed 1800-level drift will not intersect the Burke formation. The amount of flattening of the contact below the 1600 level is unknown so that a more exact projection is not possible until more information is gained. In order to assure a fair test of the Burke formation objective, I recommend that allowance be made for 1500 feet of drifting to the southwest on the 1400 level plus 800 feet of diamond drilling into the walls.

This drifting and diamond drilling should be done only if the Burke formation could not be explored in the footwall of the Redding fault on the 1800 level. This stage should not begin until the completion of the drifting on the 1800 level and then only with the approval of the Field Team.

The location, direction, and extent of all diamond drilling, winze sinking, and raising should be decided as the work progresses and by mutual consent of the operator and the Field Team.

Diamond drilling for intersections below the 2000 level has been considered but I would suggest that exploration possibilities on present levels be exhausted first. Such drilling would involve extensive preliminary crosscutting to establish a drill station and this does not appear to be warranted at this time.

Enclosures (6)

Distribution:
DMEA (Orig. & 3)
USBM (2)
USGS (SRO)
Docket
Campbell

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

1201 N. Division St.
Spokane 2, Washington
May 29, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: E. G. Erickson, Mining Engineer, Bureau of Mines

Subject: Analysis of costs, Docket No. DMEA 3333 (lead-zinc), Spokane-Idaho Mining Company, Old Constitution Mine, Shoshone County, Idaho

The applicant has proposed to explore the Constitution mine on the 1000, 1400 and 2000 levels. His project includes 7100 feet of drifting, 960 feet of winzes, 800 feet of raises, 13,000 cubic feet of station and pocket excavation, and 4,000 feet of diamond drilling, which he estimated would cost $555,716.60.

Mr. A. Campbell, geologist, U. S. Geological Survey, presented a program which is designed to explore the vein south on only one level (1800) and which reduced the drifting to the north because it is indicated that the Marr fault will cut off the vein sooner than anticipated by the applicant. The total drifting was reduced from 7100 feet to 4500 feet.

Field Team representatives discussed the revised drifting program with the applicant on May 26, 1954, and he accepted Mr. Campbell's suggestions. It was further decided that raising be reduced to an estimated three 200-foot raises and that only one 200-foot winze be included in the recommended project. The winze is problematical but it was decided to include a winze on the northwest 2,000 level as it may be justified if certain conditions arise.

The revised project is recommended for a contract and includes the work items, recommended number of units, and unit costs tabulated below:

Item	Recommended units	Operator's estimated unit cost	Recommended unit cost	Recommended total cost
Drifting (6'x7½' min.)	4,500 ft.	$ 43.51/ft.	$ 42/ft. 1/	$189,000
Winze - 1 (8'x6' min.)	200 ft.	129.01/ft. 2/	110/ft. 3/	22,000
Raises - 3 (20'x5' est.)	600 ft.	$90.18-$97.68/ft.	70/ft.	42,000
Diamond drilling	3,000 ft.	5.16/ft.	4/ft.	12,000
Total				$265,000

1/ Includes necessary ground support.

2/ Does not include cost of hoist room, station, rope raise, pocket, and necessary installations.

3/ Does include items outlined in subscript 2/ above.

Note: Unit costs include all costs to complete work items to the satisfaction of the Government. Regarding diamond drilling, all cores must be boxed and preserved until a final disposition is agreed upon by the Government.

DISCUSSION OF COSTS

The applicant has a DMEA contract at the Douglas mine, Docket No. DMEA 2862 (lead-zinc), Contract Idm-E482, which specifies a unit price of $38.75 for drifting, including timber when necessary. The original contract, No. Idm-E372, Docket No. DMEA 2525, specified a maximum price of $55.50 per foot for timbered drift. When the writer was assigned the contract and made an inspection of the drift site, he informed the Operator that it would not be possible, under the existing conditions, to justify an amount anywhere near the maximum allowable cost. After further discussions the Operator was willing to agree to a unit cost of $38.75 per foot of drifting, including necessary timbering.

However, on the proposed project at the Constitution mine, a unit cost of $42/ft., including necessary ground support, is justified because of the badly sheared vein and costlier operating conditions, such as longer trams, larger equipment and plant with a curtailed operation, higher maintenance costs, ventilation, etc. It is believed that the above items will more than offset the additional $3.25/ft. recommended for this project.

Winze Costs

The applicant's estimate of $129.01 per foot of winze, which did not include hoist room, station, rope raise, pocket, and installations, was reduced to $110/ft. which does include cost of these items. The applicant estimated the additional cost of these items to be $25,662.00 for two winzes (960 ft.) which would be equivalent of about $27/ft. of winze. If the cost of these items was reduced to as low a cost as $4,000 for each winze of 200 ft. depth, the cost would then amount to $20/ft. The applicant's estimate, including stations and pockets, was about 42% greater than the recommended unit cost. This recommended cost was agreed to by the applicant. It is considered ample and just for performing the winze sinking.

Raising

The applicant's estimated minimum raising cost of $90.18/ft. for a 200 ft. raise was reduced to $70/ft., a reduction of $20.18/ft. His estimate was about 29% above the unit cost of $70 that he agreed to after a discussion of costs. The applicant stated that the costs he submitted were experienced when the last raising was performed at the mine.

The writer agreed with the applicant that the ground conditions are not the best for raising, but they are not so bad that a near $90/ft. cost is indicated. It was brought out that the greatest reason for the high cost was inexperienced miners.

The recommended $70/ft. is in line with other raising costs in the district under like conditions.

Diamond Drilling

The applicant's estimated cost submitted for diamond drilling of $5.16/ft. was reduced to $4/ft. The agreed unit cost of $4/ft. is about the average price for diamond drilling in the district when it is contracted.

The applicant does not have the drilling equipment nor a driller at the mine at present. Experience has been at other properties that unless a sustained drilling program is contemplated, it has not been profitable for the operator to purchase drilling equipment and perform the drilling.

A cut-off for "fixed costs" and depreciation allowance, as recommended in my recent memorandum regarding costs in the Sidney Mining Company's latest application, is not believed necessary. The curtailed program has reduced the applicant's chances of a sustained three heading operation which he states in his application was the basis for his prorating of indirect costs.

When the rate of advance used for prorating costs is reasonable and the unit prices are pared so that fixed costs and depreciation are considered low, it is not necessary to make a cut-off to guard against possible pyramiding of these costs to the Operator's advantage.

E. G. Erickson

E. G. Erickson

Orig. & 3 cys - Wash. ✓
USGS (2)
DMEA
EGE/he/fw/iml

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.
No. 157 Howard Street
Spokane 4, Washington

June 20, 1954

Reviewed by
DMEA OPERATING COMMITTEE
6-21-54
(date)

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

Re: Docket No. DMEA-3533 (lead-zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Goldridge:

Enclosed are four copies of reports on the above application by A. B. Campbell, Geological Survey, and L. C. Erickson, Bureau of Mines. Copies of geologic maps to accompany Campbell's report are included.

With reference to your letter of May 13, 1954, we recommend that the proposed project at the Constitution mine be treated separately from the applicant's project at the Douglas mine.

These two mines are about one mile apart on the surface and are not connected by any underground workings. They are serviced by separate surface plants. The Constitution mine is owned or controlled outright by the Spokane-Idaho Mining Company, whereas the Douglas mine is operated under a lease agreement. As the two mines are on different properties, exploring different veins and having different exploration objectives, it is believed each project would function more advantageously if operated under a separate contract.

The proposed exploration work is shown on the longitudinal section map of the Constitution mine and on the composite map, both of which accompany Campbell's report. It will be noted that work shown on the longitudinal section has been revised somewhat from that shown on the section submitted with the application.

We have discussed with the applicant the land suggested to be included in the contract. This land includes the patented and unpatented claims listed in the application, and which are shown on the composite claim map submitted with the application. The claim map shows two claims, the Alpha and the Beta to be separated from the rest of the claims by an unclaimed block of ground. The map also shows a block of ground in sections 1 and 2, lying north of claims

Trainer, May, June, July, August, September, and October, which is included in the proposed ground but which is not described in the application. To avoid complications that might arise from including ground in the contract whose legal description is not clear or which will not be benefited by the proposed work, the Field Team and the applicant have agreed that the following ground should be deleted from that listed in the application or shown on the applicant's claim map.

1. Alpha and Beta claims.

2. That unstaked block of ground in sections 1 and 2, north of claims Trainer through October and east of the Dupont Fraction and Wade claim.

The block of ground that we believe should be included in the contract is shown on the map copy of the claim map attached to this letter, the proposed areas to be deleted being outlined in red. As all exploration will be on or near the Construction vein, we believe the remaining block of claims will be more than adequate for contract purposes.

From the above-described block of claims to be included in the contract, we recommend the following be excluded from royalty repayment:

1. All mine dumps, tailing ponds, or other stockpiled accumulations of mine products.

2. That area of the Construction vein containing working stopes or known ore reserves, which is specifically delineated on the vertical longitudinal section map, copies of which are enclosed, and which is described as follows:

(a) That area of the Construction vein enclosed on the north by an inclined plane passing through the north face of the 800 level and the north face of the 1400 level, and which extends from the surface to its intersection with the shaft at a point 1,500 feet below the main haulage level, said plane dipping 50 degrees to the south; thence by a vertical plane in the north wall of the shaft from the point of its intersection with aforementioned inclined plane to the sill of the 1800 level, thence by a plane along the sill of the 1800 level to the south for a distance of 1,150 feet, to that point marked or attached vertical longitudinal section as representing the face of the 1800 level south drift on Fly 10, 1,54; thence by a vertical plane to the surface.

It will be noted that the above-outlined block does not exempt from royalty payment one stope on the 1,800 level south and one stope on the 2000 level. The 1800 drift south was being advanced at the time our examiners visited the mine and the, marked the face as of May 18. As this drift may be at any point to the south by the time the contract becomes effective, it is believed that a southern boundary limit would be more effective through a known point than by passing it through a section line as proposed by the applicant. The Field Team would not, however, object if the southern boundary were placed through section line 55, as shown on the vertical longitudinal section, and as proposed by the applicant.

The stope on the 2000 level is believed to be on a vein in the hanging wall of the Constitution vein. As the vein location between the 1800 and 2000 levels is indefinite, and as diamond drilling and drifting on the 2000 level may explore either the Constitution vein or parallel structures it is believed that ground between the 1800 and 2000 levels stands to benefit from proposed exploration and should therefore be subject to royalty repayment.

The Field Team concurs with the examiners and recommends that a unit-cost contract be granted the applicant to explore the Constitution mine, the contract to incorporate the proposed unit costs in Erickson's memorandum.

By Field Team, Region II

W. S. Weissenborn, Executive Officer
U. S. Geological Survey

Craig G. Shaw, Member
U. S. Bureau of Mines

Enclosures 3
cc: USBM (2)
Campbell

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

1201 N. Division St.
Spokane 2, Washington
May 29, 1954

JUN 1 4 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: E. G. Erickson, Mining Engineer, Bureau of Mines

Subject: Analysis of costs, Docket No. DMEA 3333 (lead-zinc), Spokane-Idaho Mining Company, Old Constitution Mine, Shoshone County, Idaho

The applicant has proposed to explore the Constitution mine on the 1000, 1400 and 2000 levels. His project includes 7100 feet of drifting, 960 feet of winzes, 800 feet of raises, 13,000 cubic feet of station and pocket excavation, and 4,000 feet of diamond drilling, which he estimated would cost $555,716.60.

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Reviewed by
DMEA OPERATING COMMITTEE
6-21-54
(date)

Item	Recommended units	Operator's estimated unit cost	Recommended unit cost	Recommended total cost
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Orig. & 3 cys - Wash. ✓
USGS (2)
BMEA
EGE/he/fw/iml

E. G. Erickson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.
No. 157 Howard Street
Spokane 4, Washington

Reviewed by
DMEA OPERATING COMMITTEE
6-21-54
(date)

June 1, 1954

Memorandum

Amen - 3333

To: DMEA Field Team, Region II

From: Arthur B. Campbell, Geologist, U. S. Geological Survey

Subject: Recommendations concerning an application for DMEA exploration assistance by the Spokane-Idaho Mining Company, Box 930, Kellogg, Idaho, for work at the Constitution Mine, Shoshone County, Idaho

The subject company has made application for an exploration program at the Constitution mine, Shoshone County, Idaho. The following report is based on two trips to the property, several conferences with the applicant, and a study of geologic maps and sections of the property made available by the applicant.

Summary of Recommendations

The geologic objectives of the applicant's proposed exploration are sound but can be tested by a less extensive program. I recommend that favorable consideration be given to a DMEA exploration contract for the following work (also shown on the accompanying section and plan):

Stage I

1. Drift 2,000 feet southeast on the 1800 level plus raising 200 feet on any promising oreshoot. A total of 1,200 feet of diamond drilling into the walls of the 1800 level.

2. Drift 1,500 feet (or until the Pine Creek fault is intersected) northwest on the 1000 level plus 200 feet of raise on any promising oreshoot and a total of 800 feet of diamond drilling into the walls.

3. Drift 1000 feet (or until the Pine Creek fault is intersected) northwest on the 2000 level plus a 200-foot raise and a 200-foot winze on any promising oreshoot and a total of 1,200 feet of diamond drilling into the walls.

Stage II (contingent upon results of item 1, Stage I)

1. Drift 1,500 feet southeast on the 1400 level plus 800 feet of diamond drilling into the walls to test for parallel structures.

Description of the Property

The Constitution mine is located in secs. 2, 3, 10, 11, 12, 13, and 14, T. 14 N., R. 2 E., in the Ireka mining district, Shoshone County, Idaho. It is 7 miles south of Kellogg, Idaho, and is reached by U. S. Highway 10 and a graded county road along Pine Creek--a total of 17 miles from Kellogg. The property consists of 21 patented claims and 29 unpatented claims.

The application adequately covers such matters as manpower, materials, and supplies, etc. The maps accompanying the application show the extent of the underground workings.

The mine appears to be well equipped and the company adequately staffed to enter into an exploration program of this size. Exploration at this property would be supervised by the same personnel who are directing the work under Docket No. DMSA-2662 (Douglas mine).

Geologic Setting

Description of the geology of the mine area is included in reports by Jones 1/ and Forrester and Nelson 2/; a surface geologic map of the Pine Creek area by Nelson and Smith 3/ is available.

Enclosed with this memorandum is a copy of a report on this property prepared in 1951 by Thomas E. Gillingham. Mr. Gillingham is well known as a capable geologist whose experience has included duty with the U. S. Geological Survey and with Bunker Hill and Sullivan Mining Company, Kellogg, Idaho. He is currently employed as a staff geologist by the Atomic Energy Commission in the New York Operations office. Although I do not agree with some of the details of his report, I include it as a comprehensive review of the geology at the mine. Mr. Gillingham spent considerable time at this property and was very familiar with the operation. Additional comments by me concerning the geologic setting of the Constitution vein would be repetitious, so the part of this memorandum which follows is intended to supplement the Gillingham report. Unfortunately, the maps which should accompany his

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1/ Jones, Edward L., A reconnaissance of the Pine Creek district, Idaho: U. S. Geol. Survey Bull. 710A, pp. 1-36, 1920.

2/ Forrester, J. D. and Nelson, V. E., Lead and zinc deposits of the Pine Creek area, Coeur d'Alene mining region, Shoshone County, Idaho: U. S. Geol. Survey Strategic Minerals Investigations mimeographed report, 1944.

3/ Nelson, V. E. and Smith, J. F., Jr., Surface geology of the Pine Creek area, Shoshone County, Idaho: U. S. Geol. Survey Strategic Minerals Investigations preliminary map, 1944.

report are not available for distribution but have been available to me during the preparation of this memorandum.

Some comments concerning the lower levels of the mine opened since Gillingham's report are in order. The longitudinal section which has been submitted with the application, and geologic maps of selected levels included with this report will be found useful in the consideration of this application.

From the 1000 level down, it has appeared that the productive strike length of the vein was diminishing, although the grade of ore has not changed significantly. The first significant structural change with depth was that the massive quartzite beds which had been dipping parallel to the rake of the ore in the stoped areas have apparently flattened suddenly and markedly between the 1600 and 1800 levels. A drift being driven to the southwest on the 1800 level has not as yet found those quartzite beds which are believed to be one of the oreshoot controls above, although the face of this drift is east of where the quartzite beds should have projected. The work done since Gillingham's report has not yet substantiated his prediction that "the corresponding quartzites on the two walls should become opposed a short distance below 1800 level." Another point of importance is that a small oreshoot has been found on the 2000 level at a point considerably north of the main ore body and apparently in the footwall of the Constitution vein.

Recommendations

It should be emphasized that the mine has been grossly underdeveloped and underexplored. Past mine management was apparently interested in nothing except production, an attitude which has resulted in the present condition of the property.

The exploration program proposed by the applicant appears excessive when the exploration targets are considered. In addition, certain phases of the program represent development work. I do feel that an exploration program is justified at the mine and that a program modified from that requested by the applicant is worthy of favorable consideration for a DMEA contract. The modified program presented below has been discussed with the applicant and meets with his approval.

The applicant proposes to drift southeast 2,000 feet on the 2000 level and 1,600 feet on the 1400 level. The 2000 level drift would be driven to test the downward projection of the quartzite zone which has been productive above. As mentioned before, this zone has apparently flattened between the 1600 and 1800 levels, and it should be noted that such flattening of bedding has localized the ore in some other Pine Creek veins. The drift southward on the 1400 level would be run to test the intersection of the Redding fault with the vein and to see if the vein would again make ore in the more brittle quartzitic Burke formation in the footwall of the Redding fault. Ore was found in this same structural

environment on the main tunnel level south but none of the levels below have been driven far enough south to test the downward extension of this fault intersection. The fault is pre-mineral, according to Gillingham.

I believe that these two geologic objectives justify a moderate amount of exploration; however, both of these objectives can be tested adequately on one level. The 1800 level could be driven on the vein to the southeast to intersect the quartzite zone (target 1) and then driven farther to test the Redding fault and Prichard-Burke formation contact (target 2). Currently the face of the 1800 drift is about 30 feet southeast of the 3800 section line shown on the longitudinal projection and composite plan submitted with the application. About 900 feet of drifting will be needed to reach the projection of the Redding fault and from 500 to 600 feet of drifting on the fault to reach the Prichard-Burke contact. The latter figure is indefinite because the dip of the contact is apparently flattening significantly above the 1800 level. Thus, I believe that a total of 2000 feet of drifting southeast on the 1800 would be adequate to test both targets.

The amount of raising and winzing requested for this work to the south is unrealistic for an exploration program. No raising or sinking would be warranted on any ore in the quartzite zone, as it is known to be a productive horizon above, and I feel that any work in addition to a drift should be considered as development. An ore discovery on the Redding fault or in the walls of the fault, however, would be a new discovery and would require a limited amount of raising. I believe that a 200-foot raise on the ore-bearing structure would be sufficient.

The walls of the new drifting on the 1800 level should be diamond drilled to test for parallel structures. The persistence of the mineralized structure on strike at this mine and at the adjoining Douglas mine indicates that closely spaced drilling is not necessary. Two 200-foot holes to the northeast and two 200-foot holes to the southwest should be sufficient. The location and direction of these holes should be decided as the work progresses. In addition to this drilling, I would recommend a 200-foot diamond drill hole northeast out of the shaft station on the 1800 level and a 200-foot drill hole southwest at some location in the current 1800 level drift to test for possible parallel structures, such as that found on the 2000.

The exploration work proposed to the northwest is also primarily designed to test two targets: (1) the drift on the 1000 level will explore the continuation of the Constitution vein into virgin ground; and, (2) the 2000-level drift will explore a parallel mineralized structure which has produced ore from a small stope on that level.

The narrowing of the vein toward the northwest is very striking in this mine. The longitudinal section shows this fact very well. At no place in the mine has any attempt been made to drift on the vein to the northwest beyond the ore so there is no geologic knowledge of this

structure out of the stoped area. Exploration to the north on the 1000 level will indeed be a "shot in the dark" but one that is warranted and would have been made before now in a mine where proper emphasis had been placed on exploration and development. This 1000 drift should be run on the vein for 1500 feet or until the Pine Creek fault is intersected, in which case the drift should be stopped. Allowance should be made for 800 feet of diamond drilling into the walls of this drift. It should be pointed out that there is submarginal ore in the present northwest face of the 1000 level; the grade appears to be quite high but it is too narrow to mine.

The discovery of a significant oreshoot in the 1000 drift northwest would warrant a 200-foot raise on the structure. This would be justifiable exploration in a virgin block of ground where the vertical continuity of ore could not be predicted.

The structure found on the 2000 level in the footwall of the main Constitution vein is probably a split from the main vein and deserves some exploration. An additional 1000 feet of drifting to the northwest on this level will adequately explore the block of ground between the shaft and the projection of the Pine Creek fault. If this fault is intersected the drift should be stopped.

The applicant's request for 2,000 feet of drifting to the northwest on the 2000 level cannot be considered in view of the presence of the Pine Creek fault. Here again I feel that a significant showing of ore in the drift would require some raising and/or sinking to complete the exploration. In this case I would recommend a 200-foot raise and a 200-foot winze on any promising oreshoot.

Allowance should be made for 1000 feet of diamond drilling from this level. Tentatively this would involve a 200-foot hole northeast from the 2000 level shaft station, two 200-foot holes northeast from the drift, and two 200-foot holes southeast from the drift, as shown on the enclosed maps.

A second stage should be considered as contingent upon the results of the southeast drifting on the 1800 level. As mentioned above, one of the targets of this drift is the exploration of the vein in the Burke formation. The projections of the Constitution vein, the Redding fault, and the Prichard-Burke contact (all shown on the accompanying composite plan) used in laying out the work on the 1800 level are subject to some question, therefore, it is possible, though not probable, that the proposed 1800-level drift will not intersect the Burke formation. The amount of flattening of the contact below the 1600 level is unknown so that a more exact projection is not possible until more information is gained. In order to assure a fair test of the Burke formation objective, I recommend that allowance be made for 1500 feet of drifting to the southwest on the 1800 level plus 800 feet of diamond drilling into the walls.

This drifting and diamond drilling should be done only if the Burke formation could not be explored in the footwall of the Redding fault on the 1800 level. This stage should not begin until the completion of the drifting on the 1800 level and then only with the approval of the Field Team.

The location, direction, and extent of all diamond drilling, winze sinking, and raising should be decided as the work progresses and by mutual consent of the operator and the Field Team.

Diamond drilling for intersections below the 2000 level has been considered but I would suggest that exploration possibilities on present levels be exhausted first. Such drilling would involve extensive preliminary crosscutting to establish a drill station and this does not appear to be warranted at this time.

Enclosures (6)

Distribution:
DMEA (Orig. & 3)
USBM (2)
USGS (SRO)
Doclest
Campbell

Geological Report

of the

CONSTITUTION MINE

Yreka Mining District, Shoshone County

Idaho

Thomas E. Gillingham
October 30, 1951
rc

GEOLOGICAL REPORT

on the

CONSTITUTION MINE

Thomas E. Gillingham

GEL 6/28/54

Scope and Purpose of the Investigation:

The detailed geological study of the Constitution mine was undertaken by the writer at the request of Mr. J. C. Kieffer, Manager of the Spokane-Idaho Mining Company. The work was a joint project of Spokane-Idaho and Bunker Hill and Sullivan Mining and Concentrating Company and was carried out on a part-time basis from June 1948 until October 1951. During this period all of the accessible lateral workings of the mine and much of the surface in the vicinity of the mine were mapped on a scale of one inch to 20 feet and one inch to 200 feet, respectively. In addition, most of the surveys were checked, recalculated, or rerun, and an entirely new set of base maps, longitudinal projections and cross-sections were prepared.

The aims of this study were to determine the geologic controls of the Constitution orebody, to provide periodic assistance to the mine operators, and to establish guides to future work.

Acknowledgments:

The writer is grateful for the encouragement and assistance shown by Mr. Frank N. Marr, Mr. J. C. Kieffer, and Mr. Curtis Redding of the Spokane-Idaho organization, and by Mr. J. B. Haffner, Mr. R. H. McConnel, and Mr. Veral Hammerand of Bunker Hill. Mr. Otto Haaland, Mr. Robert Gordon, and Mr. George McCall have helped in the detailed work. Special thanks are due Mr. E. L. Phillips, cartographer of Bunker Hill, whose assistance in the preparation of the final maps and the mine model was indispensable.

Location:

The Constitution zinc-lead mine is located in the Pine Creek (Yreka)

mining district of the Coeur d'Alenes, Shoshone County, Idaho. It lies 7 miles south of Kellogg, Idaho, and is reached by Highway 10 and a good, gradual-grade, county road along Pine Creek--a total distance of 17 miles from Kellogg.

Topography:

The mine buildings and the portal of the main tunnel level are situated in the valley of the headwaters of the main (East) branch of Pine Creek, just south of its confluence with a small tributary known as Gilbert Creek. The mine portal is at an elevation of 3048.25 feet (U.S.G.S. datum), and the hills surrounding the portal reach elevations of nearly 5000 feet. The relief is, therefore, rugged.

History:

The story of the Constitution mine illustrates remarkably well the difficulties and vicissitudes that have faced the operators of small mines in a once remote region. The exact date of discovery of the Constitution vein is not known, but was probably prior to 1898. The outcrop on the slope above Gilbert Creek must have been fairly obvious to a prospector making his way up the gulch. The original two claims, the Constitution and the American Girl, were staked in June 1901 by Thomas Gilbert; the names of the locators are given as Thomas Gilbert, H. J. Gilbert, Thomas Thwaite, and George Green.

On September 17, 1902, the Constitution Mining and Milling Company was incorporated, capitalized for 1,500,000 shares at one dollar par value. Apparently all the shares were soon issued. The original No. 1 tunnel, located 200 feet above Gilbert Creek, and about 500 feet of No. 2 tunnel had been driven prior to 1911, when the original group of claims were surveyed for patent. The Mine Inspector's Report for 1915 states that the ore shoot had been opened for 600 feet along the strike and in that year had yielded three carloads of rich ore.

On May 3, 1916, O. H. Hershey submitted a report on the property which has been lost. It appears, however, that he recommended the construction of a 100 ton mill to take advantage of the high metal prices then prevailing. He further

recommended, at that time, the crosscut into the west wall near the old portal of the Main Tunnel Level to explore a second vein that had been disclosed in a small tunnel on Gilbert Creek. Hershey submitted a second report on March 13, 1918, and a third report on December 16, 1926. Copies of these last two reports are in both Spokane-Idaho and Bunker Hill files.

In 1917, a mill, designed by Mr. W. L. Zeigler to treat 150 tons per day, was constructed. It proved inadequate to handle half that tonnage, the tailing losses were prohibitive, and the bulk concentrate, which was shipped to the Washoe smelter or to Trail, did not yield a profit. Hershey reports (1918), that the average content of 46 lots shipped to the smelter averaged 29.6% zinc, 15.2% lead and 8.2 oz. silver. A particular shipment sampled November 1, 1917, contained: 11.6% water, 29.4% zinc, 16.8% lead, 11.2 oz. silver, and 0.02 oz. gold. The net smelter return from this 89,940 lb. gross shipment was $808.09!

It appears that the mill feed during this early period carried about 11.5% zinc, 5.5% lead, and 3.5 ozs. silver per ton.

Late in 1917, Mr. R. H. Handy was employed to rebuild the mill into a selective flotation plant. Handy thought it reasonable to expect from the rebuilt mill a recovery of 40% of the lead in the feed in a product assaying over 35% lead and under 10% zinc, and 60% of the zinc in the feed in a product assaying over 40% zinc and under 10% lead. The end of the war in 1918 brought a sudden drop in metal prices, which forced the Pine Creek mines, including the Constitution, to curtail production. The original charter of 1902 was forfeited in 1920.

During these early years, transportation of concentrates to the railroad near the present town of Pinehurst cost $4.00 per ton--a high figure for those days. A projected spur rail line up Pine Creek valley was partly laid but was abandoned after a washout in 1918. This further deterred Pine Creek development.

Largely through the efforts of Mr. Handy, the Constitution resumed operation in 1924 with a 50 ton fine-grind selective flotation concentrator. In 1925

the mill capacity was increased to 250 tons, a new hoist was installed and considerable development performed. About this time Mr. William P. White became mine manager. Under his able direction the present shaft during 1927 and 1928 was sunk from the 200 level to the 400 level and raised to the Main Tunnel Level.

On August 31, 1929, the capitalization of the company was increased to 3,500,000 shares at $1.00 par value, and the revenue from the sale of stock enabled the company by June 1930 to sink the shaft to the 800 level, to bring development footage to a total of 11,280 feet, and to employ over 90 men. A small town occupied a site near the confluence of Gilbert Creek and Pine Creek. The fall in metal prices in 1930 caused the mine to be closed on June 1st of that year. Subsequently the Constitution Mining & Milling Company was liquidated and the property was completely stripped of all machinery and equipment.

On July 5, 1940, the Spokane-Idaho Mining Company was incorporated with J. P. Graves as President. The capitalization is 450,000 shares of 10 cent par value with all shares issued. During 1940 and 1941 the mine was re-equipped and rehabilitated, a new crosscut adit was driven from the Pine Creek valley, and a new 100 ton selective flotation mill constructed. Through the efforts of Mr. W. P. White as manager and Mr. Curtis Redding as mine superintendent, mining was resumed late in 1941, and the first shipment of concentrates was made to the Bunker Hill Smelter and the Sullivan Zinc Plant that year. With the exception of the period of the short labor strike in 1951, the mine has been a steady producer of zinc and lead ore since 1941. The mill capacity has been increased to about 160 tons per day.

Mr. Graves was succeeded as President of Spokane-Idaho by Mr. C. E. Marr, who in turn was succeeded in 1946 by his son, Mr. Frank N. Marr. After a few months Mr. White retired from active management and was followed, in turn, by Mr. S. K. Garrett (1941-1945), Mr. Charles Garrett (1945-48), and Mr. J. C. Kieffer (1948-present). Under Spokane-Idaho management the Constitution mine has been operated efficiently and profitably.

Production:

Early production records of the mine are sketchy, but records kept by Spokane-Idaho Mining Company are generally detailed and complete. The following figures are in part estimated:

	Tons Mine Ore
Production prior to 1929 (from 1929 prospectus)	165,000
Production 1929 and 1930 (estimated from stope maps)	33,000
Total production by old company	198,000
Production by Spokane-Idaho 1940 to 1950 incl.	342,000
Total production to end of 1950	540,000
Estimated production for 1951	54,500
Total approximate production to end of 1951	594,500

Mr. Kieffer has provided the following detailed production figures for the period of Spokane-Idaho management:

Production of the Constitution Mine
1941 to 1950 Inclusive

Year	Tons Ore	% Pb	% Zn	Lbs. Pb	Lbs. Zn
1941 (Est.)	10,000	4.00	10.00	800,000	2,000,000
1942	20,307	4.50	9.59	1,827,368	3,895,400
1943	21,317	3.10	7.31	1,320,120	3,114,980
1944	22,155	3.39	7.53	1,506,868	3,337,105
1945	26,151	4.55	9.12	2,378,555	4,771,685
1946	37,931	3.04	7.76	2,303,050	5,886,130
1947	38,468	2.66	7.35	2,044,110	5,651,870
1948	54,917	2.79	7.39	3,067,097	8,112,093
1949	50,623	2.79	7.33	2,828,382	7,418,564
1950*	60,902	3.52	8.22	4,282,373	10,007,602
Totals	342,771	3.26	7.91	22,357,923	54,195,429

*Lease Shipments Excluded.

Property:

Spokane-Idaho Mining Company has title to the following legal subdivisions, 21 patented claims and 26 unpatented claims, all shown on the 400 scale property map.

Legal Subdivisions:

S½ SW¼ Sec. 1 T47N R2E
S½ SE¼ Sec. 2 T47N R2E

Patented Mining Claims:

Survey 2167	Crescent	Survey 3023	Bennington
	Comet		Trainer
Survey 2620	American Girl	Survey 3116	Chicago
	Constitution		South Constitution No. 1
	Dakata		" " No. 2
	Defender		" " No. 4
	Fred		" " No. 5
	Percy		Spokane
			Thwaite
Survey 2803	Minnie		
	Nellie	Survey 3119	Dupont
			Dupont Fraction

Unpatented Mining Claims:

Judge	Martha	Lucky Peak
May	June	Fuett Peak
July	August	South Constitution No. 3
Alvin	September	" " No. 6
Joe	October	Saint Paul
Eve	McKinley	Saint Louis
Ruth	Toto	Westchester
Joker	Portland	Seattle
Hobo	Turner	

Geology:

The general geological picture of the area in which the Constitution orebody lies has not been solved adequately. The present report will be confined, therefore, to the mine itself and to the area immediately adjacent to the mine, which will be called the "mine area."

The three sedimentary formations disclosed in the mine area are, from oldest to youngest, the Prichard formation, the Burke formation, and the Revett formation. All three of these belong to the so-called Belt series of Pre-Cambrian age and are among the oldest rocks of the continent. The superficial deposits of gravel and debris will not be considered in this report. In addition to the sedimentaries, numerous basic dikes, either diabasic or lamprophyric, or both, occurs in and near the vein.

Prichard Formation:

This lowest known formation of the Belt Series consists of thousands of feet of

predominately shaly and slaty rock, commonly called argillite, which, in at least two widely separated zones, is interbedded with white to light gray massive quartzites of variable thickness. The argillite is mostly dark gray to medium gray in color. Much of it shows fine laminations or varves of alternating dark and light shades, indicative of seasonal depositions. The writer has noticed in places that the gradations can be used to tell the tops and bottoms of the beds--a useful tool in solving structure. Especially near the quartzitic zones, the argillite may be quite massive, dark, and hard, without apparent laminations; it is then probably quartzitic argillite or argillaceous quartzite and the writer has used these categories more or less arbitrarily on the field notes.

Two principal quartzite zones have been observed in the Prichard. As shown in the area of Pine Creek between the Sidney and the Amy-Matchless mines, the first or lower quartzite zone is probably 3000 feet or more in thickness with its top quartzite bed several thousand feet below the top of the Prichard formation. It has been designated as the Middle Prichard. The second or upper quartzite zone occupies the top 600 feet of the Prichard, just below the Burke formation, and has been called the Transition Zone. Between the Middle Prichard and the Transition Zone is a great thickness, at least 5000 feet, of predominant argillite.

The Transition Zone has been carefully mapped and studied in the Constitution mine area. It consists of three thick beds and several smaller, apparently less continuous, beds of massive white to gray quartzite, separated by argillite. The quartzites have been shown on the mine maps in bright orange color. The approximate column is shown below in Figure 1.

The contacts between the argillite and the quartzites are generally quite sharp so that the latter become useful mappable units. The exception seems to be the top 150 feet which is quite variable in composition, consisting, in one section, of rock that is almost quartzite; in another, of a confusing mixture of argillite and

quartzite. The beds marked Q-I, Q-II, and Q-III, however, are persistent and fairly uniform, but several splits have been noted. Below quartzite Q-III the quartzite beds become smaller, variable in both thickness and continuity, and less easily traceable.

The Burke Formation:

Above the Transition Zone lies the Burke formation of predominately medium bedded, flaggy, sericitic quartzite of light-gray to buff color. Some of the Burke beds are indistinguishable from the Prichard quartzites or from the Revett quartzites, but the Prichard-Burke contact is generally recognizable, particularly on the slope above Gilbert Creek.

The Revett Formation:

In contrast to the Burke, the Revett formation is composed mostly of thick beds of hard, brittle, white quartzite, but the transition from Burke to Revett in the mine area is so gradual that for practical purposes no contact has been shown, and all the rock above the Prichard has been marked Burke on the maps. Actually, the Burke-Revett contact must be very close to the new portal of the Constitution main level; the rock in the adit west of the Pine Creek fault may be Revett. Certainly, the Revett occupies much of the Pine Creek valley south of the mine buildings, and should be mapped in the future.

Basic Dikes:

Numerous basic dikes are shown on the mine maps, but pending the results of microscopic studies now underway by Mr. Thon Jin of the University of Utah, the writer is reluctant to classify these dikes more exactly than "basic dikes." Hershey called them lamprophyres, but they appear to the writer to be, in part at least, diabase. The dike that parallels the vein in the north section of the mine is definitely later than the ore.

The host rocks of the Constitution orebody are the quartzites and argillites of the Prichard Transition Zone and the lowest beds of the Burke formation.

However, only one ore shoot, Old No. 5 on the Main Tunnel level, has Burke as one of its walls. One may conclude, from available evidence, that the orebody is almost entirely confined to the Prichard formation and especially to the Transition Zone.

Faults and Related Structure:

Several faults are shown on the mine maps in both observed and inferred positions. The relations of the faults to each other and to the rocks are not completely understood and probably cannot be worked out satisfactorily until more areal geology is mapped. The principal faults are as follows:

The Pine Creek fault -- This strong structure lies a few hundred feet west of, and roughly parallel to, the Constitution vein. From observations in the mine area and from diamond drill cores, it appears to strike about N 20° W and to vary in dip from almost vertical in the south to steeply westward towards the north. It has an apparent net movement of perhaps a mile and has juxtaposed the younger Burke quartzite against the older Prichard formation. The Pine Creek fault is one of a series of normal step faults that have dropped off successive blocks of rock from the limbs of the regional folds.

The Marr fault -- The writer has assigned the name "Marr fault" to an important but generally obscure structure that traverses the bedding north of the mine. The Marr fault strikes about N 75° W and from its inferred position on the surface and its intersection with the diamond drill hole from the Fred tunnel, it appears to dip at about 65° toward the south. Its net movement is probably a few hundred feet. It is a reverse fault, shown by the fact that the Prichard Transition Zone has been juxtaposed against Burke formation in the northeast part of the mine area. Its southerly dip would bring the Marr fault into the Constitution main shaft at about the 3700 foot level. Since the fault is a strong water course any deepening of the shaft below the 3000 foot level should be preceded by an exploratory diamond drill hole toward the fault plane.

The Sherwood fault -- This fault, which is disclosed in the Sherwood tunnel north of the mine area and on the hill in the northeast corner of the area, has been mapped by the U.S.G.S. as a segment of the Pine Creek fault offset by the Marr fault. However, its 50° westerly dip is considerably flatter than any observed dip of the Pine Creek fault and until it has been more carefully studied it should be considered a separate, unrelated structure. The apparent strike of the fault is N 35° W.

The Redding fault -- This structure, which is hereby given the name "Redding fault," is a reverse fault with several hundred feet net movement, of which the horizontal component is about equal to the vertical component. The hangingwall (West wall) of the fault has moved upwards and southwards with respect to the footwall.

The Constitution vein -- The Constitution vein itself occupies a fault of considerable movement. As shown on the vertical longitudinal projection overlay, going south, the east wall quartzites are first encountered on the main tunnel level near the old portal in Block 3100 whereas the corresponding quartzites on the west wall are first encountered at 4300 south. Thus, a horizontal displacement of 1200 feet is indicated for the main tunnel level. On the 1400 level, however, the apparent horizontal displacement, measuring the base of quartzite Q-III, is only 230 feet. Consequently, it can be said that the vein structure is either a pivot fault or a scissors fault, with a gradually decreasing displacement toward the fulcrum. Judging from the attitudes of the beds on 1400 level, the corresponding quartzites on the two walls should become opposed a short distance below 1800 level in the portion of the mine south of Block 4900. The actual direction of movement along the vein fault is not apparent, but was probably slightly inclined upward with the west wall moving southwards. The importance of the relative movement of the vein fault will be considered below.

Other Faults:

A number of reverse faults of relatively small movement, sympathetic with

that of the Redding fault, are shown on the mine maps. These faults intersect the vein structure at small angles. They either cross the vein or concur with the vein for some distance and disappear into the opposite wall. These faults are particularly conspicuous in the upper half of the mine, where they have caused small offsets of the vein or have developed gouge zones generally inhospitable to ore formation. These faults were once considered strike faults, but they are, in fact, only locally parallel to the strike of the vein.

On 600 and lower levels in Blocks 41, 42, and 43, a conspicuous cross-fault displaces the vein a few feet with right-hand heave and drops the southern side 50 or 100 feet as shown by the displacement of the east wall quartzites. Fortunately, this fault has not affected mining beyond loosening the ground. Somewhere above 1600 level the fault has split into two branches which are both visible in the 1600 drift.

The relative ages of these faults and the directions of movement are by no means clear. Anomalous drags tend to confuse the problem and to lead one to the belief that each fault block probably moved in at least two directions at different times. Only by study of the positions of corresponding beds can the final net movements on some of the faults be approximated.

General Structure:

The present attitudes of the beds within the fault framework are best shown by the 200 foot maps, sections, and the model. The Transition Zone, the Prichard beds below it and the Burke beds above it, on the east side of the Constitution vein, all strike almost north and south and dip eastward at about 60°. These same rocks on the west side of the vein, while very much distorted, are in positions which suggest that they once formed a southwestward dipping flank of an anticline, the axial plane of which must have been very nearly parallel to the present plane of the vein or N 35° W. In other words, the Constitution vein developed along the axis of a fairly tight fold that plunged toward the south. This axial plane, being a plane of weakness, became faulted in a scissors-like or hinge-like movement that

has produced the present structural relations. It is likely that the vein fault was developed very early in the tectonic history. It has been distorted, offset, and resheared by subsequent fault movements, particularly by the same forces that produced the Redding fault, the small faults sympathetic with the Redding fault, the cross fault, and perhaps also the Pine Creek fault. Most of these movements preceeded the emplacement of the ore, for in only a few places is the ore itself badly fractured. Post-ore movement was probably less intense than pre-ore movement and seems to have affected the ore bodies only where the ore actually encountered the pre-existing faults. Thus, above the main tunnel level, for example, pre-ore movement along the Redding fault sheared and twisted the vein structure and probably some less intense post-ore movement along the same fault produced some shearing of the ore. The present attitude of the Prichard beds in the hangingwall of the Redding fault is not clear, and the maps have accordingly been left blank in that area.

The fact that the dikes are post-ore and are nearly parallel with the Pine Creek fault suggests that at least a part of the movement along that fault is post-mineral and of the gravity type.

Sketchy evidence suggests the following sequence of events:

1. Intense folding and development of the Constitution anticline.
2. Upward pressure developed the Constitution vein fault nearly parallel to the axial plane of the fold and displaced the wall rocks as shown in the 200 scale transparent overlay.
3. The Redding fault and sympathetic breaks developed as a final stage of the thrust movement and modified the Constitution vein structure with "strike-faults," zones of gouge, and areas of tension favorable for ore deposition.
4. Emplacement of ore, followed closely by relaxation of pressure, normal movement along the already existing faults, and intrusion of dikes in large tension cracks that developed parallel to the Pine Creek fault.

The time relations of the major movements on the Pine Creek, the Marr and the Sherwood faults are not known.

The Orebody:

The orebody is of the tabular, replacement-vein type with the length much greater than the width. So far as known, all the ore has been deposited in the Constitution vein structure itself, although mineralization does extend along the Redding fault to the south. The fact that the vein fault has a greater apparent net movement than the Redding fault on the Main Tunnel level suggests that the latter may have followed the vein south of their intersection and augmented the original movement on the vein.

The vein structure is remarkable for its persistence and relative simplicity. It shows very weakly in the Fred tunnel 1500 feet north of Gilbert Creek, where it is not orebearing. Old cuts indicate that it was traced a short distance north of Gilbert Creek and for about 1000 feet south to where it meets the Redding fault.

The orebody lies almost entirely in that portion of the vein structure south of Gilbert Creek. As a whole the vein there has steep but irregular dips, the average of the north half of each level being about 70° west, but the dips of the south half vary from steeply west to steeply east. The average strike of the orebody as a whole is N 30° W, but some sections strike N 50° W and other sections, particularly in the lower levels, strike nearly north. Especially noteworthy is the fairly consistent 50° south rake of the north margin of the orebody. The south margin of known ore is less regular.

Known ore shoots on the Main Tunnel level occur at intervals for over 2000 feet along the vein--from Block 29 to Block 49. On the 1000 level the shoots occur with fewer interruptions for over 1600 feet of the vein, from Block 37 to Block 52. On 1200 level there is continuous ore for over 1100 feet. On 1400 and 1600 levels the stretches of continuous ore appear to be shortening, but these

levels, as well as 1200 are not fully developed. In general, the interruptions in the orebody are more noticeable toward the south. This condition prevails in spite of an apparent merging of the principal oreshoots downwards, for, as deep as the 1000 level at least, isolated orebodies have been found south of the principal oreshoot. From the exploration standpoint, therefore, an understanding of the ore controls toward the south is very important.

Vertically, the orebody has been more or less continuous from an elevation of 3425 feet (360 feet above the main tunnel level) to an elevation of 1456 feet (1600 level) -- a distance of 1969 feet. The maximum proved vertical extent, therefore, is almost equal to the maximum known horizontal extent (about 2000 feet on the Main Tunnel level).

The ore minerals, sphalerite and galena, occur almost ubiquitously within the dimensions of the orebody just described, but the quantities vary from traces in a narrow streak to solid sulfide ore 10 or more feet wide. Consequently, the ore reserves vary according to the economics of mining, and shoots once considered unprofitable, have since been mined. Constant reassessment of reserves is, therefore, necessary.

The individual oreshoots are elongated lenses in which the generally fine-grained mixture of sphalerite and galena has been deposited in one or more of the following types:

1. As a fairly uniform single band of almost solid sulfides from a few inches to a few feet wide with almost no ore in the walls of the band. In some places the band is frozen to the wall rock with no gouge seam discernible. Elsewhere it parallels a distinct gouge seam, generally, but not always, along the footwall of the seam. More or less shearing can be observed around the bands. This form of oreshoot is typical of the more northern part of the orebody.

2. As (1) but with disseminations and small parallel veinlets in the wall of the principal band. Sampling of this type may show lead and zinc values over widths up to several feet.

3. As a number of more or less parallel streaks or veinlets of ore in a shear zone, which in places has been as much as 15 feet wide. Hershey reported that such a zone opened up about 100 feet above the main tunnel level in Blocks 36 and 37. Similar, somewhat narrower, zones have been encountered elsewhere.

4. As bunches or bands of fine-to coarse-grained sulfides in a gangue of white quartz; with minor amounts of calcite and coarse pyrite, and in places with a little chalcopyrite. This type of ore occurrence has been found almost exclusively in the southernmost stopes of the mine, particularly in the stopes in Blocks 48 and 49 on 600, 800, and 900 levels. The quartz gangue in places is as much as 4 feet wide.

In types (1), (2), and (3), quartz is generally a minor constituent of the ore and is most likely to occur as small, rounded remnants in the massive sulfides.

There are numerous evidences of replacement in the ore. Remnants of wall rock and of rounded fragments of early quartz are conspicuous. There were at least two periods of quartz deposition; one prior to the ore and one contemporaneous with and possibly a little later than the ore, but evidence of quartz actually cutting sphalerite or galena is difficult to find. The sphalerite and galena were probably introduced contemporaneously, with sphalerite crystallizing first.

The Ore Controls:

The irregularities in strike and dip described above and shown rather vividly on the structural contour sheet are responsible, at least in part, for the localization of the ore shoots. The causes of the irregularities are, first, the

differences in the competency of the argillite and the quartzite, and, second, the displacement of the beds by the vein fault. Both factors were essential for ore.

The transparent overlay shows that the southward rake of the north margin of the ore almost exactly parallels the quartzite beds on the east wall, and that ore has not developed far north of the quartzites. The contour map demonstrates that the principal structural valley follows roughly the same rake line until both the valley and the quartzite Q-III are offset downward to the south by the cross fault in Block 42. The offset valley then follows the same rake. The influence of the quartzites on the strike and dip of the vein is further shown by the level maps and the cross sections. It can be seen that the thicker beds of quartzite have deflected the vein.

The principal fault movement along the vein fracture (west wall up and to the south) opened channelways wherever that movement caused the walls to tend to separate. The most favorable areas are illustrated by foot-percent colors on the structural contour sheet. They are, for the most part, the flanks of the valleys where the contours are widely spaced. Steep unbroken slopes leading upward to the right are unfavorable in general, but "flats" on these slopes as shown in Blocks 48 and 49 between 900 and 1200 levels and in Block 43 above the Main Tunnel level are favorable. The actual direction of dip seems to be less important than changes in dip.

From the contour map a possible explanation for the relatively poor zone between 400 and 800 levels can be found. It will be noted that the structural valley rakes southward from the surface to near the 400 level where it encounters the almost vertical structural line of the cross fault and seems to become lost. The valley reappears just below 900 and rakes off to the south to 1400 level where it apparently becomes almost vertical down to 1600 level. The southward raking valley does not appear in the poor zone above mentioned. The

steepening below 1400 may explain the apparent narrowing and shortening of the principal oreshoot there. The cause of this steepening is not known; it may be due to another, as yet unobserved, cross fault.

The apparent merging of the oreshoots downwards is probably explained by the relative absence of strike faulting in the lower levels. Cross-section 4500 shows three faults affecting the vein above 600 level and none below 600. This is reflected in the obviously tighter vein below 600 level. Elsewhere in the Coeur d'Alenes orebodies have been found to be more compact at depth below the zone of easy breakage. Consolidation downwards does not of itself mean lower grade of ore. In fact it makes possible the development of a greater tonnage of ore for each foot of drift.

A local ore control seems to be the angle that the bedding makes with the vein. If other factors are favorable the ore is best where the bedding meets the vein at large angles. Parallelism of beds and vein is generally less favorable. This is well illustrated on 1000 level south.

The type of wall rock does not seem to affect the ore deposition from a chemical standpoint, but differences in the strength of the rock have created alternating zones of tension and compression. In general, argillite opposite argillite or argillite opposite quartzite are better than quartzite opposite quartzite, but there are many local exceptions.

Relation of Orebody to the Redding Fault:

The relation of the vein to the Redding fault has been a point of major consideration and of some controversy in planning exploration southwards. The irregularity of the south margin of the orebody has already been mentioned and it was natural to suppose that this was due in part to the influence of the fault in the vein.

Hershey concluded from the "drag" ore in the south stopes above the Main Tunnel level that the Redding fault was post-mineral and had probably offset

the orebody toward the south. The writer believes that the principal movement on the fault is pre-mineral but that post-ore adjustment locally sheared ore that had been deposited along the merged vein and fault. The evidence is as follows:

1. Hershey noted specks of galena in the east wall of the Main Tunnel in the now inaccessible Block 54, almost 1000 feet south of the junction of the vein and the Redding fault.
2. Old No. 5 stope in Blocks 48 and 49 above the tunnel level is over 300 feet south of the junction of vein and fault. The ore, which lay beneath the gouge, was sheared and broken. The ore in the backs of No. 3 and 4 stopes was similarly sheared and broken and the fault apparently cut off the ore in all of these stopes above the tunnel.
3. In the 800 level south drift in Block 51 and 52 solid "sub-marginal" ore has been disclosed recently. This ore lies along the merged fault and vein and, assuming there was only one general period of ore emplacement, is almost certainly later than the fault, for the sulfides are not broken or sheared.
4. Almost barren stretches have been found on the tunnel level and on 200 level south of the junction of vein and fault, but similar nearly worthless sections occur north of the junction on other levels such as 900 and 1000 levels south. Barren zones developed due to strike faulting or to other factors.

It seems more likely that the Redding fault has merged with the vein structure than that the vein has been actually cut and offset by the fault. The fault thus assumes a strike-fault relationship to the vein, augmenting the original movement along the vein.

The writer's conclusion is that ore has been deposited both in the vein structure and in the merged fault and vein, and that the "drag" ore is a result of relatively slight post-ore movement which naturally followed the Redding fault.

The vein has been affected by other pre-ore strike faults, sympathetic with the Redding. All of these faults have developed more or less gouge which in places has closed and sealed the channelways for the ore solutions. These faults, like the Redding, have undergone minor post-ore readjustments.

Whether the movement on the Redding fault is mainly pre-ore or mainly post-ore there is a fair chance that more oreshoots occur along the fracture south of the junction of vein and fault. If the fault is pre-ore and has merged with the older vein structure, favorable loci could exist farther south along the fracture or, if the two again separate, along the vein beyond the point of separation. If the fault is post-ore, the oreshoot may have been offset to the south several hundred feet, as Hershey postulated.

Zoning and the Direction of Movement of Ore Solutions:

Reference to the zoning chart in the 200 scale set of maps, shows clearly that the ratios of zinc to lead are highest along the north margin of the orebody, where, in the lower levels the ratios exceed 5 to 1. The lowest ratios, indicating proportionately more lead, are found near the south margin. The center of the orebody shows predominant ratios of between 2 to 1 and 3 to 1. There is a suggestion that the proportion of zinc may increase also along the south margins, indicating a sort of high zinc "envelope" around the orebody as a whole.

On the basis of the higher zinc towards the north, one can draw the inference that the source of ore was downwards and toward the north. Zinc is believed to deposit at the higher temperatures prevailing near the source of ore.

If this is true, the intensity of ore deposition should have decreased toward the south. In general, this has been proved by mining experience; but it must be remembered that ore solutions travel until they reach a locus favorable for deposition, even though that locus be far from the source of solutions.

Tons of Ore Per Vertical Foot:

From available records, the tons of mine ore produced per vertical foot

from several levels have been calculated.

Level	Interval	Total Tons	Tons per Vertical Foot
600	201	47,739	238
800	178	62,041	349
900	114	45,818	402
1000	108	57,574	533
1200	197		
1400	196		

Final figures for the comparable oreshoots on 1200 and 1400 levels are not available, but it appears that neither will match in tons per vertical foot the yield from 900 and 1000, which, certainly, have been the best levels of the mine.

It is interesting to note that O. H. Hershey, after examining the Main Tunnel level and the north half of the 200 level, in 1918, calculated that the portion he examined would yield 229.4 tons per vertical foot of ore averaging 15% zinc, 6% lead, and 4.1 oz. silver per ton. He predicted a yield of 229,400 tons from the Main Tunnel to the 1000 foot level. The mine has yielded, from the surface to the 1000 level, a vertical distance of about 1300 feet, a total of about 506,000 tons or about 390 tons per vertical foot. Hershey was high on grade but low on tonnage, although he did not see the full length of ore bearing ground.

In retrospect, 600 and 800 levels were lower than average, whereas 900 and 1000 levels were better than average. The orebody as a whole has not diminished in average yield at least down to the 1000 level, nor has a single poor level, such as 600, indicated a bottoming.

The average mill feed during the past few years has been about 11% combined metal, in the proportion of about 8 zinc to 3 lead. The silver content is about 0.4 oz. silver to 1% lead.

Recommendations:

1. Exploration to the North:

The absence of quartzites and the general weakening of the vein structure in the soft argillites toward the north are factors that discourage exploration in that direction. However, a little

more work should be done on 1000 level north, where a fair showing exists in the present face in Block 36.

No diamond drilling is recommended from the north end of the orebody.

2. Exploration to the South:

Fair to very good prospects for additional ore exist toward the south, particularly in the lower levels of the mine.

800 level south, which has been driven along the merged vein and Redding fault, has yielded encouraging assays. It should be extended, with particular attention to the west wall, for at least 300 more feet or until the last west wall quartzite has been passed. The prospects for this work are fair.

All of the levels below 800 have fair to very good prospects toward the south. The Redding fault has not been reached on these levels although 1000 south drift is close to the fault. Further work on 1000 level can well be deferred until 900 and 1200 levels are extended. Within another 100 feet 1200 level should pass into argillite beneath the small stope in Block 52 on 1000; the prospects for more ore on 1200 level are good. The future of 1400 will depend on what is found on 1200 level and further development of 1400 should be deferred until 1200 is extended. 1600 level has just penetrated the quartzite zone and, unless the quartzites show no displacement, additional ore should be encountered within the next 100 feet, that is, within Block 48 or 49.

3. Prospects for Ore at Great Depth:

If, on 1600 level, the corresponding quartzites are found to be opposed, it will indicate that the fulcrum of the vein faulting has been reached and will explain why 1600 level ore has been weaker

than 1400 ore. All that can be done, then, is to develop 1800 level to determine whether the movement is a hinge type or a scissors type. If a scissors type is indicated ore should persist downwards; if a hinge type is indicated, the prospects for the mine are, frankly, poor. If the quartzites show no displacement on 1800 level it is doubtful that the vein structure will be strong enough to make ore.

There is no indication that the orebody will be cut off at depth by any known fault. The Redding fault is far to the south on the lower levels. The quartzite zone should persist downwards, although it will be farther to the south on each level.

If the ore persists downward below 1600 level, it should be reached first in Block 45 on 1800 level at a projected distance of about 400 feet south of the shaft. The first quartzites should be reached in Block 49 on 1800 level.

4. Sunface Work over the Mine:

A limited amount of surface trenching or bulldozing on the Constitution claim south of the junction of the vein and the Redding fault, to determine the course and nature of the fracture might be advisable. This could be followed by a few diamond drill holes from about the 3500 contour, directed eastward and inclined slightly downward to explore the possible ore along the fracture between sections 4000 and 5000.

5. Prospects along the Sherwood Fault:

The diamond drill hole from the Fred tunnel cut some sheared rock that yielded a little metal in the sludge samples. This rock lies in the hangingwall of the Sherwood fault and indicates that further investigations of this fault should be made, preferably from the Sherwood tunnel.

6. Determination of the Iron Content:

A number of samples should be taken over a wide vertical range to determine the iron content of the ore. Apparently iron has not increased with depth--a very favorable characteristic of the ore-body. This observation should be verified by assays. Any notable increase in iron content downward would be unfavorable. Perhaps this information could be obtained from smelter sheets.

7. Reassessment of Ore Reserves:

The foot-percent colors on the contour sheet and the calculated figures for the blocks should be studied and, if necessary, checked to determine whether indicated ore actually exists or if there were errors in sampling or calculations. For example, Block 45 on 600 level shows blue, indicating 40 to 60 feet-percent ore, which should be mineable.

Thomas E. Bingham

File Copy
Surname

500

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

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

MAY 12 1954

Re: Docket No. DMEA-3333 (Lead-Zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Weissenborn:

This will acknowledge the letter from your office dated April 29, referring to the cited application.

There are certain points which should be clarified in the recommendation which you are currently preparing. In that the proposed project covers land which adjoins the present project of this Applicant (Docket No. DMEA-2862), could not the new proposal be covered by an amended contract which would enfold all costs and all lands into one contract.

No map was submitted of the proposed work, though the "proposed work description" states "see sketch". A little of the proposed work has been shown on the vertical longitudinal section which was submitted but it is too incomplete, especially since no proposed diamond drilling is shown.

We doubt that proposed work items Nos. 5, 6, 7, 8, and 9 should be considered since there would seem to be little point in doing them unless ore was encountered, in which case they would be development work.

It might be well to give some consideration to diamond drilling for intersections below the 2000 level.

We believe that the forecasted costs of $43.51 per foot for drifting are badly out of line. We note that on the present project of this Applicant the drifting costs have averaged $38.75. With the labor situation in the area becoming easier, we would normally expect costs to be trending lower rather than higher.

R.C.G.

We are not in accord with the Applicant's suggestion for land to be included in the contract. All land in the block should be included, with specific exemption of known ore reserves which would be shown on a map accompanying the contract.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JHB)

APPROVED:

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

D. M. Larrabee
Member, Geological Survey (JHB)

WRGriswold/bjl (5/11/54)

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Bishop
Mr. Kinkel
Chron.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
APR 26 1954
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. 3333
Metal or Mineral Lead-Zinc
Date Received
Estimated Cost $555,717
Participation (Government %)

THE INTERIOR
Administration
Defense Minerals
RECEIVED
MAY 3 - 1954

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: Spokane-Idaho Mining Company, a corporation duly organized and existing under and by virtue of the laws of Idaho. Box 930, Kellogg, Idaho
Officers: Frank N. Marr, President, 611 Peyton Bldg., Spokane, Washington
C. D. Randall, Secretary, Paulsen Bldg., Spokane, Washington

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

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

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

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

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

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

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

(*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.

(*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 Zinc-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 36 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 April 23, 1954

Spokane-Idaho Mining Company
(Applicant)

By Frank R. Marx, Pres.

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

BUSINESS OFFICE: PEYTON BUILDING
SPOKANE, WASHINGTON

MINE: P. O. BOX 930
KELLOGG, IDAHO

SPOKANE-IDAHO MINING CO.

611 PEYTON BUILDING
SPOKANE 1, WASHINGTON

April 21, 1954

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 3 - 1954

United States of America
Department of the Interior
Defense Minerals Exploration Administration
So. 157 Howard Street
Spokane, Washington

Attention: A. E. Weissenborn

Dear Sir:

Please find enclosed request for an exploration project of the Constitution Mine, a property of the Spokane-Idaho Mining Co. located in the Yreka Mining District of Shoshone County, Idaho. The application is submitted on Form MF-103; if approved we desire to have the Exploration Project Contract issued on Form MF-200 (A) Unit Cost basis.

The Constitution Mine at the present time is an operational property; therefore, it is requested that production from the present workings and any production from old gobs or dumps be exempt to cover repayment of any project approved. More specifically, the area enclosed by planes passed through points as designated on 200 scale map included in request;

TO WIT: The area enclosed on the north by a plane passing through a point in section line 27 on horizontal elevation of the Main Tunnel level and a point on section line 40 on horizontal elevation of the 2000 level of the mine, said plane dipping approximately 55° from the horizontal to the south; bounded below by a horizontal plane passing through the 2000 level and bounded on the south by a vertical plane passing through section line 55. Except any ore directly discovered by any approved exploration project as issued by the United States of America through its agency the D.M.E.A. which is authorized under the Dept. of the Interior; more specifically described as

Any ores directly discovered in the above exempt blocks by the driving of 1000 level north, 2000 level north, 1400 level south, 2000 level south, or any ore discovered as parallel structure within the enclosed exempt area by direct result of any approved D.M.E.A. diamond drilling.

Very truly yours,

SPOKANE-IDAHO MINING CO.

Brower Dellinger

Brower Dellinger
Manager of Mines

BD:ed

Addendum to MF 103 Page I
Spokane-Idaho Mining Co.
Box 930
Kellogg, Idaho

DEPARTMENT OF THE INTERIOR
Bureau Mineral Administration
RECEIVED
MAY 3 - 1954

3. (a) The property known as the Constitution Mine, owned by the Spokane-Idaho Mining Company, located in Sections 2, 3, 10, 11, 12, 13 and 14, T47N, R2E, in the Yreka Mining District, Shoshone County, Idaho, and consisting of the following patented and unpatented claims:

Patented Claims

American Girl Constitution Defender Dakata Percy Fred	U. S. Mineral Survey #2620
Crescent Comet	U. S. Mineral Survey #2767
Minnie Nellie	U. S. Mineral Survey #2803
Bennington Trainer	U. S. Mineral Survey #3023
S. Constitution #1 S. Constitution #2 S. Constitution #4 S. Constitution #5 Chicago Spokane Thwaite	U. S. Mineral Survey #3116
Dupont Dupont Fraction	U. S. Mineral Survey #3119

Addendum to MF 103 Page II
Spokane-Idaho Mining Co.
Box 930
Kellogg, Idaho

Unpatented Claims

Ruth - Book 12, Page 604; Book 16, Page 513; Book 18, Page 513
Book 20, Page 463.

Alvin - Book 12, Page 601; Book 16, Page 276.

Joe - Book 12, Page 602.

Turner - Book 14, Page 615.

Judge - Book 16, Page 33.

Puett Peak - Book 16, Page 172.

Eve - Book 19, Page 157.

Hobo - Book 19, Page 158.

Joker - Book 19, Page 158.

McKinley (Kinley) - Book 19, Page 159; Book 19, Page 516.

Lucky Peak - Book 19, Page 160.

Martha - Book 20, Page 540.

Wade - Book 31, Page 56.

August - Book 20, Page 539; Book 31, Page 57.

September - Book 31, Page 58.

October - Book 31, Page 59.

~~Alpha~~ - Book 31, Page 61.

~~Beta~~ - Book 31, Page 60.

May - Book 20, Page 524.)
June - Book 20, Page 525.) U. S. Mineral Survey #3120
July - Book 20, Page 526.) (But not patented)

So. Constitution #3 - Book 14, Page 446; Book 15, Page 146
So. Constitution #6 - Book 16, Page 525
St. Louis - Book 16, Page 422
Seattle - Book 16, page 420; Book 19, page 389
Westchester - Book 16, page 425
Toto - Book 16, page 424
Portland - Book 16, page 419
St. Paul - Book 16, page 423

4. (a) The mine is worked through a 900 foot X-cut adit and an underground vertical shaft which extends approximately 2100 feet below the tunnel level. It is relatively dry. There are approximately 20,500 feet of main level drifts and X-cuts.

At the present time, the Company is driving the 1800 South Drift on a one shift per day basis, five days a week, and averaging approximately 90 feet advance per month. This is the only development being conducted.

All mineral production is being supplied by lessees, under a system of incentive mining termed "Block Leasing", inaugurated by the present management in March of 1953. The advantages gained by upgrading the ore, streamlining the maintenance crew and increasing the efficiency of the mining cycle, particularly in regard to labor, has made the leasing system extremely successful, and has enabled the Company to maintain its operation in spite of the excessively low metal prices existing at this time.

Essentially, the contract calls for an equal split of the net smelter returns between the Company and the lessees, with the lessees furnishing all necessary labor, explosives, bits and steel, personal insurance and paying half of the milling costs, In return, the Company pays their half of the milling costs, and furnishes all equipment, timber, tools, engineering service and hoists and trams the ore in the main tunnel.

With the exceptions of portions of the South tunnel level, and South 200 level, all of the main levels and crosscuts are accessable for examination purposes.

The Constitution Mill has a rated capacity of 185 tons per day and is equipped with regrind sections for both the lead and zinc circuits.

Addendum to MF 103 Page IV
Spokane-Idaho Mining Co.
Box 930
Kellogg, Idaho

(b) Production of Constitution Mine

The present Company was organized in 1940 and took over the assets of the Constitution Mine. Records as shown are correct.

Year		Tons of ore	% pb in feed	% Zn in feed	Gross Value
Previous to 1924 - no record.					
1924		12,372	5.17	13.40	$
1925		32,900	5.24	12.62	
1926		49,570	4.95	11.04	
1927		32,861	4.56	9.98	
1928		32,848	No record		
1929)	(est.)	33,000	No record		
1930)					
1941	"	10,000	4.00	10.00	122,213.82
1942		20,307	4.50	9.59	414,565.36
1943		21,317	3.10	7.31	348,103.04
1944		22,155	3.39	7.53	378,597.81
1945		26,151	4.55	9.12	540,715.59
1946		37,931	3.04	7.76	661,977.14
1947		38,468	2.66	7.35	705,049.93
1948		54,917	2.79	7.39	1,500,477.92
1949		50,623	2.79	7.33	1,206,128.03
1950		60,937	3.52	8.22	1,952,698.50
1951		62,280	3.05	7.18	2,211,098.41
1952		48,807	2.29	5.54	1,276,511.53
1953		21,666	3.24	7.06	539,017.54
					$11,857,154.62

All ore reserves as of March 1, 1954 are located between the 1800 and 1400 levels. They total to 21,157 tons with an average grade of 4.6 lead and 9.5 zinc.

4. (c) Geology:

Three sedimentary formations appear in the mine. They are, from oldest to youngest, the Prichard formation, the Burke formation, and the Revett formation. All three belong to the so-called Belt Series of Pre-Cambrian age and are among the oldest rocks on the continent. In addition to the sedimentaries, numerous basic dykes, either diabasic or lamphrophyric, or both, occurs in and near the vein. The Prichard formation consists of predominately slaty rock, commonly called argillite which in some zones is interbedded with massive quartzites of varying thickness.

One of these quartzitic zones, lying in the upper Prichard, very near to the Burke Formation, is called the transition zone, and these beds probably form one of the controls to mineralization of the Consitution Vein. To date, practically all of the known mineralization occurs in the Prichard Formation.

Several faults occur near the Constitution, the principal ones being the Pine Creek Fault, the Redding Fault, and the Marr Fault. The Pine Creek Fault lies a few hundred feet west, and roughly parallel to the vein with dip of almost vertical in the south, to steeply westward towards the North. It has an apparent net movement of perhaps a mile and has juxtaposed the younger Burke quartzite against the older Prichard Formation. The Marr fault strikes about W 75° W and appears to dip about 65° to the South. Its net movement is probably a few hundred feet. The Redding Fault is nearly vertical with a movement of several hundred feet, and runs into the Constitution vein at an acute angle in the Southerly portion of the mine. The Constitution Vein, itself occupies a fault of considerable movement with a displacement of approximately 1200 feet, and dips from vertical to 70° to the west and reversing dip to 70° to the East in the southerly portion of the mine. The general strike is N 35° W.

The ore body is of the tabular, replacement vein type with the length much greater than the width. The vein structure is remarkable for its persistance and relative simplicity, known ore shoots on the Main Tunnel level occur at intervals for over 2000 feet along the vein. On the 1000 level, the shoots occur with fewer interruptions for over 1600 feet of vein. On 1200 there is continuous ore for over 1100 feet. On the 1600 the stretches of continuous ore appear to be shortening, with even less ore appearing on 1800 and none to date on the 2000 level; however these levels are not fully developed, and it is presently thought that there is a general shifting of the ore control to the south due to a flattening of the quartzites in the transition zone.

Vertically, the orebody has been more or less continuous from the surface at least to 1800 level, a vertical distance of 2175 feet. The maximum proved vertical extent, therefore, is very nearly the same as the maximum known horizontal extent.

The ore minerals, sphalerite and galena, occur almost ubiquitously within the dimensions of the orebody just described; but the quantities vary from traces in a narrow streak to solid sulphide ore 10 or more feet wide. Consequently, the ore reserves vary according to the economics of mining, and shoots once considered unprofitable, have since been mined. Constant

re-assessment of reserves is, therefore, necessary. The irregularities in strike and dip are responsible, at least in part, for the localization of the ore shoots. Dissimilar rocks on the foot and hanging walls, due to the vein displacement, also seem to have their effect on mineralization.

The Constitution Mine at the present is extremely under-developed. This is due in part to the stress placed on production during the war years, with the consequent loss in development progress which has never been caught up, and hindered during the past two years, because of the depressed condition of the metal market.

The present management strongly feels that strong possibilities exist of other ore bodies being present on the Constitution, both to the north, ~~xxxxxxxxxxxx~~ stratigraphically lower in the Prichard formation and in the direction of the Douglas Mine, and to the South in the Burke quartzites. There has also been some evidence of parallel structures existing, particularly to the west, in the upper levels.

To the South, there is some evidence of a major structural change from the 1400 level down. The Redding Fault has apparently been intersected on the 1400 and 1600 levels. Its structure is considerably weaker than above, suggesting considerably less displacement. Recent work on the 1800 level has disclosed an apparent flattening to the south of the quartzite intersections and resulting in much stronger mineralization. In addition, the last 75 feet of drifting on 1600 level has disclosed very good grade ore of widths up to 8 feet. All of these things indicate excellent possibilities of a new ore horizon developing beyond and south of the Redding Fault.

On the 2000 level, it was decided to explore the possibilities of an ore shoot to the north of the present known Constitution ore body. This was accomplished by driving west from the station at that horizon. Previously the Constitution ore shoot was exploited by an x-cut directly to the known north edge of the ore body. The rake of this shoot had a 45° dip to the south, passed through the shaft at the 1400 level and progressed south of the main shaft from that point. On the 1800 level this rake took the ore approximately 300 feet south and indicates a position 500 feet south on the 2000 level. However, to complicate the picture, the commercial ore on 1800 was intersected at the proper place but lasted only 80 feet, at which point it became disseminated and uncommercial, suggesting that the ore body was dissipating. Therefore, to solve this problem, it becomes necessary to drive the 2000 level south to intersect the Transition Quartzites.

The 2000 X-cut mentioned above was directed westward to explore the continued strike of the Constitution structure to the North with the thought of developing the vein structure both north and south along its strike from the point of intersection. This method was thought to be more feasible than an X-cut directly to the projected rake of the old ore body. At a point 50 feet west of the shaft, 3½ feet of 22% Pb and Zn combined was intersected. This structure lies 270 feet in the foot wall of the average projected strike of the Constitution vein and some 600 feet north of the projected rake of the main ore shoot. Geologically, it appears to be the strong feature of a "horse tailing" of the Constitution vein to the north. The area shows shearing which could easily produce such a feature. To date 140 feet of marginal ore has been developed.

To the north also lies the Douglas structure which could, upon intersection with the Constitution vein, be a possible ore trap. Between this projected intersection or junction lies the Pine Creek Fault and the Marr Fault. The former has an estimated displacement of 5000 feet, bringing the older Prichard formations adjacent to the Burke quartzites. The Marr Fault has a displacement of about 150 feet. These two features could well provide for the possibility of added ore deposition since it is known that a post mineral deposition to the south and in the Constitution vein brought in ore with a higher Pb ratio than the normal vein shows.

The Pine Creek Fault could be a strong influence upon the Constitution vein to the north. To the North the projected strike of the Constitution vein would intersect the Pine Creek fault. This may be one of the reasons the vein structure has "horse tailed" to the north and the strength as now known being evident in the footwall structure. The country rock in this area as exposed shows much folding and sympathetic faulting, thus "loosening" the ore fracture for deposition.

The mere presence of ore and structure to the north indicates that northward the possibilities of another ore body could ~~be~~ materialize~~s~~. Diamond drilling to the north from the 1800 and 1600 level shaft station could indicate the upward extension of this new strike.

(d) The Constitution Mine lies 7 airline miles from Kellogg, and is reached by Highway 10 and a good gradual grade, county road along Pine Creek a total distance of 17 miles from Kellogg. After beneficiation in the Constitution Mill, the concentrates are trucked directly to the Bunker Hill and Sullivan Smelter and the Sullivan Electrolitic Zinc Plant in Kellogg.

(e) At the present time there is an oversupply of available man power in the Coeur d'Alene Mining District due to repeated layoffs by most of the mining companies over the past year.

The Spokane-Idaho Mining Co. is the holder of Permit No. 19517, issued upon application No. 27028 bearing priority of July 10, 1944, authorizing the diversion of one second foot of the waters of the East Fork of Pine Creek. To date, this supply of water has always been more than adequate at all seasons of the year.

Power is furnished by the Washington Water Power Co. by direct line to the property.

Materials and supplies are readily available from any one of the numerous distributors and wholesalers in the District.

5. (b) To fully explore the structure to the north and south of the Constitution ore body. Present geological work indicates the possibility of a strong ore body to the north of the present ore structure. Limited work on the 2000 level north has opened up vein material and shows a very strong vein structure. The presence of the Pine Creek fault and its possible intersection or junction with the Constitution vein to the north, or its effect upon the ore structure by approaching the vein, lend added geologic support to this area as a strong ore zone.

South of the present ore shoot geologic evidence indicates another and similar ore horizon. In this area known quartzites of the upper Prichard, the Prichard-Burke contact, and the presence of parallel faults, (eg Redding Fault, Pine Creek) present favorable ore horizons. The quartzites of the upper Prichard have apparently flattened to the South from their general dip as was observed in the upper levels; this ore control is extremely important and could well be responsible for another large and strong ore body to the South.

The Burke-Prichard contact lies to the South and since the Burke Formation has been one of the strongest mineralized zones in the Coeur d'Alenes, this area should be explored for ore structure. Both Oscar Hershey and Verle Hammerund, geologists of note, who have devoted over the years much time and labor to the Pine Creek area, recommend this as a must in exploration.

<u>Proposed work:</u>

1. Drift North on 2000 level a strike length distance of 2000 feet. (See sketch)
2. Drift South on 2000 level a strike length distance of 2000 feet. (See sketch)
3. Drift North on 1000 level a strike length distance of 1500 feet. (See sketch)
4. Drift South on 1400 level a strike length distance of 1600 feet. (See sketch)
5. Sink 460 feet on ore structure, if developed, from 2000 South. (See sketch)
6. Sink 460 feet on ore structure, if developed from North 2000 level. (See sketch)
7. Raise 200 feet on structure 2000 level North. (See sketch)
8. Raise 600' on structure 2000 level South. (See sketch)
9. Prepare Stations and Pockets in proposed winzes at 200 foot intervals. (See sketch)
10. Diamond Drill for parallel structure from 1000 level North, 1400 South, 2000 North and South a total of 4000 feet.

5. (d) FRANK N. MARR, President

Frank N. Marr, President - born October 2, 1907 A.B. University of Washington 1936, married, two children, started business as grocery clerk and manager for Mac Marr Stores 1930-32, General Mgr. Marr Bridger Grocery Co. Joplin, Mo. 1932-35, individual contracting business 1937-41, Civilian employee Quartermaster Corps Air Force 1942-43, Production Dept. of Webster Brinkley Co. 1943-44, Asst. Plant Mgr. Butler Packing Co., Seattle 1944-46.

Assumed management of applicant upon the death of Chas. E. Marr, May, 1946 as Vice President succeeding to the Presidency in August, 1948. Duties have consisted of financial management, general policy and direction of the Co. through a General Manager, direct charge of books, records and accounts, active management of the Spokane office during the entire period. Other current positions as follows: President and Director of Columbia Mines Corp., Midas Gold Mining & Milling Co., Paymaster, Inc., Director of Sheep Creek Gold Mines, Ltd., Congress Gold Mines, Ltd., Minas de Guatamo S. A., Great Northwest Life Ins. Co., member of American Institute of Mining and Metallurgical Engineers, American Mining Congress Board of Governors since 1950, Spokane Chamber of Commerce, Chairman of Mining Bureau 1947-52, President of Northwest Mining Association 1953, member of Spokane Country Club, Spokane Club, Early Birds Breakfast Club, Vice President Inland Automobile Association.

BROWER DELLINGER, MANAGER OF MINES

Born in 1913 at Westfield, N. J.
Graduate of Stanford University, B. C. Eng. 1936
Married, one child - height 5-11, Weight 205 lbs.

Has worked in oil fields, traveled in North Africa, Near East, Mediterranian, Europe, Black Sea Countries. Has good record of ability to handle men. Spent one summer with Stanford Geological Survey under Cy Mueller and Fergusson of U.S.G.S.

Professional Record

1952 - date: Manager of Mines, Spokane-Idaho Mining Co.

1948-1952: Asst. General Manager of Empire Star Mines Co., Ltd. Complete charge of mines, mill and cyanide plant. Member of Board for labor negotiations, mine hospital and company policies. Member of the Miners Hospital Board. Bonded for check signatures of mine and hospital.

1947- 1948: Gen. Supt. of Mines, Empire Star Mines Co., Ltd. In charge of all underground operations. Includes five (5) mines; North Star, Central, Browns Valley, Pennsylvania and Empire. Bonded for check signatures.

1947- 1947: Supt. of Browns Valley Mine. In charge of development, mining and milling at the Browns Valley unit, Browns Valley, Calif.

1946-47: Gen. Supt. of Esmeralda and Deep Mines Operations, Goldfield, Nevada for Newmont Mining Corp. ~~Installation of hoisting~~

Complete charge of all operations. Bonded for check signature.

1945 - 1946: Chief Engineer of Esmeralda and Deep Mines Operations, Goldfield, Nevada for Newmont Mining Corp. Installation of hoisting equipment, headframes, buildings, shaft sinking; land and labor negotiations.

1942 - 1945: In United States Navy - volunteered. Public Works Officer at Peru, Ind. Naval Air Station, 1942-1943. Public Works Officer, Canton Is., So. Pac. 1943-44. Radar Officer, U.S.S. Yorktown, 1944-1945. Discharged Sept. 1945 at close of hostilities.

1940 - 1942: Engineer, Empire Star Mines Co., Ltd. Duties consisted of surveying, geology, sampling; mine examinations and valuations for Newmont localities Nevada, California.

1939 - 1940: Refinery Chief, Empire Star Mines Co., Ltd. In charge of precipitate treatment; amalgam, retorting; melting and refining of all gold and silver bullion.

1938 - 1939: Assayer and Cyanide Plant operator. Assaying of mine samples, bullion, concentrates. Some metallurgy research on sink-float operation and flotation.

1937 - 1938: Miner underground, timberman underground, spare boss underground, Empire Star Mines Co., Ltd.

1936 - 1937: Traveling in Europe, North Africa, working way.

1934 - 1935: Summers worked as mucker, miner in various mines.

NOTE: Employment mostly subsidiaries of one company - Newmont.

CURTIS REDDING - MINE SUPERINTENDENT

Experience - Bunker Hill & Sullivan Mng. Co. as mucker, miner and timberman intermittently from 1926 to 1940 for a total of approximately 9 years. Attended University of Idaho 1929-30. Worked as drift miner for Stratton & Stratton of Spokane, Wash. at their Continental Mine, Myrtle Creek, Oregon 1943; miner for Sidney Leasing Co., Pine Creek District, Kellogg, Idaho, 1935; Started as Mine Supt. for Spokane-Idaho Mining Co. Sept. 1940; worked for U.S. Air Force as aircraft mechanic in U. S. and H. Islands, Sept. 1944 to Jan. 1946. Returned to Constitution Mine as Mine Supt. Sept. 1946 to present time.

JOHN H. WILSON, JR. - ENGINEER 33 yrs. old married, two children. Attended University of Kentucky - graduated with B. S. in Mining Engineering Dec. 1942. Entered U. S. Army Air Force January 1943; graduated from Air Force Technical School at Yale University as 2nd Lt. rated as Aircraft Engineering officer. Honorably discharged April, 1946 as Captain, A.F. Reserve. Started as Engineer for New Jersey Zinc Co. at Franklin, New Jersey in March, 1946 - transferred to Austinville, Virginia Lead-Zinc mine as Engineer; later Asst. Mine Foreman until Oct. 1947. Started with Empire Star Mines Co., Ltd. subsidiary of Newmont Mining Co. in October, 1947, as Engineer. Remained until October, 1952 doing geology, engineering and field examination. Started with Spokane-Idaho October 1952 as Chief Engineer.

Addendum to MF 103 Page XI
Spokane-Idaho Mining Co.
Box 930
Kellogg, Idaho

6. (a) All work is to be done on Gypo or Contract System - e.g. miners paid by foot with guarantee of days pay. (See schedules A to F)

(b) Schedule of Rates: Days pay labor rates showing overtime are listed below. Also see Schedules A - G inclusive below.

Grades	Rates (day)	Hourly Rates	OT Rates (Day)
Common Labor	$13.02	$1.6275	$ 19.53
Muckers	13.42	1.6775	20.13
Helpers	13.82	1.7275	20.73
Miners, Trammers, Compressorman Nippers	14.22	1.7775	21.33
Cagers, Top Motormen, 2nd Class Mechanics, Crusherman, Pumpmen, Timber Framers	14.62	1.8275	21.93
Drift Miners, Raise Miners, Timbermen, Hoistmen, Flotation Operators	15.02	1.8775	22.53
1st Class Mechanics 1st Class Machinists Blacksmith, Repairmen, Electricians, Carpenters, Welders, Sawyer	15.42	1.9275	23.13
Shaft Repair, Sinking Shaftmen	15.82	1.9775	23.73
Double Drum Hoistman	15.87	1.98375	23.81
Extra Shifter	16.32		

(c) See schedules A-G inclusive.

(d) All necessary equipment to be furnished by Company.

(e) No rehabilitation or repair necessary.

(f) No new buildings.

(g) See schedule H.

~~SCHEDULE XX~~

Spokane-Idaho Mining Co.
Box 930
Kellogg, Idaho

Schedule A - Drive 2000 feet of drift on 2000 level North and 2000 feet of drift on 2000 level south. Total drifting 4000 ft.

Direct Labor	$12.00/ft.	
Supplies	15.25/ft.	
Indirect & Overhead	16.26/ft.	
	$43.51/ft.	$174,040.00

Labor includes overtime and timbering.

Supplies;	Bits and Steel	$ 4.05
	Explosives	4.85
	Timber	3.02
	Pipe 3" & 2"	1.29
	Track 16#	.94
	Fan Line	.95
	Misc.	.15
		$15.25

Indirect and Overhead: See Schedule H.

Schedule B - Drive 1500 feet North on 1000 level.

Direct Labor	$12.00/ft.	
Supplies	15.25/ft.	
Indirect & Overhead	16.26/ft.	
	$43.51/ft.	$ 65,265.00

Labor includes overtime and timbering.

Supplies:	Bits and Steel	4.05
	Explosives	4.85
	Timber	3.02
	Pipe 3" & 2"	1.29
	Track 16#	.94
	Fan Line	.95
	Miscellaneous	.15
		$15.25

Indirect and Overhead: See Schedule H.

Schedule C - Drive 1600 feet South on 1400 level.

Direct Labor	$12.00/ft.	
Supplies	15.25/ft.	
Indirect & Overhead	16.26/ft.	
	$43.51/ft.	$ 69,616.00

Supplies:	Bits and Steel	4.05
	Explosives	4.85
	Timber	3.02
	Pipe 3" & 2"	1.29
	Track 16#	.94
	Fan Line	.95
	Miscellaneous	.15
		$15.25

Spokane-Idaho Mining Co.
Box 930
Kellogg, Idaho

Schedule D - Sink 7' x 12' Winze inside timber, 2 compartment, 480 feet from 2000 North and 480 feet from 2000 South. Total 960 feet.

Direct Labor	$60.00/ft.	
Supplies	32.61/ft.	
Indirect & Overhead	36.40/ft.	
	$129.01/ft.	$123,849.60

Average labor to include overtime.

Supplies:	Explosives	$12.41/ft.
	Timber & Hanging Rods	13.38/ft.
	Track 30# rail	1.85/ft.
	Spikes	.03/ft.
	Splicing Bars	.09/ft.
	Pipe 4" & 2") Air, water &) Pump Columns)	2.82/ft.
	Fan Line	.95/ft.
	Miscellaneous	1.08/ft.
		$32.61

For Overhead and Indirect see Schedule H.

Schedule E - Drive 200 feet of raise from 2000 north drift, 3 cap raise with cribbed chutes; 600 feet of raise from 2000 south, 3 cap raise with cribbed chutes. Total 800 feet.

	North Raise	South Raise
Direct Labor	$35.00/ft.	$42.50*
Supplies	28.25/ft.	28.25
Indirect & Overhead	26.93/ft.	26.93
	90.18/ft.	97.68/ft.

Labor includes overtime and timbering.
*Average labor for 600 feet of raise.

Supplies:	Bits & Steel	$5.25
	Explosives	9.85
	Timber	12.00
	Pipe 2" & 1"	.94
	Miscellaneous	.21
		$28.25

For indirect and overhead see Schedule H.

North Raise...$18,036.00
South Raise...$58,608.00

Spokane-Idaho Mining Co.
Box 930
Kellogg, Idaho

Schedule F

Blast out Hoist Room, Stations, and Pockets for Winze.

Hoist Room	3200 cu. ft.
Level Pocket	1600 cu. ft.
2 Stations	5000 cu. ft.
2 Station Pockets	3200 cu. ft.
	13,000 cu. ft.

Total for both Winzes - 26,000 cu. ft. $25,662.00

Labor	$ 0.43/cu. ft.
Supplies	.20 / cu. ft.
Ind. & Overhead	.35¢/cu. ft.
	$0.98¢/cu. ft.

Supplies:	Explosives	$0.08/cu. ft.
	Timber	.05/cu. ft.
	Misc.	.07/cu. ft.
		$0.20/cu. ft.

For Indirect and Overhead see Schedule H.

Schedule G

Diamond Drill 4000 feet to prospect paralleling structures to the Constitution vein and extension of 2000 North vein. Drilling to be from 1000 North level, 1400 level South, 1800 level North and 2000 level North and South.

Direct cost	$4.00/ft.	
Supplies	.15/ft.	
Ind. & Overhead	1.01/ft.	
	$5.16/ft.	$20,640.00

Direct costs includes cost/ft. contract. $4.00/ft. first 500' any one hole.

Supplies:	Core boxes	$ .10/ft.
	Sludge sacks	.05/ft.
		$ .15/ft.

For Indirect & Overhead see Schedule H.

Allotted monies to be used for 4000 feet of drilling, or footage able to be drilled with allotted monies.

TOTAL.....$555,716.60

Spokane-Idaho Mining Co.
Box 930
Kellogg, Idaho

Schedule H - Indirect and Overhead:

	Hoist Room Station & Pockets	Drifting	Sinking	Raising	Diamond Drilling
Compressed Air	.020	1.12	2.36	1.86	.22
Hoisting	.070	2.98(Avg)	3.90	4.79	.04
Haulage	.016	.64	1.52	1.06	.02
Assaying		.18		.18	.07
Drilling Machines	.012	.56	1.14	.93	
Pumping	.021	.84	1.92	1.39	.17
Ventilation	.013	1.08	3.12	1.79	.22
Mucking machine	.011	.24			
Shop expense	.016	1.48	3.60	2.46	
Misc. Underground Expense	.011	.46	1.11	.76	.09
Administrative	.012	.50	1.56	.83	
Engineering & Supervision	.02	.93	2.93	2.17	.18
Office Expense	.015	.64	1.35	1.06	
Warehouse		.08	.47	.13	
General Expense	.020	.82	2.70	1.36	
Insurance & Taxes	.050	1.71	3.96	2.84	
Depreciation	.050	2.00	4.76	3.32	
	.357	16.26	36.40	26.93	1.01

// It is assumed that the Constitution Mine, which is now in operation, will support its present overhead expense. The D.M.E.A. program will support its proportion of the added overhead expense. Should economic conditions deteriorate, causing cessation of production, the D.M.E.A. program would necessarily assume such additional overhead as might become necessary to its own support. //

It is also based on the supposition that we can drive three headings at one time.

Should mineralization be encountered on the 2000 South level, it would be advisable to drive the 2000 South raise prior to any sinking program so that ventilation and a secondary opening to conform to State of Idaho Laws would be fulfilled. This would mean driving the 1400 level South prior to any work contemplated on 1000 North.

A separate item of assaying has been set up for the drifting and diamond drilling program. It is important that all information possible be utilized in any exploration diamond drilling program.

Assaying at present is done by C. V. Barto in Pine Creek at the cost of .60/ determination (e.g. .60 for Zn, .60 for Pb, .60 for Ag).

The raises are set up as three cap, cribbed chute raises, and based upon an advance of 40 feet/month. It should be understood that ventilation and supply will be a major factor. Raises will be driven 20' x 5'. Winzes will be 7' x 12' inside timber.

Government's copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3333

Commodity Lead-Zinc

Contract No. Idm-E - 730

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this 19th day of October, 1954 between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Spokane-Idaho Mining Company, a corporation duly organized and existing under and by virtue of the laws of the State of Idaho, whose mailing address is 611 Payton Building Spokane 1, Washington, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and .....

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of Idaho, County of Shoshone, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] owner of [5] entire interest in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] ....., [7] ....recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: None

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: .....

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of lead-zinc. The work to be performed is described in Exhibit "A." The Operator on or before 90 days from date* shall commence the work, and on or before two years from date* (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work.

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $219,800.00. The Government will contribute 50 percent of the fixed unit costs as work is performed, in a total sum not in excess of $109,900.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

*The word "date" means the date of the contract.

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

(For instance: the royalty on an amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on an amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

SPOKANE-IDAHO MINING COMPANY
(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By O. Mitchell Dorr
Administrator, Defense Minerals
Exploration Administration

I, ..., certify that I am the ..... secretary of the corporation named as Operator herein; that ..... who signed this contract on behalf of the Operator, was then ..... of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

NON-PRIVILEGED DOCUMENT

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BATES NO. USGSP0000406

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DMEA-3333

ANNEX I

The land referred to in Article 2 of the contract consists of the claims which are shown on the attached map entitled "Spokane-Idaho-Douglas, Composite Claims and Mine Workings," and is further described as follows:

PATENTED CLAIMS

Claim	Survey No.
American Girl	2620
Constitution	2620
Defender	2620
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Fred	2620
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Comet	2767
Minnie	2803
Nellie	2803
Bennington	3023
Trainer	3023
S. Constitution No. 1	3116
S. Constitution No. 2	3116
S. Constitution No. 4	3116
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UNPATENTED CLAIMS

Recorded in the Office of the County Recorder of said Shoshone County:

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Joe	12	602
Turner	14	615
Judge	16	33
Puett Peak	16	172
Eve	19	157
Hobo	19	158
Joker	19	158
McKinley (Kinley)	19	159
	19	516
Lucky Peak	19	160
Martha	20	540
Wade	31	56
August	20	539
	31	57
September	31	58
October	31	59
May	20	524
June	20	525
July	20	526
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which workings and ores are shown on the attached map entitled "Constitution Mine - Vert. Long. Proj.," as lying within the area enclosed by the blue lines shown on this map.

This excluded area is more particularly described as that area of the Constitution vein enclosed on the north by an inclined plane passing through the north face of the 800 level and the north face of the 1400 level, and which extends from the surface to its intersection with the shaft at a point 1,500 feet below the main haulage level, said plane dipping 50 degrees to the south; thence by a vertical plane in the north wall of the shaft from the point of its intersection with afore-mentioned inclined plane to the sill of the 1800 level; thence by a plane along the sill of the 1800 level to the south for a distance of 1,150 feet, to that point marked on attached vertical longitudinal section as representing the face of the 1800 level south drift on May 18, 1954; thence by a vertical plane to the surface.

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DMEA-3333

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Description of the Work

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The purpose of the work is to explore for lead-zinc ores and shall consist of the following:

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Drift on the vein northwesterly for a total distance not to exceed 1500 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1000 feet.

1800 level -

Drift in the vein southeasterly for a total distance not to exceed 2000 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1200 feet.

2000 level -

Drift on the vein northwesterly for a total distance not to exceed 1000 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 800 feet.

All drifts shall be roof-bolted and timbered as necessary, and shall be not less than 6 feet by 7½ feet in the clear of timber.

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Fixed Unit Costs

4,500 feet of drifting @ $37.00/ft.	$166,500.00	
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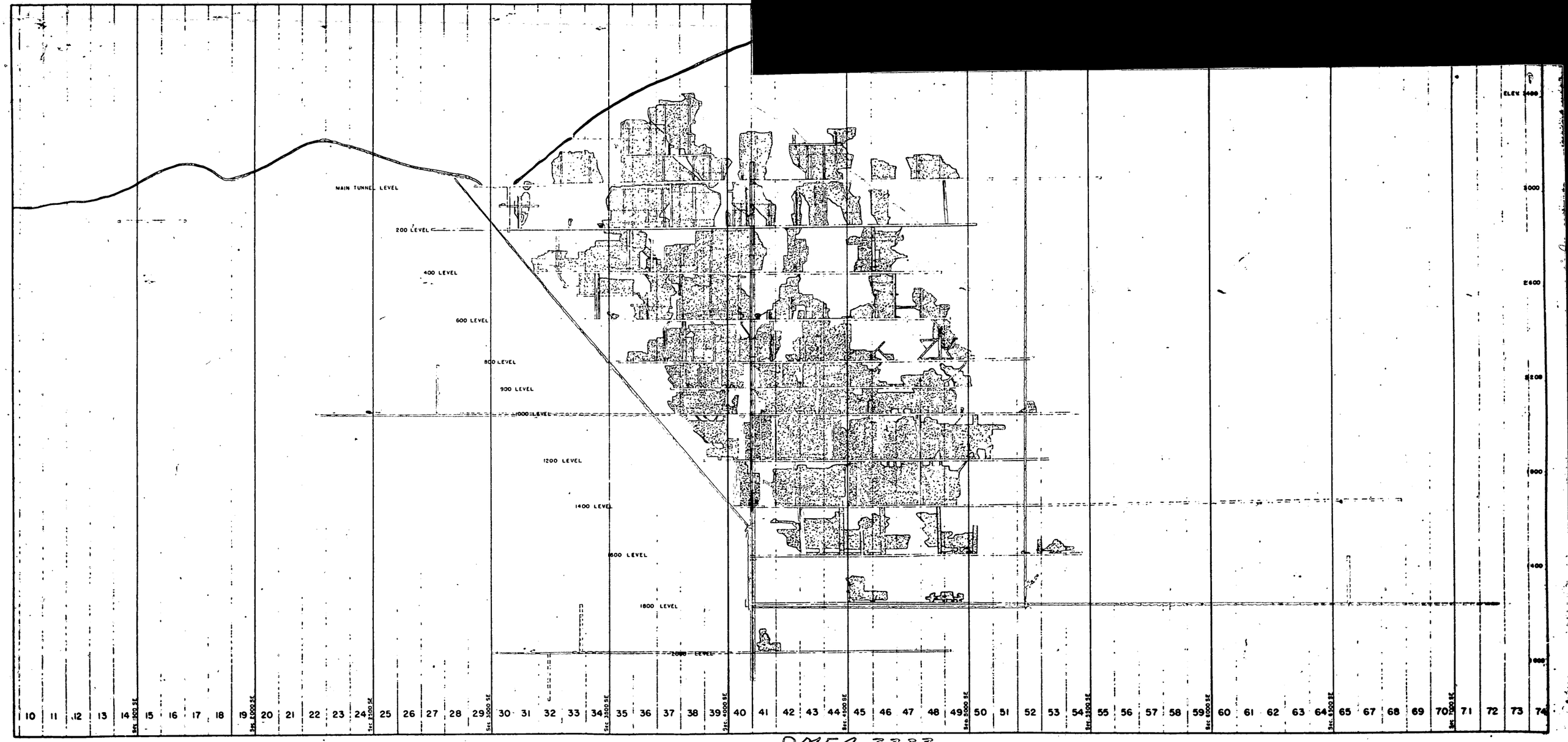
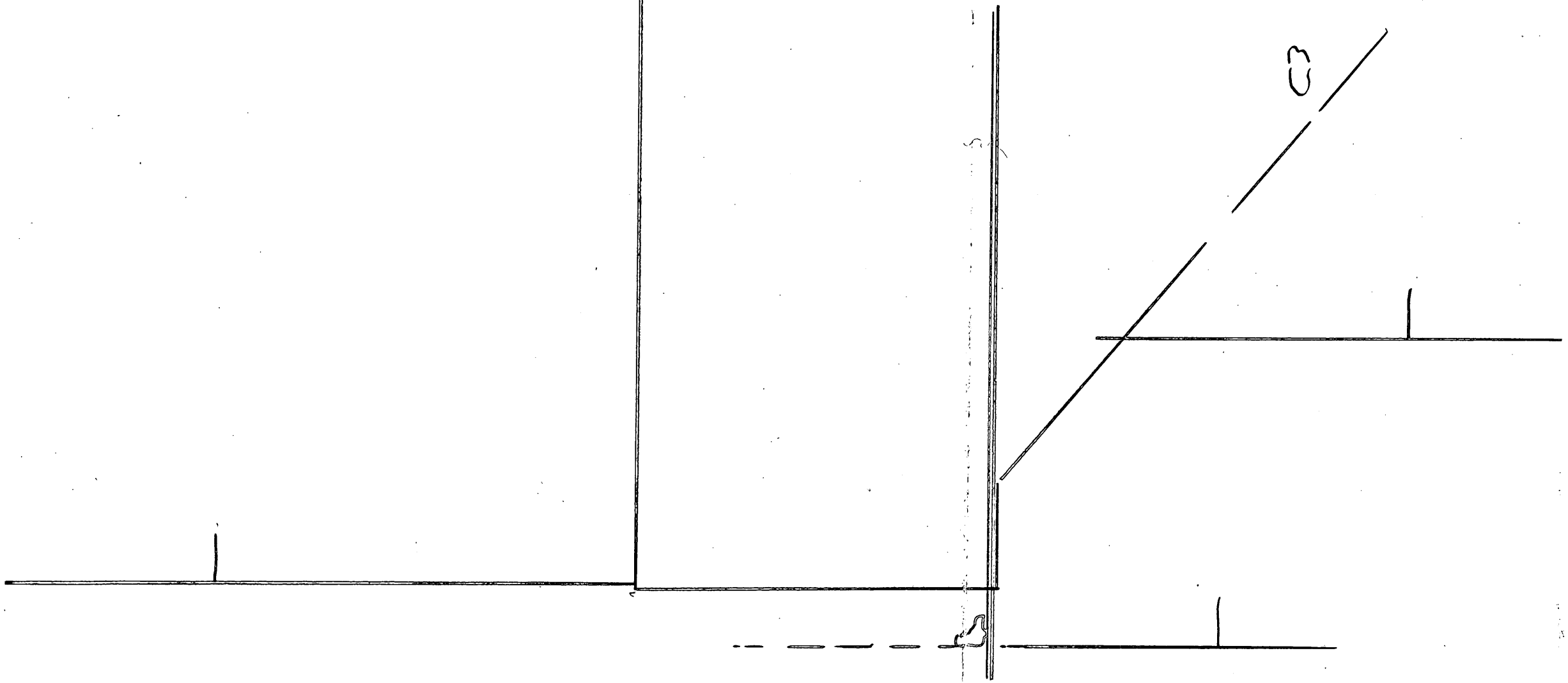
1,000 samples @ $1.80/ea.	1,800.00	
450 feet of raise @ $50.00/ft.	22,500.00	
Estimated Total Cost of Project		$219,800.00
Government's Participation @ 50%		$109,900.00



DMEA 3333

CONSTITUTION MINE - VERT. LONG. PROJ.

Looking N 88 E 1" = 200'



Finance Office copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3333

Commodity Lead-Zinc

Contract No. Idm-E - 730

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this 19th day of October, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Spokane-Idaho Mining Company, a corporation duly organized and existing under and by virtue of the laws of the State of Idaho, whose mailing address is 611 Payton Building Spokane 1, Washington, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and .....

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of Idaho, County of Shoshone, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] owner of [5] entire interest in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] ....., [7] ....recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: None

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: .....

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of lead-zinc The work to be performed is described in Exhibit "A." The Operator on or before 90 days from date * shall commence the work, and on or before two years from date * (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work.

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $219,800.00 The Government will contribute 50 percent of the fixed unit costs as work is performed, in a total sum not in excess of $109,900.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

* The word "date" means the date of the contract.

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

(For instance: the royalty on an amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on an amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

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SPOKANE-IDAHO MINING COMPANY

(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By O. P. Mitchell

Administrator, Defense Minerals Exploration Administration

I, ..., certify that I am the ..... secretary of the corporation named as Operator herein; that ..... who signed this contract on behalf of the Operator, was then ..... of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

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[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

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BATES NO. USGSP000000406

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DSMA-3333

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Withhold this page and all following pages

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Kobo	19	158
Joker	19	158
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EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DMEA-3333

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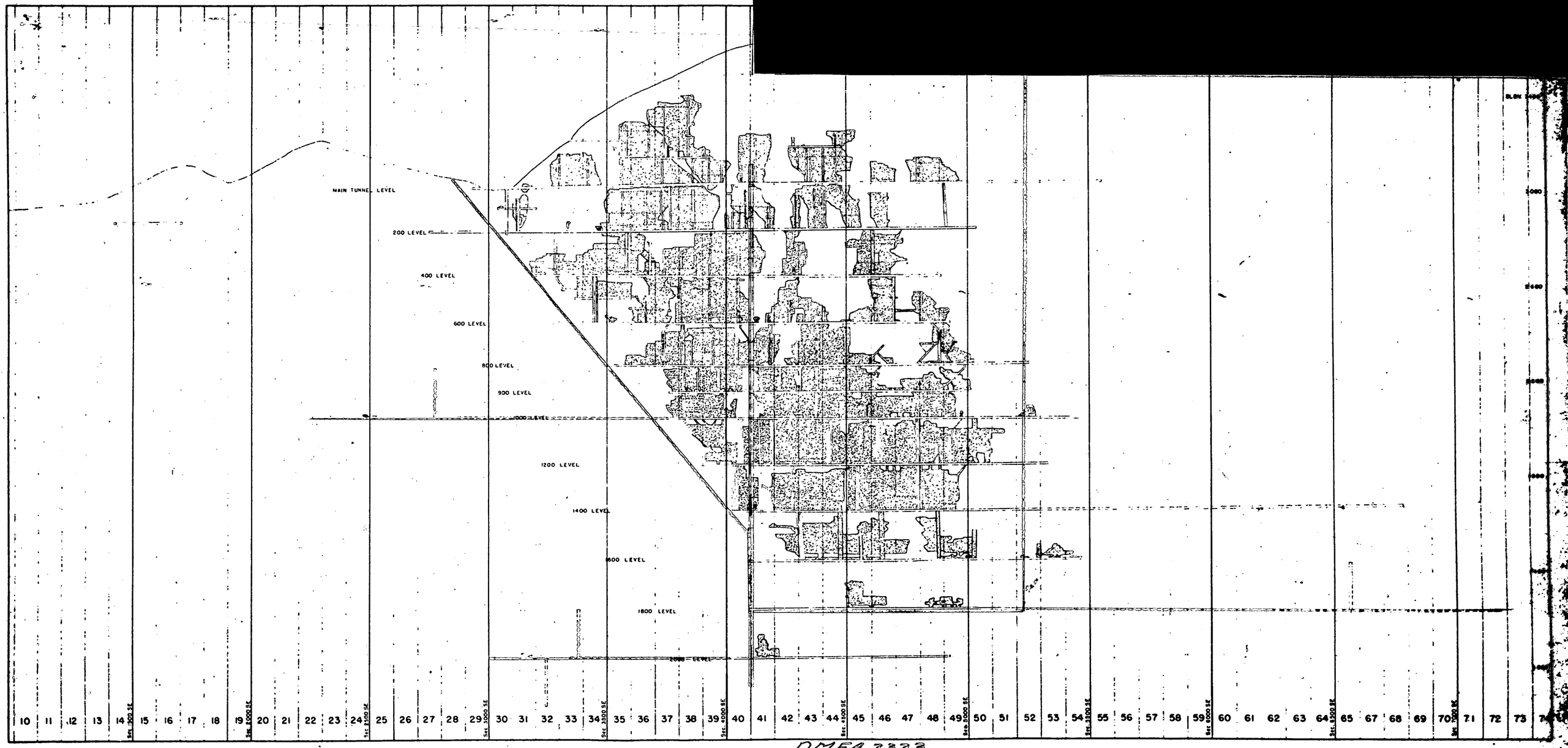

DMEA 3333

CONSTITUTION MINE - VERT. LONG. PROJ.

Looking E 66 C 1"=50'

Field Team copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3333

Commodity Lead-Zinc

Contract No. Idm-E - 730

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this 19th day of October, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Spokane-Idaho Mining Company, a corporation duly organized and existing under and by virtue of the laws of the State of Idaho, whose mailing address is 611 Payton Building Spokane 1, Washington, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and .....

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of Idaho, County of Shoshone, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the[4] owner of[5] entire interest in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a[6] ....., [7] recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: None

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: .....

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of lead-zinc. The work to be performed is described in Exhibit "A." The Operator on or before 90 days from date * shall commence the work, and on or before two years from date * (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work.

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $219,800.00. The Government will contribute 50 percent of the fixed unit costs as work is performed, in a total sum not in excess of $109,900.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

* The word "date" means the date of the contract.

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

(For instance: the royalty on an amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on an amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

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Executed in sextuplicate the day and year first above written.

SPOKANE-IDAHO MINING COMPANY

(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By O O Mitteudorf

Administrator, Defense Minerals Exploration Administration

I, ..., certify that I am the ..... secretary of the corporation named as Operator herein; that ..... who signed this contract on behalf of the Operator, was then ..... of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

NON-PRIVILEGED DOCUMENT

TO BE PHOTOCOPIED AND PRODUCED

DO NOT CODE

BATES NO. USGSP00000406

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DMSA-3333

ANNEX I

The land referred to in Article 2 of the contract consists of the claims which are shown on the attached map entitled "Spokane-Idaho-Douglas, Composite Claims and Mine Workings," and is further described as follows:

PATENTED CLAIMS

Claim	Survey No.
American Girl	2680
Constitution	2680
Defender	2680
Dakota	2680
Percy	2680
Fred	2680
Crescent	2767
Comet	2767
Minnie	2803
Nellie	2803
Bennington	3081
Trainer	3081
S. Constitution No. 1	3116
S. Constitution No. 2	3116
S. Constitution No. 4	3116
S. Constitution No. 5	3116
Chicago	3116
Spokane	3116
Thermite	3116
Dupont	3119
Dupont Fraction	3119

UNPATENTED CLAIMS

Recorded in the Office of the County Recorder of said Shoshone County:

Claim	Book	Page
Ruth	12	604
	16	313
	18	313
	20	463

Claim	Book	Page
Alvin	12	601
	16	276
Joe	12	602
Turner	14	665
Judge	16	33
Puett Peak	16	178
Eve	19	157
Hobo	19	158
Joker	19	158
McKinley (Kinley)	19	159
	19	516
Lucky Peak	19	160
Martha	20	540
Wade	31	56
August	20	539
	31	57
September	31	58
October	31	59
May	20	534
June	20	535
July	20	535
So. Constitution No. 3	14	446
	15	146
So. Constitution No. 6	16	525
St. Louis	16	428
Seattle	16	480
	19	309
Westchester	16	425
Toto	16	424
Portland	16	419
St. Paul	16	423

Excepting from said described claims ores not developed in the existing workings of the Constitution Mine,

which workings and ores are shown on the attached map entitled "Constitution Mine - Vert. Long. Proj.," as lying within the area enclosed by the blue lines shown on this map.

This excluded area is more particularly described as that area of the Constitution vein enclosed on the north by an inclined plane passing through the north face of the 800 level and the north face of the 1400 level, and which extends from the surface to its intersection with the shaft at a point 1,500 feet below the main haulage level, said plane dipping 50 degrees to the south; thence by a vertical plane in the north wall of the shaft from the point of its intersection with afore-mentioned inclined plane to the sill of the 1800 level; thence by a plane along the sill of the 1800 level to the south for a distance of 1,150 feet, to that point marked on attached vertical longitudinal section as representing the face of the 1800 level south drift on May 18, 1954; thence by a vertical plane to the surface.

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DMEA-3333

EXHIBIT "A"

Description of the Work

The work is partly delineated on the attached map entitled "Constitution Mine - Vert. Long. Proj."

The purpose of the work is to explore for lead-zinc ores and shall consist of the following:

1000 level -

Drift on the vein northwesterly for a total distance not to exceed 1500 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1000 feet.

1800 level -

Drift in the vein southeasterly for a total distance not to exceed 2000 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1200 feet.

2000 level -

Drift on the vein northwesterly for a total distance not to exceed 1000 feet.

Raise 150 feet at any favorable location which may be encountered.

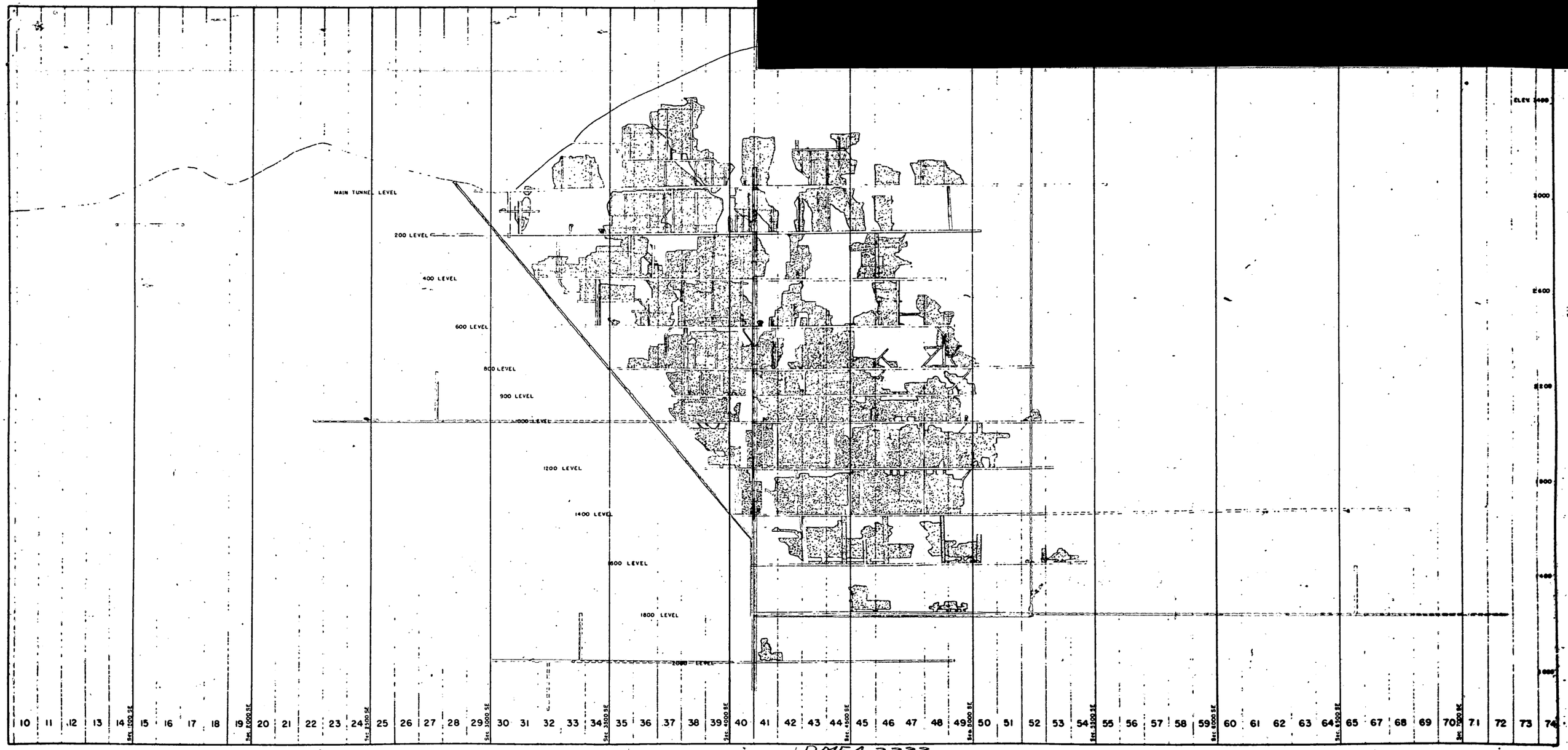
Diamond drill into the walls of the drifting for a total distance not to exceed 800 feet.

All drifts shall be roof-bolted and timbered as necessary, and shall be not less than 6 feet by 7½ feet in the clear of timber.

All raises shall be timbered as necessary and shall have minimum cross-sectional dimensions of 5 feet by 12 feet in rock section.

Fixed Unit Costs

4,500 feet of drifting @ $37.00/ft.	$166,500.00	
3,500 feet of roof bolting @ $4.00/ft.	14,000.00	
500 feet of standard drift sets, @ $6.00/ft.	3,000.00	
3,000 feet of diamond drilling, size AX, @ $4.00/ft.	12,000.00	
1,000 samples @ $1.80/ea.	1,800.00	
450 feet of raise @ $50.00/ft.	22,500.00	
Estimated Total Cost of Project		$219,800.00
Government's Participation @ 50%		$109,900.00



DMEA 3333

CONSTITUTION MINE - VERT. LONG. PROJ.

Looking N 25 E 1" = 200'

Docket copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3333

Commodity Lead-Zinc

Contract No. Idm-E - 730

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

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ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

(For instance: the royalty on an amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on an amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

SPOKANE-IDAHO MINING COMPANY

(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By C. Mitteendorf

Administrator, Defense Minerals Exploration Administration

Rotland Selfridge

Griswold

Chandler

Y. J. Russon

I, ..., certify that I am the ..... secretary of the corporation named as Operator herein; that ..... who signed this contract on behalf of the Operator, was then ..... of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

NON-PRIVILEGED DOCUMENT

TO BE PHOTOCOPIED AND PRODUCED

DO NOT CODE

BATES NO. USGSA00000406

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DNRA-3333

ANNEX I

The land referred to in Article 2 of the contract consists of the claims which are shown on the attached map entitled "Spokane-Idaho-Douglas, Composite Claims and Mine Workings," and is further described as follows:

PATENTED CLAIMS

Claim	Survey No.
American Girl	2620
Constitution	2620
Defender	2620
Dakota	2620
Percy	2620
Fred	2620
Crescent	2767
Comet	2767
Minnie	2003
Nellie	2003
Bennington	3023
Trainer	3023
S. Constitution No. 1	3116
S. Constitution No. 2	3116
S. Constitution No. 4	3116
S. Constitution No. 5	3116
Chicago	3116
Spokane	3116
Thumite	3116
Dupont	3119
Dupont Fraction	3119

UNPATENTED CLAIMS

Recorded in the Office of the County Recorder of said Shoshone County:

Claim	Book	Page
Ruth	12	604
	16	513
	18	513
	20	463

Claim	Book	Page
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	16	276
Joe	12	602
Turner	14	685
Judge	16	33
Puett Peak	16	178
Eve	19	157
Hobo	19	158
Joker	19	158
McKinley (Kinley)	19	159
	19	316
Lucky Peak	19	160
Martha	20	540
Wade	31	56
August	20	539
	31	57
September	31	58
October	31	59
May	20	184
June	20	185
July	20	186
So. Constitution No. 3	14	446
	15	146
So. Constitution No. 6	16	385
St. Louis	16	488
Seattle	16	480
	19	389
Westchester	16	485
Toto	16	484
Portland	16	419
St. Paul	16	483

Excepting from said described claims even now developed in the existing workings of the Constitution Mine,

which workings and ores are shown on the attached map entitled "Constitution Mine - Vert. Long. Proj.," as lying within the area enclosed by the blue lines shown on this map.

This excluded area is more particularly described as that area of the Constitution vein enclosed on the north by an inclined plane passing through the north face of the 800 level and the north face of the 1800 level, and which extends from the surface to its intersection with the shaft at a point 1,500 feet below the main haulage level, said plane dipping 50 degrees to the south; thence by a vertical plane in the north wall of the shaft from the point of its intersection with afore-mentioned inclined plane to the sill of the 1800 level; thence by a plane along the sill of the 1800 level to the south for a distance of 1,150 feet, to that point marked on attached vertical longitudinal section as representing the face of the 1800 level south drift on May 18, 1954; thence by a vertical plane to the surface.

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DMEA-3333

EXHIBIT "A"

Description of the Work

The work is partly delineated on the attached map entitled "Constitution Mine - Vert. Long. Proj."

The purpose of the work is to explore for lead-zinc ores and shall consist of the following:

1000 level -

Drift on the vein northwesterly for a total distance not to exceed 1500 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1000 feet.

1800 level -

Drift in the vein southeasterly for a total distance not to exceed 2000 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1200 feet.

2000 level -

Drift on the vein northwesterly for a total distance not to exceed 1000 feet.

Raise 150 feet at any favorable location which may be encountered.

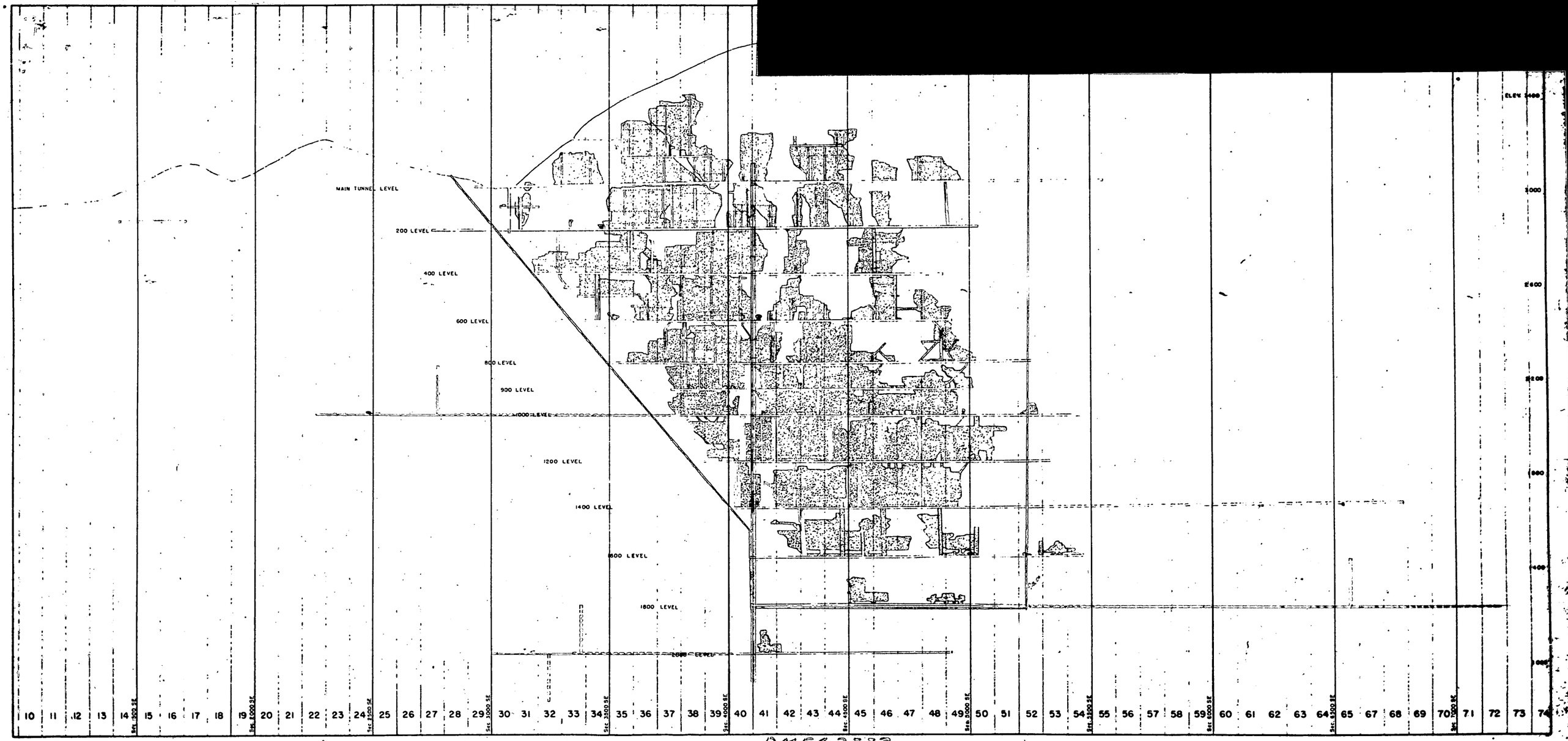
Diamond drill into the walls of the drifting for a total distance not to exceed 800 feet.

All drifts shall be roof-bolted and timbered as necessary, and shall be not less than 6 feet by 7½ feet in the clear of timber.

All raises shall be timbered as necessary and shall have minimum cross-sectional dimensions of 5 feet by 12 feet in rock section.

Fixed Unit Costs

4,500 feet of drifting @ $37.00/ft.	$166,500.00
3,500 feet of roof bolting @ $4.00/ft.	14,000.00
500 feet of standard drift sets, @ $6.00/ft.	3,000.00
3,000 feet of diamond drilling, size AX, @ $4.00/ft.	12,000.00
1,000 samples @ $1.80/ea.	1,800.00
450 feet of raise @ $50.00/ft.	22,500.00
Estimated Total Cost of Project	$219,800.00
Government's Participation @ 50%	$109,900.00



DMEA 3333

CONSTITUTION MINE - VERT. LONG. PROJ.

Looking N 85 E 1" = 200'

Division copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3333

Commodity Lead-Zinc

Contract No. Idm-E - 730

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this 19th day of October, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Spokane-Idaho Mining Company, a corporation duly organized and existing under and by virtue of the laws of the State of Idaho, whose mailing address is 611 Paxton Building Spokane 1, Washington, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and .....

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of Idaho, County of Shoshone, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] owner of [5] entire interest in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] ....., [7] ....recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: None

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: .....

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of lead-zinc. The work to be performed is described in Exhibit "A." The Operator on or before 90 days from date * shall commence the work, and on or before two years from date * (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work.

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $219,800.00. The Government will contribute 50 percent of the fixed unit costs as work is performed, in a total sum not in excess of $109,900.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

* The word "date" means the date of the contract.

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

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(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

(For instance: the royalty on an amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on an amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

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ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

SPOKANE-IDAHO MINING COMPANY

(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By C. J. Mitteedorf

Administrator, Interior Minerals Exploration Administration

Hoffund

Lewis Selfridge

Charles

I, ..., certify that I am the ..... secretary of the corporation named as Operator herein; that ..... who signed this contract on behalf of the Operator, was then ..... of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

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DO NOT CODE

BATES NO. USGSP00000406

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. BMA-3333

ANNEX I

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Mellie	2803
Remington	2803
Trainer	2803
S. Constitution No. 1	3116
S. Constitution No. 2	3116
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	16	513
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	13	276
Joe	12	602
Turner	14	615
Judge	16	33
Pueblo Peak	16	172
Eve	19	157
Hobo	19	158
Joker	19	159
McKinley (Kinley)	19	156
	19	513
Lonely Peak	19	160
Martha	20	340
Wade	31	56
August	20	539
	31	57
September	31	58
October	31	59
May	20	364
June	20	365
July	20	366
So. Constitution No. 3	14	446
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So. Constitution No. 6	16	385
St. Louis	16	482
Seattle	16	480
	19	389
Westchester	16	485
Tate	16	484
Portland	16	419
St. Paul	16	423

Excepting from said described claims area not developed in the existing workings of the Constitution Mine,

which workings and ores are shown on the attached map entitled "Constitution Mine - West. Long. Proj.," as lying within the area enclosed by the blue lines shown on this map.

This excluded area is more particularly described as that area of the Constitution vein enclosed on the north by an inclined plane passing through the north face of the 800 level and the north face of the 1400 level, and which extends from the surface to its intersection with the shaft at a point 1,500 feet below the main haulage level, said plane dipping 50 degrees to the south; thence by a vertical plane in the north wall of the shaft from the point of its intersection with afore-mentioned inclined plane to the sill of the 1800 level; thence by a plane along the sill of the 1800 level to the south for a distance of 1,150 feet, to that point marked on attached vertical longitudinal section as representing the face of the 1800 level south drift on May 18, 1954; thence by a vertical plane to the surface.

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DMEA-3333

EXHIBIT "A"

Description of the Work

The work is partly delineated on the attached map entitled "Constitution Mine - Vert. Long. Proj."

The purpose of the work is to explore for lead-zinc ores and shall consist of the following:

1000 level -

Drift on the vein northwesterly for a total distance not to exceed 1500 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1000 feet.

1800 level -

Drift in the vein southeasterly for a total distance not to exceed 2000 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1800 feet.

2000 level -

Drift on the vein northwesterly for a total distance not to exceed 1000 feet.

Raise 150 feet at any favorable location which may be encountered.

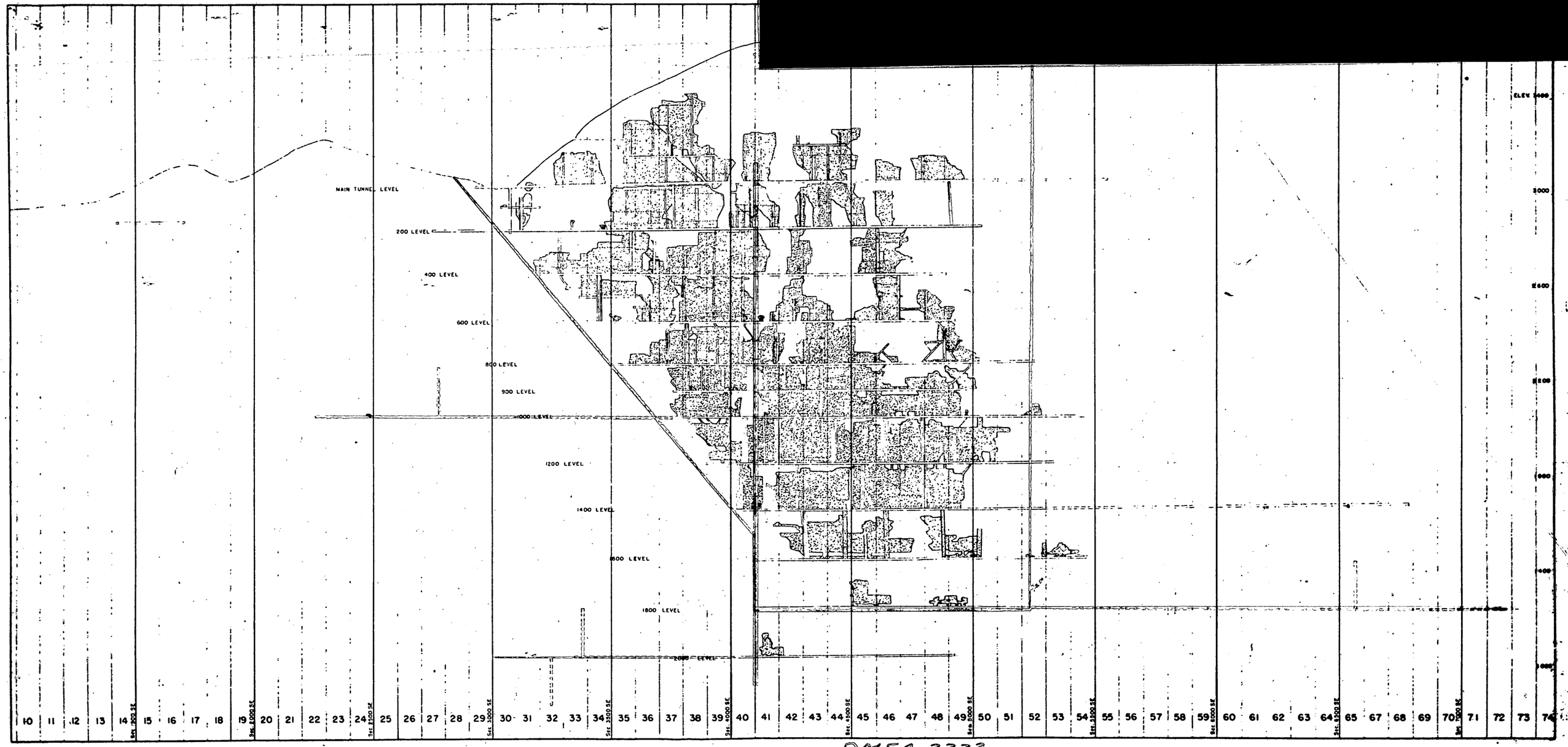
Diamond drill into the walls of the drifting for a total distance not to exceed 800 feet.

All drifts shall be roof-bolted and timbered as necessary, and shall be not less than 6 feet by 7½ feet in the clear of timber.

All raises shall be timbered as necessary and shall have minimum cross-sectional dimensions of 5 feet by 12 feet in rock section.

Fixed Unit Costs

4,500 feet of drifting @ $37.00/ft.	$166,500.00	
3,500 feet of roof bolting @ $4.00/ft.	14,000.00	
500 feet of standard drift sets, @ $6.00/ft.	3,000.00	
3,000 feet of diamond drilling, size AX, @ $4.00/ft.	12,000.00	
1,000 samples @ $1.80/ea.	1,800.00	
450 feet of raise @ $50.00/ft.	22,500.00	
Estimated Total Cost of Project		$219,800.00
Government's Participation @ 50%		$109,900.00



DMEA 3333

CONSTITUTION MINE - VERT. LONG. PROJ.

Looking N 55 E 1" = 200'

Operator's copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3333

Commodity Lead-Zinc

Contract No. Idm-E - 730

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this 19th day of October, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Spokane-Idaho Mining Company, a corporation duly organized and existing under and by virtue of the laws of the State of Idaho, whose mailing address is 611 Payton Building Spokane 1, Washington, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and .....

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of Idaho, County of Shoshone, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] owner of [5] entire interest in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] ....., [7] ....recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: None

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: .....

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of lead-zinc. The work to be performed is described in Exhibit "A." The Operator on or before 90 days from date * shall commence the work, and on or before two years from date * (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work.

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $219,800.00. The Government will contribute 50 percent of the fixed unit costs as work is performed, in a total sum not in excess of $109,900.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

* The word "date" means the date of the contract.

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

(For instance: the royalty on an amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on an amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

SPOKANE-IDAHO MINING COMPANY
(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By O. Mittendorf
Administrator, Defense Minerals
Exploration Administration

I, ..., certify that I am the ..... secretary of the corporation named as Operator herein; that ..... who signed this contract on behalf of the Operator, was then ..... of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

NON-PRIVILEGED DOCUMENT

TO BE PHOTOCOPIED AND PRODUCED

DO NOT CODE

BATES NO. USGSP00000406

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DMRA-3333

ANNEX I

The land referred to in Article 2 of the contract consists of the claims which are shown on the attached map entitled "Spokane-Idaho-Douglas, Composite Claims and Mine Workings," and is further described as follows:

PATENTED CLAIMS

Claim	Survey No.
American Girl	2620
Constitution	2620
Defender	2620
Dakota	2620
Percy	2620
Fred	2620
Crescent	2767
Comet	2767
Minnie	2803
Nellie	2803
Bennington	3023
Trainer	3023
S. Constitution No. 1	3116
S. Constitution No. 2	3116
S. Constitution No. 4	3116
S. Constitution No. 5	3116
Chicago	3116
Spokane	3116
Thwaite	3116
Dupont	3119
Dupont Fraction	3119

UNPATENTED CLAIMS

Recorded in the Office of the County Recorder of said Shoshone County:

Claim	Book	Page
Ruth	12	604
	16	513
	18	513
	20	463

which workings and ores are shown on the attached map entitled "Constitution Mine - Vert. Long. Proj.," as lying within the area enclosed by the blue lines shown on this map.

This excluded area is more particularly described as that area of the Constitution vein enclosed on the north by an inclined plane passing through the north face of the 800 level and the north face of the 1400 level, and which extends from the surface to its intersection with the shaft at a point 1,500 feet below the main haulage level, said plane dipping 50 degrees to the south; thence by a vertical plane in the north wall of the shaft from the point of its intersection with afore-mentioned inclined plane to the sill of the 1800 level; thence by a plane along the sill of the 1800 level to the south for a distance of 1,150 feet, to that point marked on attached vertical longitudinal section as representing the face of the 1800 level south drift on May 18, 1954; thence by a vertical plane to the surface.

Claim	Book	Page
Alvin	12	601
	36	276
Joe	12	602
Turner	14	645
Judge	16	33
Puett Peak	16	172
Eve	19	157
Hobo	19	158
Joker	19	158
McKinley (Kinley)	19	159
	19	516
Lucky Peak	19	160
Martha	20	540
Wade	31	56
August	20	539
	31	57
September	31	58
October	31	59
May	20	524
June	20	525
July	20	526
So. Constitution No. 3	14	446
	15	146
So. Constitution No. 6	16	525
St. Louis	16	422
Seattle	16	420
	19	389
Westchester	16	425
Toto	16	424
Portland	16	419
St. Paul	16	423

Excepting from said described claims ores not developed in the existing workings of the Constitution Mine,

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DMRA-3333

EXHIBIT "A"

Description of the Work

The work is partly delineated on the attached map entitled "Constitution Mine - Vert. Long. Proj."

The purpose of the work is to explore for lead-zinc ores and shall consist of the following:

1000 level -

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Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1000 feet.

1800 level -

Drift in the vein southeasterly for a total distance not to exceed 2000 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1200 feet.

2000 level -

Drift on the vein northwesterly for a total distance not to exceed 1000 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 800 feet.

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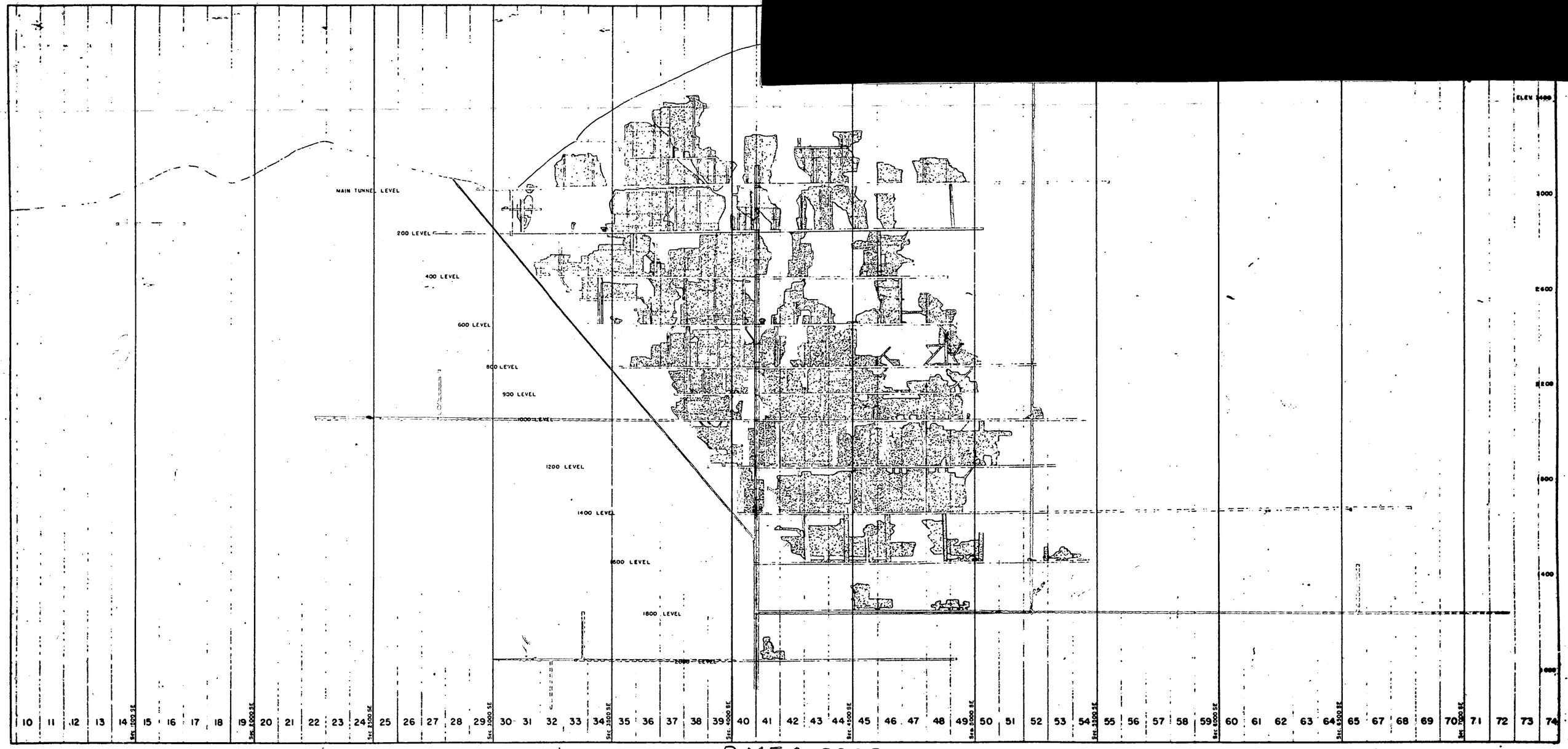
Government's Participation @ 50%		$109,900.00



DMEA-3333

CONSTITUTION MINE - VERT. LONG. PROJ.

Extra copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3333

Commodity Lead-Zinc

Contract No. Idm-E - 730

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this 19th day of October, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Spokane-Idaho Mining Company, a corporation duly organized and existing under and by virtue of the laws of the State of Idaho, whose mailing address is 611 Peyton Building, Spokane 1, Washington, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and .....

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

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(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: None

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: .....

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[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

16—70618-1

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

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(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $219,800.00. The Government will contribute 50 percent of the fixed unit costs as work is performed, in a total sum not in excess of $109,900.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

* The word "date" means the date of the contract.

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

(For instance: the royalty on an amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on an amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

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.....

.....

.....

Executed in sextuplicate the day and year first above written.

SPOKANE-IDAHO MINING COMPANY
(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By C. O. Mittendorf
Administrator, Defense Minerals Exploration Administration

I, ..., certify that I am the ..... secretary of the corporation named as Operator herein; that ..... who signed this contract on behalf of the Operator, was then ..... of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

NON-PRIVILEGED DOCUMENT

TO BE PHOTOCOPIED AND PRODUCED

DO NOT CODE

BATES NO. USGSP00000406

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. IMBA-3333

ANNEX I

The land referred to in Article 2 of the contract consists of the claims which are shown on the attached map entitled "Spokane-Idaho-Douglas, Composite Claims and Mine Workings," and is further described as follows:

PATENTED CLAIMS

Claim	Survey No.
American Girl	2620
Constitution	2620
Defender	2620
Dalnta	2620
Perry	2620
Fred	2620
Crescent	2767
Comet	2767
Minnie	2803
Nellie	2803
Bennington	3083
Trainer	3083
S. Constitution No. 1	3116
S. Constitution No. 2	3116
S. Constitution No. 4	3116
S. Constitution No. 5	3116
Chicago	3116
Spokane	3116
Tremaine	3116
Dupont	3119
Dupont Fraction	3119

Withhold this page and all following pages

UNPATENTED CLAIMS

Recorded in the Office of the County Recorder of said Shoshone County:

Claim	Book	Page
Ruth	12	604
	16	513
	18	513
	20	463

Claim	Book	Page
Alvin	12	601
	13	278
Joe	12	602
Turner	14	615
Judge	14	1[illegible]
Point Peak	15	1[illegible]
Eve	19	157
Babe	19	1[illegible]
Jokar	19	1[illegible]
McKinley (Kinley)	19	1[illegible]
	19	316
Lucky Peak	19	160
Martha	20	540
Wade	21	36
August	20	539
	21	37
September	21	38
October	21	39
May	20	[illegible]
June	20	[illegible]
July	20	[illegible]
So. Constitution No. 3	14	446
	15	146
So. Constitution No. 6	16	[illegible]
St. Louis	16	[illegible]
Seattle	16	480
	19	189
Westchester	16	485
Tote	16	484
Portland	16	419
St. Paul	16	423

Excepting from said described claims area now developed in the existing workings of the Constitution Mine.

which workings and area are shown on the attached map entitled "Constitution Mine - Vert. Long. Proj.," as lying within the area enclosed by the blue lines shown on this map.

This excluded area is more particularly described as that area of the Constitution vein enclosed on the north by an inclined plane passing through the north face of the 800 level and the north face of the 1400 level, and which extends from the surface to its intersection with the shaft at a point 1,500 feet below the main haulage level, said plane dipping 50 degrees to the south; thence by a vertical plane in the north wall of the shaft from the point of its intersection with afore-mentioned inclined plane to the sill of the 1800 level; thence by a plane along the sill of the 1800 level to the south for a distance of 1,150 feet, to that point marked on attached vertical longitudinal section as representing the face of the 1800 level south drift on May 18, 1954; thence by a vertical plane to the surface.

EXPLORATION PROJECT CONTRACT
SPOKANE-IDAHO MINING COMPANY
DOCKET NO. DMRA-3333

EXHIBIT "A"

Description of the Work

The work is partly delineated on the attached map entitled "Constitution Mine - Vert. Long. Proj."

The purpose of the work is to explore for lead-zinc ores and shall consist of the following:

1800 level -

Drift on the vein northeasterly for a total distance not to exceed 1500 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1000 feet.

1800 level -

Drift in the vein southeasterly for a total distance not to exceed 2000 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 1200 feet.

2000 level -

Drift on the vein northeasterly for a total distance not to exceed 1000 feet.

Raise 150 feet at any favorable location which may be encountered.

Diamond drill into the walls of the drifting for a total distance not to exceed 800 feet.

C O P Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
So. 157 Howard Street
Spokane 4, Washington

March 4, 1955

Air Mail

Mr. Thor H. Kiilsgaard
Staff Assistant for DMEA
Mineral Deposits Branch
U. S. Geological Survey
Washington 25, D. C.

Dear Thor:

Recently Al mentioned that you had inquired about the status of geologic mapping on the 2000 level of the Constitution mine (Docket No. DMEA-3333). A geologic map of the 2000 level was submitted with my original memorandum recommending approval of a loan. If that map is not in your files, I'll be happy to furnish another copy. To the best of my knowledge, no additional work has been done since the date of that map, but I'll check the next time I'm in the district. If necessary, I'll post another copy up to date and send it to you.

I hope all is well with you and your family. We are anticipating a summer in Spokane, as my field work in western Montana is complete. I'm now busily compiling and writing in an attempt to have a manuscript to submit as a bulletin this spring.

Sincerely,

/s/ Art

Arthur B. Campbell

To Bill Benwold

Attached letter

Thor Kiilsgaard

C O P Y

500

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

December 8, 1954

Memorandum

To: Operations Control & Statistics Division

From: Chief, Base Metals Division

Subject: Withdrawal of application Docket No. DMEA-3333, Spokane-Idaho Mining Company, Old Constitution Mine

We have been advised by the cited Applicant that it is not in a position at this time to sign the contract and proceed with the work under the project. Will you, therefore, consider this application as having been withdrawn.

W. R. Griswold

W. R. Griswold

All drifts shall be roof-bolted and timbered as necessary, and shall be not less than 6 feet by 7½ feet in the clear of timber.

All raises shall be timbered as necessary and shall have minimum cross-sectional dimensions of 5 feet by 12 feet in rock section.

Fixed Unit Costs

4,500 feet of drifting @ $37.00/ft.	$166,500.00	
3,500 feet of roof bolting @ $4.00/ft.	14,000.00	
500 feet of standard drift sets, @ $6.00/ft.	3,000.00	
3,000 feet of diamond drilling, size AX, @ $4.00/ft.	12,000.00	
1,000 samples @ $1.00/sm.	1,000.00	
450 feet of raise @ $50.00/ft.	22,500.00	
Estimated Total Cost of Project		$219,000.00
Government's Participation @ 50%		$109,000.00

File Copy
Surname

500

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

DEC - 8 1954

Mr. Frank N. Marr, President
Spokane-Idaho Mining Company
611 Peyton Building
Spokane, Washington

Re: Docket No. DMEA-3333 (Lead-Zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Marr:

I have your letter of November 9, and regret to note that, as of the moment, it is not convenient for your company to undertake the cited project.

With regard to your request that the signing of the contract be delayed and the contract be held in abeyance, this would create a difficult situation, in that Government funds would then have to remain committed and dormant. Therefore, we shall have to consider your application as having been withdrawn at this time. Nevertheless, it could be reactivated by your company as soon as you are in a position to undertake the project. In such an event, there should be little delay in arriving at a basis for a new contract since all necessary preliminary work has already been done.

Sincerely yours,

C. O. Mittendorf

Administrator

WRGriswold/bjl (12/8/54)

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Bishop
Mr. Kiilsgaard
Region II (2)
Chron.

BUSINESS OFFICE: 611 PEYTON BUILDING
SPOKANE, WASHINGTON

MINE: BOX 930
KELLOGG, IDAHO

SPOKANE-IDAHO MINING CO.

611 PEYTON BUILDING
SPOKANE, WASHINGTON

November 9,1954

Mr. A. E. Weissenborn,
Executive Officer
Defense Minerals Administration
Region 2
S 157 Howard St.
Spokane Washington

Dear Mr. Weissenborn:

This will acknowledge receipt of information to the effect that the contract has been received in your office as a result of our application for exploration aid under D. M. E. A.

It is my hope that the signing of the above referred to contract by Spokane-Idaho Mining Company can be delayed, and the contract held in abeyance for the reason that since our application has been filed, and in fact only recently, our company has lost the services, both of our mine manager, Mr. Prower Dellinger, and just previous to that the services of our then chief engineer, Mr. John Wilson. As both of these men were key men within our organization, it will be necessary to revamp our whole setup around some new personal, and it would seem good business to me not to enter into new commitments, especially of the scope of this contract until our reorganization is settled and definite.

We hope you will understand our position in this matter, and find it possible to go along with us on this type of a program, as we do not care to turn down this contract definitely at this time, neither do we regard it as good business to sign it until the above contingency has been met.

Yours very truly

SPOKANE-IDAHO MINING CO.

Frank N. Marr, President

FNM:rd

RECEIVED

BUSINESS OFFICE: 611 PEYTON BUILDING
SPOKANE, WASHINGTON

MINE: BOX 930
KELLOGG, IDAHO

SPOKANE-IDAHO MINING CO.

611 PEYTON BUILDING
SPOKANE, WASHINGTON

November 9,1954

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Executive Officer
Defense Minerals Administration
Region 2
S 157 Howard St.
Spokane Washington

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Yours very truly

SPOKANE-IDAHO MINING CO.

Frank N. Marr

Frank N. Marr, President

FNM:rd

RECEIVED

File Copy
Surname
Griswold
Chandler
Selfridge
J H Johnson

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

500

OCT 19 1954

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

Re: Docket No. DMEA-3333 (Lead-Zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Weissenborn:

We are enclosing the original and five copies of a contract covering the cited project. If it meets with your approval will you kindly present all copies to the Applicant for signature and distribute the copies in the usual manner. Otherwise, all copies should be returned to this office with your recommendations.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JHB)

WRGriswold/er 10/12/54

Enclosures 6

APPROVED:

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

Thor H. Kiilsgaard (JHB)
Member, Geological Survey

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

R.C.S.

File Copy
Surname

500

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

Docket

MS in RR

September 13, 1954

Memorandum

To: Acting Assistant Solicitor, Defense Minerals

From: Chief, Base Metals Division

Subject: Preparation of contract for Docket No. DMFA-3333, Spokane-Idaho Mining Company

Will you kindly prepare a short form contract along the lines as suggested in the attached rough draft.

W. R. Griswold
W. R. Griswold

Attachment

WRGriswold/bjl

Copy to: Docket
Base Metals
Chron.

File Copy
Surname
Griswold
Martin
Jefferson
Weissenborn

500

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

AUG 1 2 1954

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

Re: Docket No. DMEA-3333 (Lead-Zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Weissenborn:

We have the Field Team's letter of August 10, covering the cited application, enclosing the memorandum of Mr. Arthur B. Campbell, dated August 9, 1954. We have also received the comprehensive memorandum dated August 3, 1954, prepared by S. Warren Hobbs and Verne C. Fryklund, Jr., covering exploration of the Pine Creek area.

With this material, we are now in a far better position to attempt an appraisal of this and other pending applications of this area, and immediately upon receipt of the cost memorandum, which you state is being prepared by Mr. S. W. Zoldok, we shall be able to take action.

We refer to your statement, "by putting some confidence in the Field Team and its field men". Perhaps we should explain that, in all contracts, the Administrator must assume full and complete responsibility for all actions taken. Furthermore, he must be prepared at all times to explain and to justify such actions, to whatever qualified authority as may see fit to interrogate him. Consequently, it is necessary that every docket be all inclusive, with full detailed justifications for all actions which are taken, so as to be able to bear up even under the most critical scrutiny.

Please believe that we have no desire to imply lack of confidence in the field; very much to the contrary, we have been highly impressed by the presentation of Hobbs and Fryklund. With the inclusion of this memorandum, the docket is now in a much stronger position.

Sincerely yours,
W. S. Martin
ACTING Chairman, Operating Committee (246)

WRGriswold/bjl (8/16/54
Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Gildersleeve
Mr. Bishop
Chron.

APPROVED:

J. H. Hedges
Member, Bureau of Mines (246)

D. M. Larrabee
Member, Geological Survey (246)

Freewald
Betty

C

O

P

Y

TELETYPE

WA SP 140 I-GS-G

SPOKANE WN 8-6-54 1230P

Dockets

GEO C SELFRIDGE CHAIRMAN OPERATING COMMITTEE

DMEA DEPT OF INTERIOR

WA

DOCKET DMEA-3406 HECLA-SILVER MOUNTAIN PROJECT RECOMMENDATIONS, GEOLOGIC APPRAISAL AND COST ANALYSIS BEING MAILED TODAY. FIELD TEAM RECOMMENDATIONS ON DOCKET DMEA-3333, SPOKANE-IDAHO MINING CO, AND DOCKET DMEA-3341, HIGHLAND-SURPRISE, SHOULD BE MAILED AUG.9(. RE DOCKET DMEA -3324, SIDNEY MINING CO, INFORMATION REQUESTED IN YOUR LETTER MAY 10 SENT YOU IN OUR LETTER OF JUNE4.

A E WEISSENBORN EXEC OFCR DMEA

FIELD TEAM REGION 2 SP

DMEA-342 DMEA 3333 DMEA-3341 9 DNEA-3224 4

MD 1235P

File Copy
Surname
Griswold

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

AUG 5 1954

T E L E T Y P E

WRGriswold/bjl, Rm. 4058, Ext. 3669

Base Metals, DMEA, Interior

14X8401(01) Revolving Fund, Defense Production Act, Interior (allocate Working Fund to the Office of the Secy.)

Date:

To: A. W. Weissenborn, Executive Officer, DMEA Field Team, Region II, ~~Seattle~~ Spokane, Wash.

Reurlet May 6, Docket DMEA-3341, Highland Surprise Consolidated Mining Mining Co. We have not yet received Field Team recommendations. Likewise on applications of Spokane-Idaho Mining Co., Old Constitution Mine, Docket DMEA-3333 and Sidney Mining Co., Sidney Mine, Docket DMEA-3324, we are awaiting additional information. Also, application of Hecla Mining Co., Docket DMEA-3406, Hecla-Silver Mountain project, is being held pending for field recommendations. Please Advise status at your earliest convenience.

George C. Selfridge
Chairman, Operating Committee

(written 8/5/54)

Copy to: Docket (4)
Admr. R. File
Op. Committee
Base Metals (4)
Mr. Gildersleeve
Mr. Bishop
Chron.

RG.

500

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

June 21, 1954

Memorandum for the Files

From: Chief, Base Metals Division

Subject: Docket No. DMEA-3324, Sidney Mining Company, Sidney Mine, Shoshone County, Idaho (Lead-Zinc)

Docket No. DMEA-3333, Spokane-Idaho Mining Company, Old Constitution Mine, Shoshone County, Idaho (Lead-Zinc)

In a phone conversation with Mr. Kiilsgaard of Region II, we explained to him that, as presently set up, the above applications involve heavy exploratory expenditures for projected work. Since these two properties have at no time constituted large mine operations, it might perhaps be held that we were undertaking exploratory work on too heavy a scale.

It was Mr. Kiilsgaard's contention, with which we are in full accord, that the future of the entire Pine Creek area will be vitally affected by such DMEA projects, and that, within reason, we should try to give assistance to the Operators in their efforts to maintain this district in operation.

It was suggested to Mr. Kiilsgaard that, in view of the magnitude of the applications, he forward us any additional corroborative material which he may have available.

W. R. Griswold

W. R. Griswold

Copy to: Docket (2)
Base Metals
Chron.

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

May 4, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region II

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 II.

DMEA - 3333 Spokane-Idaho Mining Co.

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

May 4, 1954

Spokane-Idaho Mining Co.
Box 930
Kellog, Idaho

Subject: DMEA-3333
Re: Exploration Assistance
Constitution Mine

Gentlemen:

The receipt of your application dated April 23, 1954 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3333 and referred to the Base Metals Division.

Kindly refer to DMEA-3333 in any future correspondence relating to your application.

Sincerely yours,

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 3 - 1954

April 29, 1954

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

Re: Application for DMEA Contract (Lead-Zinc)
Spokane-Idaho Mining Company
Old Constitution Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

Enclosed are the original and 2 copies of an application submitted by the Spokane-Idaho Mining Company. One copy of the application has been retained for the files of this office. The applicant has proposed an extensive exploration program to further explore the Old Constitution mine. The program appears to have geologic merit and to have reasonable possibilities of success.

Our field men are currently preparing a report on the geology of the proposed operation, as well as an analysis of the exploration costs. This will be forwarded to your office as soon as possible. In the meantime we would appreciate any comments the Operating Committee might care to make as to those particular points they believe should be stressed in our report.

Sincerely yours,

Thor H. Kiilsgaard

Thor H. Kiilsgaard
Acting Member, DMEA
Field Team, Region II

Enclosure
cc: USBM (2)
Geologist

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

DEPARTMENT OF THE INTERIOR
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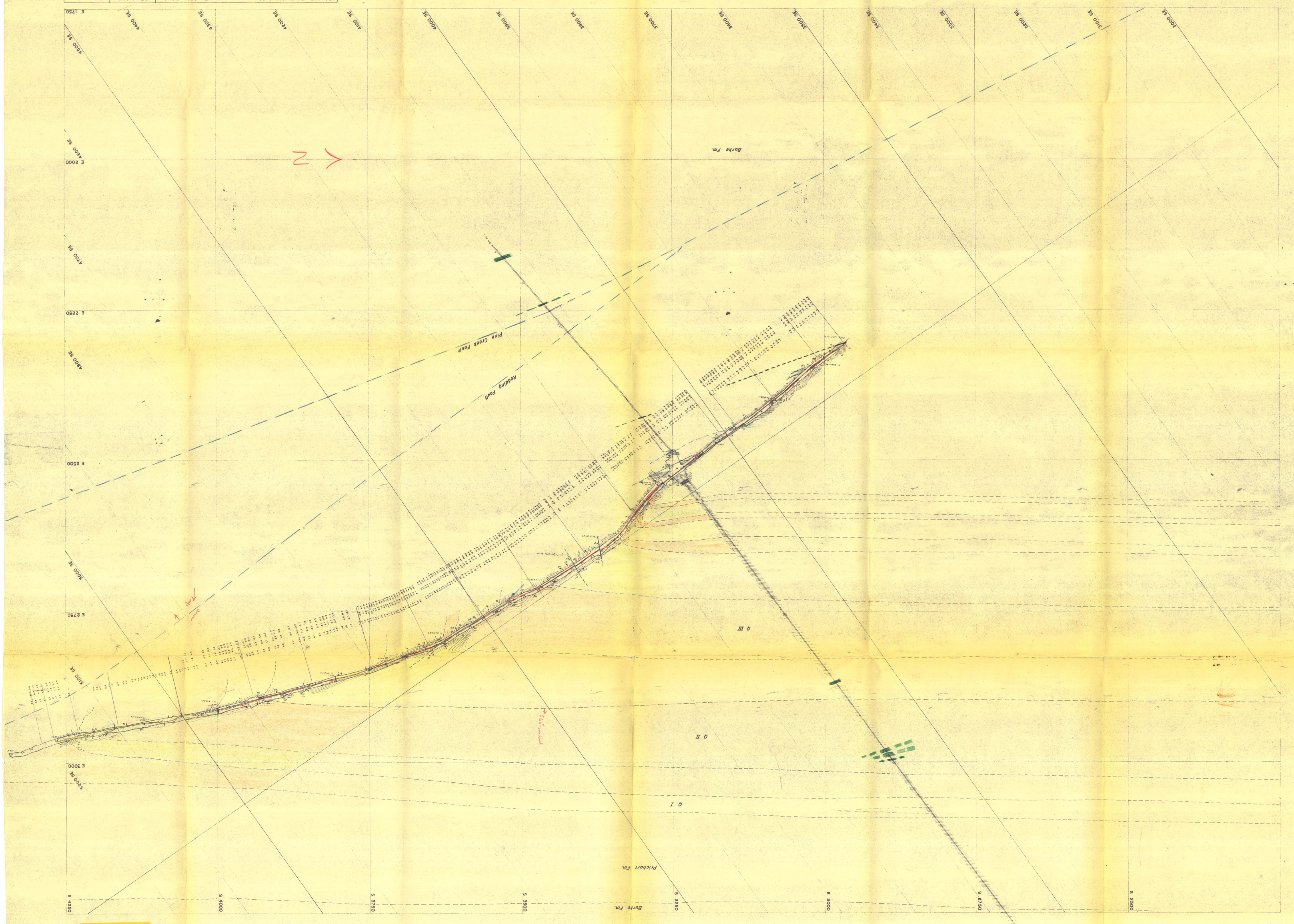
Acting Member, DMEA
Field Team, Region II

Enclosure
cc: USBM (2)
Geologist



SPOKANE-IDAHO MINING CO — KELLOGG, IDAHO — REVISIONS

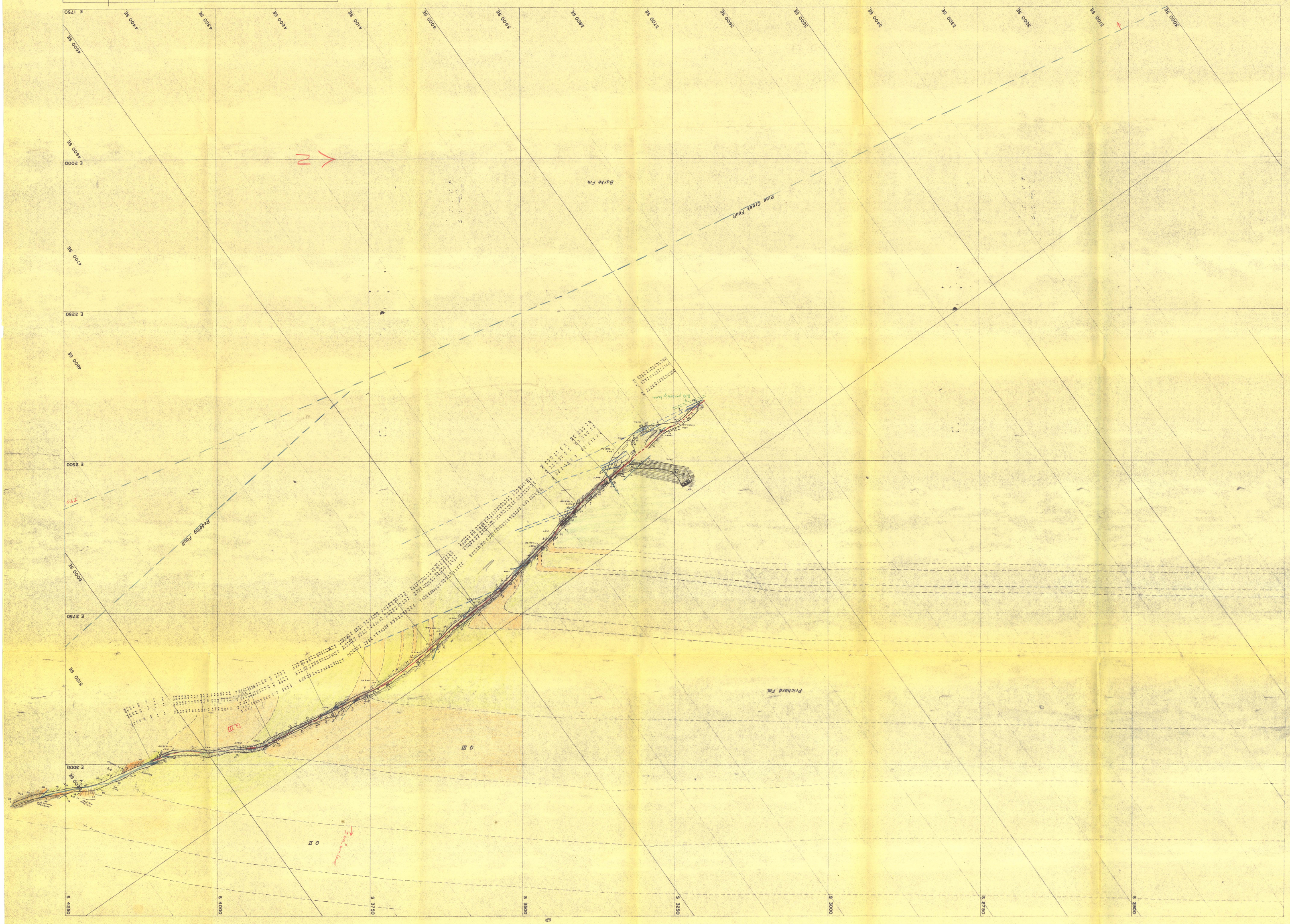
SCALE 1" = 50' | CO-ORD CONSTITUTION | DATUM U.S.G.S.

CONSTITUTION MINE-1000 LEVEL

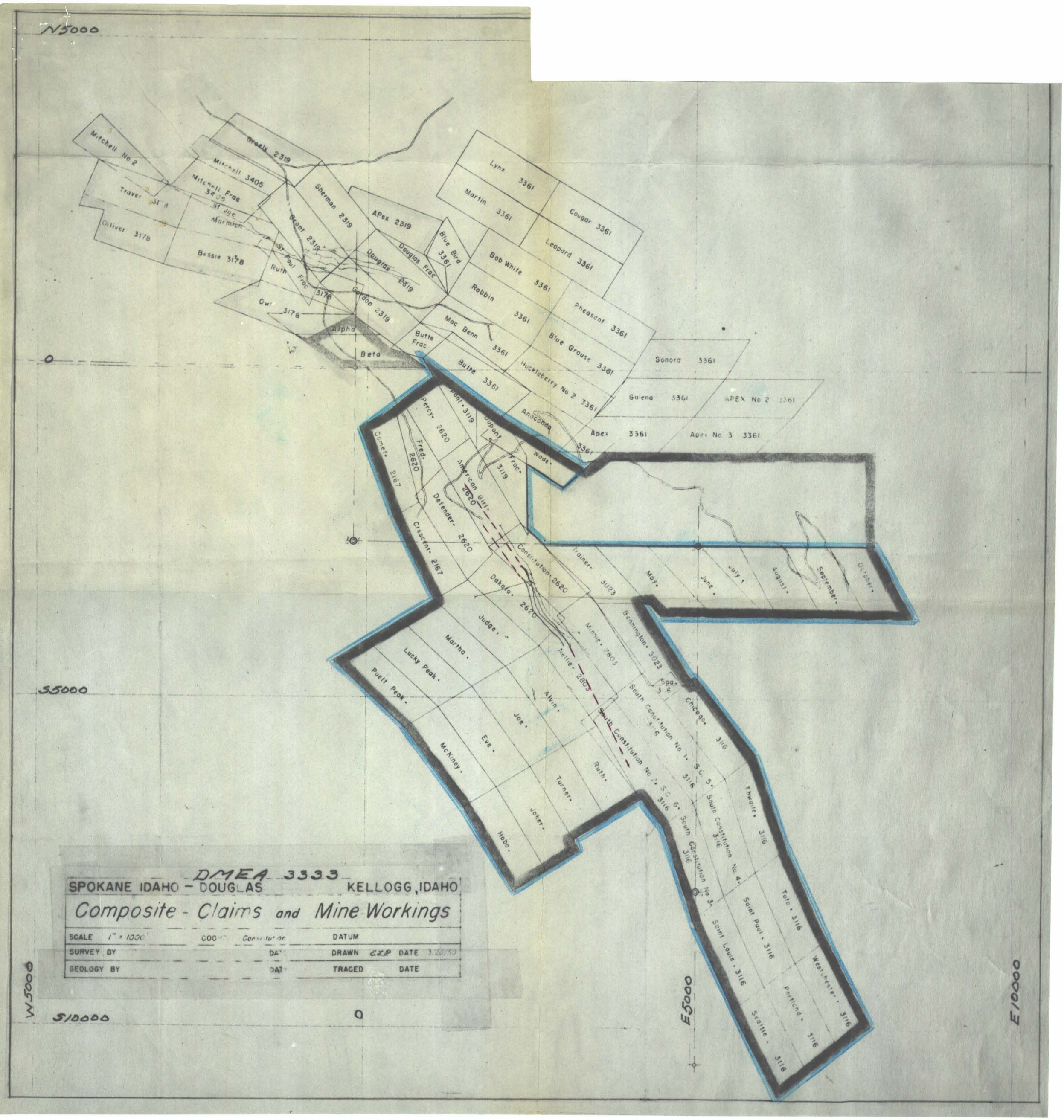
SURVEY BY: VARIOUS | DATE | DRAWN J.K.G. | DATE 1950

GEOLOGY BY: T.E. GILLINGHAM | DATE 1949 | TRACED | DATE

Docket No. DMRA-3333



Docket No. DMA-3333


N5000
S5000
S10000
W5000
E5000
E10000
0
DMEA 3333
SPOKANE IDAHO - DOUGLAS
KELLOGG, IDAHO
Composite - Claims and Mine Workings
SCALE 1" = 1000'
COORD Constitution
DATUM
SURVEY BY
DATE
DRAWN CXP DATE 3/20/50
GEOLOGY BY
DATE
TRACED DATE
Mitchell No 2
Traver 3178
Oliver 3178
Mitchell 3405
Mitchell Frac 3405
St Joe
Marmion
Bessie 3178
Greely 2319
Sherman 2319
Dront 2319
St Paul Frac 3178
Ruth Frac 3178
Owl 3178
Alpha
Beta
Gordon 2319
Douglas 2319
Douglas Frac
APex 2319
Blue Bird 3361
Lynx 3361
Martin 3361
Cougar 3361
Leopard 3361
Bob White 3361
Robbin 3361
Pheasant 3361
Blue Grouse 3361
Mac Benn 3361
Butte Frac
Butte 3361
Huckleberry No 2 3361
Sonora 3361
Galena 3361
APEX No 2 3361
Anaconda
Apex 3361
Apex No 3 3361
Wade
Percy 2620
Fred. 2620
Comet 2167
Crescent 2167
Dupont 3119
Dupont Frac 3119
American Girl 2620
Defender 2620
Constitution 2620
Dakota 2620
Judge
Martha
Lucky Peak
Puett Peak
McKiney
Hobo
Joe
Eve
Joker
Alvin
Turner
Ruth
Nellie 2803
Minnie 2803
Trainer 3023
Bennington 3023
May
June
July
August
September
October
Spa 3116
South Constitution No 1 3116
South Constitution No 2 3116
South Constitution No 3 3116
South Constitution No 4 3116
South Constitution No 5 3116
South Constitution No 6 3116
Chicago 3116
Thwaite 3116
Toto 3116
Saint Paul 3116
Saint Louis 3116
Seattle 3116
Portland 3116
Westchester 3116