MME Form 9
Rev. Nov. 65

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey

OFFICIAL DOCKET FILE

Contract No. 2285 Docket No. 6646

Application
- [ ] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Royalty Agmt. 4/20/73
- [x] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [x] Contract Amendments
- [x] Contract with all exhibits and annexes
- [x] Owner's Consent to Lien and Subordination Agreement
- [x] Application and Attachments

Right Side

- [ ] Project Summary (final)
- [ ] Work Completed Analysis (final)
- All other material filed in chronological order including the following reports if checked:
- [ ] Field Team Semiannual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [ ] On-site Exam. Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No. 2 : Reports
- [ ] Analysis of Semiannual Inspection Reports
- [ ] Project Summary (Interim) by MME Engineers

Right Side

- [ ] Field Team Semiannual Report for Certified Project
- [ ] Field Team Interim Reports
- [x] Operator's Monthly Reports with Transmittal, Narrative and Maps

Folders No. 3 : Maps (Use pocket folder ~~or envelope~~)

Folders No. _____ : Settlement Sheets

Folders No. _____ : Drill Logs

Folders No. _____ : Royalty Material

72195

OME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code

AIRMAIL

APR 20 1973

Mr. John L. Larsen
President
Western States Minerals, Inc.
418 South 7th E.
Riverton, Wyoming 82501

Re: OME-6646 (Gold-Copper-Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

Pursuant to Article 7(b) (2) and Article 16 of the Contract as amended by paragraphs 4 and 5 of Amendment No. 3 thereto, royalties shall be paid to the Government as set forth below from July 10, 1969 to July 10, 1980, or until the total amount ($118,962.25) contributed by the Government is fully repaid with interest, whichever occurs first. As set forth in Article 1(c) and as amended by paragraph 3 of Amendment No. 3, interest shall accrue at the rate of 8-½ percent per annum on the $74,985.79 contributed by the Government for the work done on Stages I and II, and at the rate of 8 percent per annum on the $43,976.46 contributed for the work done on Stage III.

The payment of royalties is secured by a lien upon the land and upon any production transported through workings developed by the project work as stated in the added provision to Article 16 as follows:

> "Special Agreement Concerning Royalty. Notwithstanding the certification provisions of Article 7(a) and (b) and with no future action required on the part of the Government, the Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, or its successor, shall pay to the Government a royalty under the terms prescribed in Article 7(c) through 7(h) on any production, regardless of where it was produced, transported through any workings constructed, repaired or improved in whole or in part with funds contributed by the Government, for the period described in Article 7(b) (2), as amended. However, in no event shall more than one royalty be due or paid under this contract on the same production."

Royalty payments should be made in favor of the U. S. Geological Survey and mailed or delivered to the Field Officer, Office of Minerals Exploration, Region III, Denver Federal Center, Building 53, Room 28, Denver, Colorado 80225. Each payment should be accompanied by two copies of settlement sheets or other suitable sales evidence showing the date of sale, name of the purchaser, the quantity and grade of the production sold, the price per unit, and the gross proceeds and allowable deductions therefrom. The purchaser should be notified of the Government's royalty on production and directed to pay the royalty, computed as provided in the contract, directly to the Government.

The Field Officer should be promptly notified upon the commencement of any production and upon any extended cessation thereof. Production unsold or unused six months after extraction from the ground should be reported promptly to the Field Officer.

Attention is specifically invited to the provisions of Article 2(c) of the contract referring to the preservation of the Government's royalty rights. Two true copies of any instruments transferring, surrendering, or encumbering any of your right, title, or interest in the lands covered by Contract 2285 shall be furnished to the Field Officer.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

Copies to: Mr. Clayton Roundy
President
Crown Point Consolidated Mining Co.
BOX 64 - 124 South University Avenue
Provo, Utah 84601

Mr. Gordon D. Stott
President
East Crown Point Consolidated
Mining Co.
P. O. Box 270
Eureka, Utah 84628

cc: Director's reading file
Mineral Resources
OME reading file
Region III
Ann Gabor
Mr. Kirkemo

HKirkemo/cac 4/5/73

I-C-DC-OME-1(b)-73

UNITED STATES
DEPARTMENT OF THE INTERIOR

Office of Survey and Review

Audit Operations

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Report of Review-Contract No. 2285
Docket No. OME-6646 (Gold-Silver-Copper)
Western States Minerals, Inc.
Riverton, Wyoming

Washington, D.C.
March 1973

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
OFFICE OF SURVEY AND REVIEW
Audit Operations, Region I
801 19th Street, N.W., Room 1115
Washington, D.C. 20240

April 3, 1973

Memorandum

To: Director, Geological Survey

From: Regional Director, Region I
Audit Operations, Office of Survey and Review

Subject: Review of Contract No. 2285
Docket No. OME-6646 (Gold-Silver-Copper)
Western States Minerals, Inc.
Riverton, Wyoming

As requested by the Chief, Office of Minerals Exploration, we made a cost review of contract No. 2285. The results of our review are shown in the attached report.

Frank V. Passwater

Attachment

We have reviewed (1) the contract files of the Office of Minerals Exploration (OME) pertaining to Minerals Exploration Contract No. 2285 with Western States Minerals, Inc., (Operator) made under Public Law 85-701 (The Act) and (2) the related disbursement records in the Branch of Financial Management, Administrative Division, Geological Survey. The review was made during March 1973, at Washington, D.C.

Summary of Contract Costs and Federal Funds Contributed

	Contract Costs			
	Amount Authorized	Paid by Contractor	Approved By Audit	Government Contribution
Stage I	$176,360	$176,360	$176,360	$ 44,090 a/
Stage II	61,870	61,791	61,791	30,896 b/
Stage III	88,328	87,953	87,953	43,976 b/
Total	$326,558	$326,104	$326,104	$118,962

a/ 25 percent participation
b/ 50 percent participation

The contract was awarded on July 10, 1969, and subsequently amended four times. Work was to begin on or before August 1, 1969, and to be completed within 38 months from the date of the contract, or by September 10, 1972. The maximum allowable contract cost is $326,558. OME's participation in Stage I is on a 25-percent basis, and in Stages II and III on a 50-percent basis, but limited to a total participation of $119,189.

The amended contract provided for repayment of Federal funds contributed plus simple interest (8½ percent on Stages I and II Federal contributions and 8 percent on Stage III Federal contributions), on the basis of established royalties on all minerals and metals produced from the land during exploratory operation, and for a period of 11 years from the date of the contract, should a Certification of Possible Production be made by OME.

The purpose of this contract was to explore for silver-copper-gold replacement ore bodies in channels, breccia zones, or dikes north of the Sioux-Ajax fault zone in the Bluebell Dolomite Formation of Devonian age and other formations of Paleozoic age.

The work was to be performed by shaft sinking, drifting, and diamond core drilling from underground stations.

The work was divided into three stages with Stage I consisting mainly of shaft sinking, and Stages II and III consisting of drifting, crosscutting, raising and sinking and diamond core drilling.

The four amendments made certain changes in the description of the contract work and the location of drill sites, crosscutting, drifting, and diamond core drilling operations. The amendments also added Stage III to the contract objectives, redistributed the fixed unit costs of Stages II and III, extended the original contract period, increased the allowable contract costs and contributed Federal share, and amended the royalty requirements.

A final field inspection report was made by the OME Region III Field Officer in April 1972, and 28 vouchers were submitted by the Operator.

According to the Field Officer's report, the exploratory work completed under the contract did not result in the discovery of silver-copper-gold replacement ore bodies. However, under terms of a Special Agreement Concerning Royalty in Amendment No. 3, royalty shall be paid to the Government on any production regardless of where it is produced, which is transported through any of the workings developed under the Contract for the duration of the royalty period, or until the Government's participation is repaid in full with interest, whichever occurs first.

Operator's Records and Accounts

The Operator's support for costs incurred on the Contract consisted of monthly vouchers approved by the OME Region III Field Officer. The recording and accounting for contract expenses incurred is a responsibility of the Operator.

The units of work authorized and paid under contract No. 2285 are summarized in Exhibit I.

As of November 2, 1972, OME had paid the Operator a total of $118,962.25. The costs, identified as approved by audit on Exhibit I, are eligible for OME participation in conformity with the provisions of the Act and the Contract.

Summary of Contract Terms and Costs

	Authorized Amount	Paid Costs	Approved By Audit	Unexpended Balance
Stage I				
Fixed Unit Costs:				
Shaft Sinking, 1300 ft. @ $135.50/ft.	$176,150	$176,150	$176,150	$
Consultant, 2 days @ $75/day	150	150	150	
Consultant-per diem, 2 days @ $16/day	32	32	32	
Consultant-travel, 233 mi. @ $.12/mi.	28	28	28	
	176,360	176,360	176,360	
Stage II (as revised in Amendment #2)				
Fixed Unit Costs:				
Crosscutting, etc., 1370 ft. @ $37.95/ft.	51,985	51,985	51,985	(6)
Consultant, 9 days @ $75/day	675	675	675	
Consultant-per diem, 9 days @ $16/day	144	144	144	
Consultant-travel, 633 mi. @ $.12/mi.	76	76	76	
	52,880	52,886	52,886	(6)
Drilling				
Mobilization and demobilization 1 unit @ $200	200	200	200	
Collar pipe, 40 ft. @ $7.40/ft.	296	296	296	
Drilling, 1100 ft. @ various prices	7,013	7,013	7,013	
Lost casing, 175 ft. @ $2 to $3/ft.	525	525	525	
Cementing, redrilling, 25 hrs. @ $13.50/hr.	337	337	337	
Reaming, installing casing, 31 hrs. @ $12/hr.	372	372	372	
Standby time, 12 hrs. @ $13.50/hr.	162	162	162	
Cardboard core boxes, 85 @ $1/ea.	85			85
	61,870	61,791	61,791	79

Summary of Contract Terms and Costs

	Authorized Amount	Paid Costs	Approved By Audit	Unexpended Balance
Stage III (established in Amendment #3, modified in Amendment #4)				
Fixed Unit Costs:				
Drifting, etc., 300 ft. @ $62.68/ft.	$ 18,804	$ 18,804	$ 18,804	$
Consultant, 11 days @ $100/day	1,100	1,100	1,100	
Consultant-per diem, 11 days @ $20/day	220	220	220	
Consultant-travel, 866 mi. @ $.12/mi.	104	104	104	
	20,228	20,228	20,228	
Diamond drilling, 3164 ft.	66,650	66,650	66,650	
NX @ $21.50/ft.				
BX @ $20.70/ft.				
Cardboard core boxes, 200 @ $1/ea.	200	200	200	
Assaying, 250 @ $5/ea.	1,250	875	875	375
	88,328	87,953	87,953	375
Grand Total, Stages I, II & III	$326,558	$326,104	$326,104	$454
Government Participation at 25 percent in Stage I and 50 percent in Stages II and III	$119,189	$118,962	$118,962	$227

Government's Copy

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SEP 5 - 1972
Denver, Colorado

EXPLORATION CONTRACT
WESTERN STATES MINERALS, INC.
OME-6646

AMENDMENT NO. 4

It is agreed this 1st day of September, 1972, between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and Western States Minerals, Inc., hereinafter called the "Operator," that Exploration Contract 2285 (OME-6646), dated July 10, 1969, as amended, is further amended effective September 1, 1972, as follows:

1. In Exhibit A:

(a) Under General Provisions, the eighth paragraph, page 2, as amended by Amendment No. 3 dated November 18, 1971, is hereby amended by deleting the amended paragraph in its entirety and substituting in lieu thereof the following:

> "All diamond drill holes drilled from underground locations in Stage II shall be completed with standard AX (nominal diameter 1 3/16") core size or equivalent wire line size equipment. All diamond drill holes drilled from underground locations in Stage III shall be completed with not less than BX (nominal diameter 1 5/8") core size or equivalent wire line size equipment."

(b) Under Description of the Work, page 3, the second paragraph of the section entitled "Stage III" added to the Contract by Amendment No. 3, is amended to read as follows:

> "Two or more exploratory drill holes (NX and BX core size) shall be drilled from sites to be selected by the Operator with the prior approval of the Government confirmed in writing."

(c) Under Estimated Costs of the Work, Stage III, Actual Costs, added to the Contract by Amendment No. 3, Category (1) Independent Contracts is revised to read as follows:

"Diamond core drilling, 3,164 feet 3/	
1,440 feet NX core size at $21.50/ft.	$30,960.00
1,724 feet BX core size at $20.70/ft.	$35,690.00
	$66,650.00

3/ Covers all costs whatsoever, including mobilization and demobilization, collar pipe, lost casing, drill mud, cement, additives, cementing and redrilling, reaming and installing casing, and standby time."

This amendment should not be construed to increase the estimated total cost of the contract, the aggregate amount which the Government may be required to contribute, the amount of any item designated as maximum, nor the fixed unit cost of any item of work.

Except as herein amended, Exploration Contract 2285 (OME-6646) dated July 10, 1969, shall remain in full force and effect.

Executed in quadruplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Harold Kirkham
Chief, Office of Minerals Exploration
U. S. Geological Survey

Martin Gramlich
Asst. Sol. Off.
Kirkham
Gram 9/1

WESTERN STATES MINERALS, INC.

By John L. Larsen

Title President

I, Tim C. Salt, certify that I am the Secretary of Western States Minerals, Inc., named as Operator herein; that John L. Larsen, who signed this amendment on behalf of the Operator, was the president of said corporation; that said amendment was duly signed for and on behalf of said corporation by authority of its governing body, and is within the scope of the corporate powers.

Secretary

(Corporate Seal)

OME Region III
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DEC 6 - 1971
Denver, Colorado

Government's Copy

OME Region III
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NOV 23 1971
Denver, Colorado

EXPLORATION CONTRACT
WESTERN STATES MINERALS, INC.
OME-6646

AMENDMENT NO. 3

It is agreed this 18th day of November, 1971, between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and Western States Minerals, Inc., hereinafter called the "Operator," that Exploration Contract 2285 (OME-6646), dated July 10, 1969, as amended, is further amended effective September 1, 1971, as follows:

1. The date fixed by Article 1(a) of the contract for completion of the work is extended from thirty (30) to thirty-eight (38) months from the date of the contract, or until September 10, 1972.

2. Article 1(b) of the contract is hereby amended by deleting the existing paragraph in its entirety and substituting in lieu thereof the following:

"(b) The total allowable cost of the work set forth in Exhibit A is $326,558.00. The Government will contribute 25 percent in Stage I and 50 percent in Stages II and III of the allowable costs as they are incurred in a total sum not in excess of $119,189.00 in accordance with the provisions of Articles 3, 4, 5 and 6. 'Costs incurred' means costs that have been added or become due and payable or that the Government determines have become obligations."

3. Article 1(c) of the contract is hereby amended by deleting the existing paragraph in its entirety and substituting in lieu thereof the following:

"(c) Interest computation.--Simple interest at the rates specified in (i) and (ii) below shall accrue from the dates Federal funds are made available until the period specified for payment of royalty expires, or until the amount of Federal funds contributed is fully repaid with interest:

(i) 8-1/2 percent on the Government's contribution toward allowable cost for work performed under Stages I and II;

(ii) 8 percent on the Government's contribution toward the total allowable cost for work performed under Stage III."

4. The maximum period for royalty payments provided in Article 7(b)(2) of the contract is extended from ten (10) to eleven (11) years from the date of the contract.

5. In Article 16, Changes and added provision of the contract the following paragraph is inserted:

"Special Agreement Concerning Royalty. Notwithstanding the certification provisions of Article 7(a) and (b) and with no future action required on the part of the Government, the Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, or its successor, shall pay to the Government a royalty under the terms prescribed in Article 7(c) through 7(h) on any production, regardless of where it was produced, transported through any workings constructed, repaired or improved in whole or in part with funds contributed by the Government, for the period described in Article 7(b)(2), as amended. However, in no event shall more than one royalty be due or paid under this contract on the same production."

6. Exhibit A of the contract is hereby amended as follows:

a. Under the heading "General Provisions," the sixth paragraph, page 2, is hereby amended by deleting the existing paragraph and substituting in lieu thereof the following:

"No drilling or other underground work shall be done outside the exterior boundaries of the land outlined on Figure 1 (Revised October 8, 1971) entitled, 'Claim map and proposed exploration, Crown Point and East Crown Point Properties, Tintic Mining District, Utah and Juab Counties, Utah,' attached and made part hereof. Such boundaries shall be determined by the Operator using standard transit surveying methods at no cost to the Government. Surveyed boundaries shall be shown on maps accompanying each voucher submitted under Stage III."

b. The eighth paragraph, page 2, is hereby amended by deleting the existing paragraph and substituting in lieu thereof the following:

"All diamond drill holes drilled from underground locations in Stage II shall be completed with standard AX (nominal diameter 1-3/16") core size or equivalent

wire line size equipment. All diamond drill holes drilled from underground locations in Stage III shall be completed with standard NX (nominal diameter 2-1/8") core size or equivalent wire line size equipment."

c. The fifteenth paragraph, page 3, is hereby amended by deleting the existing paragraph and substituting in lieu thereof the following:

"The work shall be divided into three stages with Stage I consisting mainly of shaft sinking, and Stage II and III consisting of drifting, crosscutting, raising or sinking, and diamond drilling. All work performed through August 31, 1971, which is acceptable to the Government under provisions of the contract, shall be considered as Stages I and II. All work performed on and after September 1, 1971 and acceptable to the Government under provisions of the contract shall be considered as Stage III."

d. Under the heading Description of the Work, page 3, a new section is added after the section, Stage II, to read as follows:

"Stage III

The work shall consist of extending the present south crosscut a distance of approximately 100 feet, but not beyond the exterior boundary of the property, in order to determine the location of the footwall of the Sioux-Ajax fault zone.

Two or more exploratory drill holes (NX core size) shall be drilled from sites to be selected by the Operator with the prior approval of the Government confirmed in writing.

Based on favorable or significant results obtained from the crosscut and the drill holes, additional exploratory holes may be drilled from selected and approved sites, and additional crosscutting or drifting may be undertaken to the east or west on or adjacent to the Sioux-Ajax fault zone.

The proposed extension of the south crosscut is shown on Figure 1 (revised)."

e. Under the heading Estimated Costs of the Work delete the existing section, entitled Summary, on page 6 in its entirety, including the footnotes and insert the following in lieu thereof:

"Stage III

Fixed Unit Costs 1/ 2/		
Drifting and crosscutting, including timbering and preparing drill sites, 300 feet at $62.68/ft.	$18,804.00	
1 outside consultant, 11 days at $100.00/day	1,100.00	
Per diem outside consultant, 11 days at $20.00/day	220.00	
Transportation for consultant, 866 miles at $0.12/mile	104.00	
Total Estimated Fixed Unit Costs, Stage III		$20,228.00
Actual Costs		
Category (1) Independent Contracts		
Diamond core drilling NX core size 3,100 feet at $21.50/ft. 3/	$66,650.00	
		$66,650.00
Category (7) Miscellaneous		
None except:		
Cardboard core boxes, 200 at $1.00/each	$ 200.00	
Assaying for gold, silver, and copper, 250 samples at $5.00/sample	1,250.00	
		$ 1,450.00
Total Estimated Actual Costs Stage III		$68,100.00
Total Estimated Costs Stage III		$88,328.00
Government Participation at 50%		$44,164.00

SUMMARY

Total Estimated Cost of Stage I	$176,360.00
Government Participation at 25%	$ 44,090.00
Total Estimated Cost of Stage II	$ 61,870.00
Government Participation at 50%	$ 30,935.00
Total Estimated Cost of Stage III	$ 88,328.00
Government Participation at 50%	$ 44,164.00
Total Estimted Cost of Project	$326,558.00
Government Particpation	$119,189.00

1/ Covers all costs whatsoever, including equipment, materials, labor, technical services, taxes, and insurance.

2/ The Government retains no equity in any of the equipment or materials used.

3/ Covers all costs whatsoever, including mobilization and demobilization, collar pipe, lost casing, drill mud, cement, additives, cementing and redrilling, reaming and installing casing, and standby time.

Except as herein amended, Exploration Contract 2285 (OME-6646), dated July 10, 1969, shall remain in full force and effect.

Executed in quadruplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Edmund J. Gruss
Assistant Director, U. S. Geological Survey
for Administration

Martin 10/15
Ch. Leal 10/15
App'd. Sol. Off.
Skiberno 11/6
Nilsgaard 11/17

WESTERN STATES MINERALS, INC.

By [illegible]

Title President

I, Tim Watt, certify that I am the Secretary of Western States Minerals, Inc., named as Operator herein; that John C. Larsen, who signed this amendment on behalf of the Operator, was the president of said corporation; that said amendment was duly signed for and on behalf of said corporation by authority of its governing body, and is within the scope of the corporate powers.

T. Watt
Secretary

(Corporate Seal)

U.S. GEOLOGICAL SURVEY
OFFICE OF MINERALS EXPLORATION

OME-6646
WESTERN STATES MINERALS, INC.

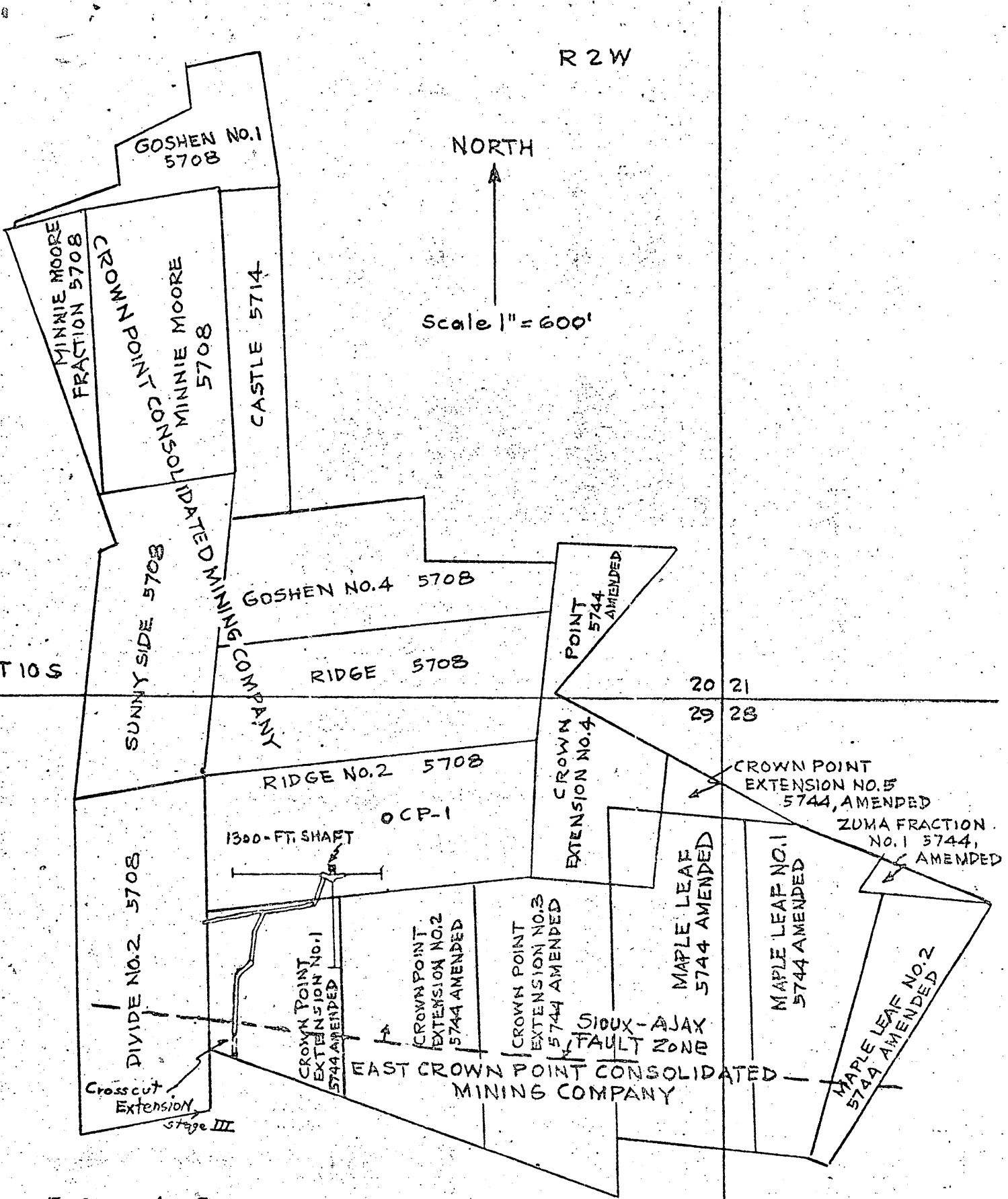

FIGURE 1.- CLAIM MAP AND PROPOSED EXPLORATION, CROWN POINT AND EAST CROWN POINT PROPERTIES, TINTIC MINING DISTRICT, UTAH AND JUAB COUNTIES, UTAH

(REVISED) 10-8-71

OME Form 7
(2/63)

OFFICIAL FILE

Date	Surname	Co
10/26/71		120
		220

October 26, 1971

Memorandum

To: The File

From: Chief, Office of Minerals Exploration

Subject: OME-6646 (Silver-CopperOGold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Justification for Amendment No. 3

The work provided by the contract under Stages I and II has been completed at a total cost of about $238,150, with Government participation totalling nearly $75,000 of the $75,025 authorized.

Amendment No. 3 provides for a third stage of work consisting of crosscutting, drifting, and diamond drilling at a total estimated cost of $88,328, with the Government's share at 50 percent not to exceed $44,164. Totals for the contract are increased to $326,558 and $119,189, respectively. The estimated costs for work are higher than was allowed under Stage II of the contract because of the general increase in labor, equipment, and supply costs since mid-1969 when the contract was executed.

Results of work completed under Stages I and II have been encouraging. Mineralization cut in fissures, dikes and brecciated rock suggests that an ore body may underlie the level of the present workings. Hanging wall strands of a main ore control feature, the Sioux-Ajax fault, were cut in the crosscut driven south from the shaft. Examining geologists have recommended that additional work be done because major ore bodies in the district occur at the intersections of mineralized structures and the Sioux-Ajax fault. A typical ore body in this district contains ore worth many times the cost of the work believed necessary to complete the project. Chances are very good that royalties on production from such an ore body would be sufficient to repay the Government's participation.

Notwithstanding the likelihood of a certification of possible production, Amendment No. 3 includes a special provision for royalty on any ore transported through workings to the cost of which the Government contributed, regardless of where the ore was produced. Other companies operating in the district are interested in this project. It is not unlikely that in the event one of these

companies acquires the property owned by Western States Minerals, Inc., the workings made possible by the OME contract would be used to reach ore bodies outside the boundaries described in the contract.

Core recovery from diamond drilling with AX-size equipment in the vicinity of the shaft under Stage II was not as satisfactory as had been expected. It is hoped that the larger diameter (NX size) core required under Amendment No. 3 will yield much better results.

I concur in the recommendation of the Field Officer to amend the contract. The project offers a better chance of making a significant discovery than does any other proposal under consideration by OME.

Harold Kirkemo

Harold Kirkemo

cc: Director's Reading File
Mineral Resources
OME Docket
OMEReading File
Mr. Kirkemo

HKirkemo/gla 10-26-71

Government's Copy

OME Region III
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JUL 19 1971
WE
Denver, Colorado

EXPLORATION CONTRACT
WESTERN STATES MINERALS, INC.
OME-6646

AMENDMENT NO. 2

It is agreed this 29th of June, 1971, between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and Western States Minerals, Inc., hereinafter called the "Operator," that Exploration Contract 2285 (OME-6646), dated July 10, 1969, as amended by Amendment No. 1, dated April 13, 1971, is further amended effective the date of the contract as follows:

In Exhibit A:

1. The second paragraph is revised to read as follows:

"The work shall be performed by sinking a vertical shaft from the surface, diamond core drilling from underground sites, and driving crosscuts, drifts, raises, and winzes."

2. Under the heading Description of the Work, the first paragraph is revised to read as follows:

"The work shall consist of sinking a vertical shaft 1,300 feet, establishing a station near the 1,300-foot level, and crosscutting, diamond core drilling, drifting, and raising or sinking."

3. Under the heading Description of the Work, Stage II, the entire section is revised to read as follows:

"Drive a crosscut south from the station on the 1,300-foot level for a distance sufficient to establish an exploratory drill station at its face and to permit crosscuts to be driven east and west from it for exploratory drill sites at their faces.

"From the three drill sites, drill horizontal holes to determine the location of the Sioux-Ajax fault, possible north-south-trending ore channels, northeast-trending mineralized fissures, and any other intervening geologic structures at the 1,300-foot level. From a site at the bottom of the 1,300-foot shaft, drill a vertical hole to determine stratigraphic position with the Bluebell Dolomite Formation. Total diamond drill footage shall not exceed 1,100 feet.

"Based on favorable or significant results obtained from the diamond core drilling, explore north-south-trending mineralized fissures by crosscutting and drifting in a southerly or southwesterly direction to the Sioux-Ajax fault, then drifting east and west along the Sioux-Ajax fault zone. Raises or winzes may be driven as warranted. Total footage of the drifts, crosscuts, raises, or winzes shall not exceed 1,370 feet.

"The approximate locations and plan of the work described are shown in Figure 1 (Revised May 1971) entitled, 'Claim map and proposed exploration, Crown Point and East Crown Point Properties, Tintic Mining District, Utah and Juab Counties, Utah', attached and made part hereof."

4. Under the heading "Estimated Costs of the Work, Stage II," the entire section is revised to read as follows:

"Fixed Unit Costs 1/ 2/

Crosscutting, drifting, raising and sinking, including timbering and preparing drill sites, 1,370 feet @ $37.95/ft. (rounded)	$51,985.00	
1 Outside Consultant, 9 days @ $75.00/day	675.00	
Per diem, Outside Consultant, 9 days @ $16.00/day	144.00	
Transportation for consultant, 633 miles @ $0.12/mile (rounded)	76.00	
Total Estimated Fixed Unit Costs, Stage II		$52,880.00

Actual Costs

Category (1) Independent Contracts

Drilling

Mobilization and demobilization of drill	$ 200.00
Collar pipe -- NX or NC, 40 feet @ $7.40/ft.	296.00

Diamond core drilling, 1,100 feet (rounded)				7,012.50	
	NX	BX	AX		
0 - 250 ft.	$6.60	$6.30	$6.00		
250 - 500 ft.	$6.90	$6.60	$6.30		
500 - 750 ft.	$7.20	$6.90	$6.60		
Lost casing in completed holes, 175 feet				525.00	
NX @ $3.00/ft.					
BX @ $2.00/ft.					
Cementing and redrilling, 25 hours @ $13.50/hr.				337.50	
Reaming and installing casing, 31 hours @ $12.00/hr.				372.00	
Standby time, 12 hours @ $13.50/hr.				162.00	
					$ 8,905.00
Category (7) Miscellaneous					
None except:					
Cardboard core boxes, 85 @ $1.00 each				$ 85.00	
					85.00
Total Estimated Actual Costs, Stage II					$ 8,990.00
Total Estimated Costs, Stage II					$61,870.00
Government Participation @ 50%					$30,935.00"

This amendment should not be construed to increase the estimated total cost of the contract, the aggregate amount which the Government may be required to contribute, the amount of any item designated as maximum, nor the fixed unit cost of any item of work.

Except as herein amended, Exploration Contract 2285 (OME-6646), dated July 10, 1969, shall remain in full force and effect.

Executed in quadruplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Harold Kirkemo
Chief, Office of Minerals Exploration
U. S. Geological Survey

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WESTERN STATES MINERALS, INC.

By John L. Larsen
Title President

I, Tim Watt, certify that I am the Secretary of the Western States Minerals, Inc., named as Operator herein; that John L. Larsen, who signed this amendment on behalf of the Operator, was then president of said corporation; that said amendment was duly signed for and on behalf of said corporation by authority of its governing body, and is within the scope of the corporate powers.

T. Watt
Secretary

(Corporate Seal)

U.S. GEOLOGICAL SURVEY
OFFICE OF MINERALS EXPLORATION

WESTERN STATES MINERALS, INC.

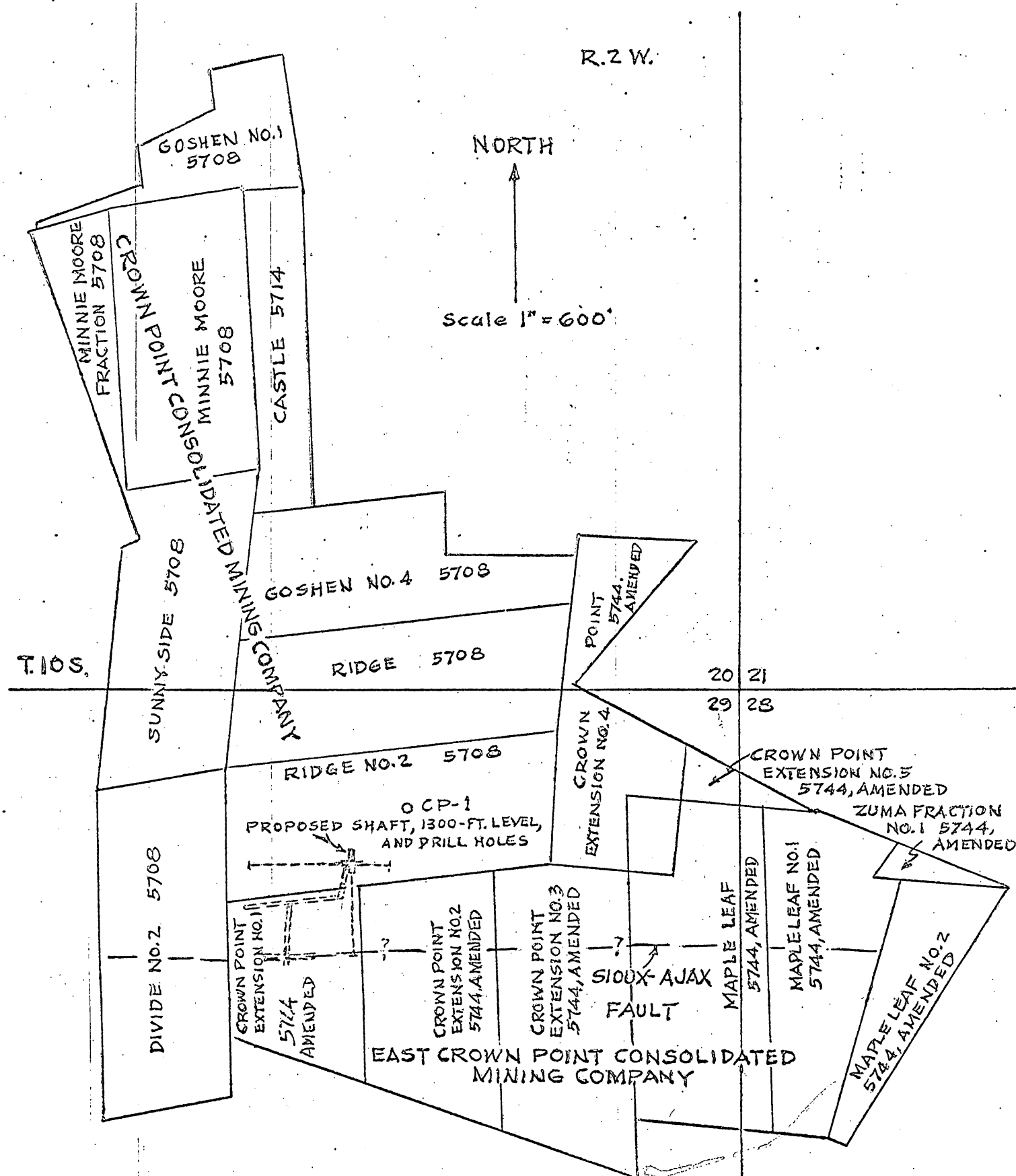

FIGURE 1.- CLAIM MAP AND PROPOSED EXPLORATION,
(REVISED) CROWN POINT AND EAST CROWN POINT PROPERTIES,
MAY 1971 TINTIC MINING DISTRICT, UTAH AND JUAB COUNTIES, UTAH

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
6/10/71		120
		120M

June 10, 1971

Memorandum

To: The File

From: Chief, Office of Minerals Exploration

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Justification for Amendment No. 2

Operations to date at the subject property have indicated that much more satisfactory results for geological purposes are obtained from crosscutting and drifting than from diamond drilling. Core recovery from the fissure zones intersected by the drill holes was poor, but this is a situation common to most drilling projects in the East Tintic district. The drilling equipment and techniques used cannot be blamed for the poor results.

Drilling completed on the project located fissures worthy of further exploration and the Operator, Field Officer, and Assistant Chief, OME, recommend that the balance of contract funds for diamond drilling be used for crosscutting, drifting, raising and sinking. The objectives of the project would remain unchanged and better opportunity will be provided to appraise the potential of the property at no increase in unit prices or total cost to the Government.

I concur in the recommendation to amend the contract.

Harold Kirkemo

Harold Kirkemo

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
Mr. Kirkemo

HKirkemo/gla 6-10-71

Government's Copy

EXPLORATION CONTRACT
WESTERN STATES MINERALS, INC.
OME-6646

Amendment No. 1

It is agreed this 13th day of April, 1971, between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and Western States Minerals, Inc., hereinafter called the "Operator," that Exploration Contract 2285 (OME-6646), dated July 10, 1969, is amended effective the date of the contract as follows:

In Exhibit A:

(a) Under the heading Description of the Work, Stage II, the entire section is revised to read as follows:

"Starting from the shaft station on the 1,300-foot level, drive a crosscut south for a distance sufficient to establish an exploratory drill station at its face and to permit drifts to be driven east and west from it for exploratory drill sites at their faces. Upon completion of the first three drill holes and depending on the results obtained, the remaining footage shall be used to extend the crosscut south or the drifts east and west, or to drift east and west from other locations in the crosscut on the 1,300-foot level. If necessary, a crosscut may be driven in a northerly direction and drifts extended therefrom. Total crosscut and drifting footage shall not exceed 500 feet.

From the three drill sites first established and from other sites to be selected by the Operator with the approval of the Government confirmed in writing, drill holes may be made to determine the location of the Sioux-Ajax fault zone, possible north-south trending ore channels, northeast-trending mineralized fissures, and any other intervening geologic structures above, below, or at the 1,300-foot level. Total diamond drill footage shall not exceed 4,000 feet.

The approximate locations and plan of the work described above are shown in Figure 1 (revised), entitled, 'Claim map and proposed exploration, Crown Point and East Crown Point Properties, Tintic Mining District, Utah and Juab Counties, Utah,' which is attached hereto and made a part hereof. The initial crosscut, drifts, and first three diamond drill holes are indicated thereon in red."

This amendment should not be construed to increase the estimated total cost of the contract, the aggregate amount which the Government may be required to contribute, the amount of any item designated as maximum, nor the fixed unit cost of any item of work.

Except as herein amended, Exploration Contract 2285 (OME-6646), dated July 10, 1969, shall remain in full force and effect.

Executed in quadruplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Harold Kirkemo
Chief, Office of Minerals Exploration
U. S. Geological Survey

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Kirkemo

WESTERN STATES MINERALS, INC.

By John L. Larsen

Title President

I, Tim Watt, certify that I am the secretary of the Western States Minerals, Inc., named as Operator herein; that John L. Larsen who signed this amendment on behalf of the Operator, was then president of said corporation; that said amendment was duly signed for and on behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

T. Watt
Secretary

(Corporate Seal)

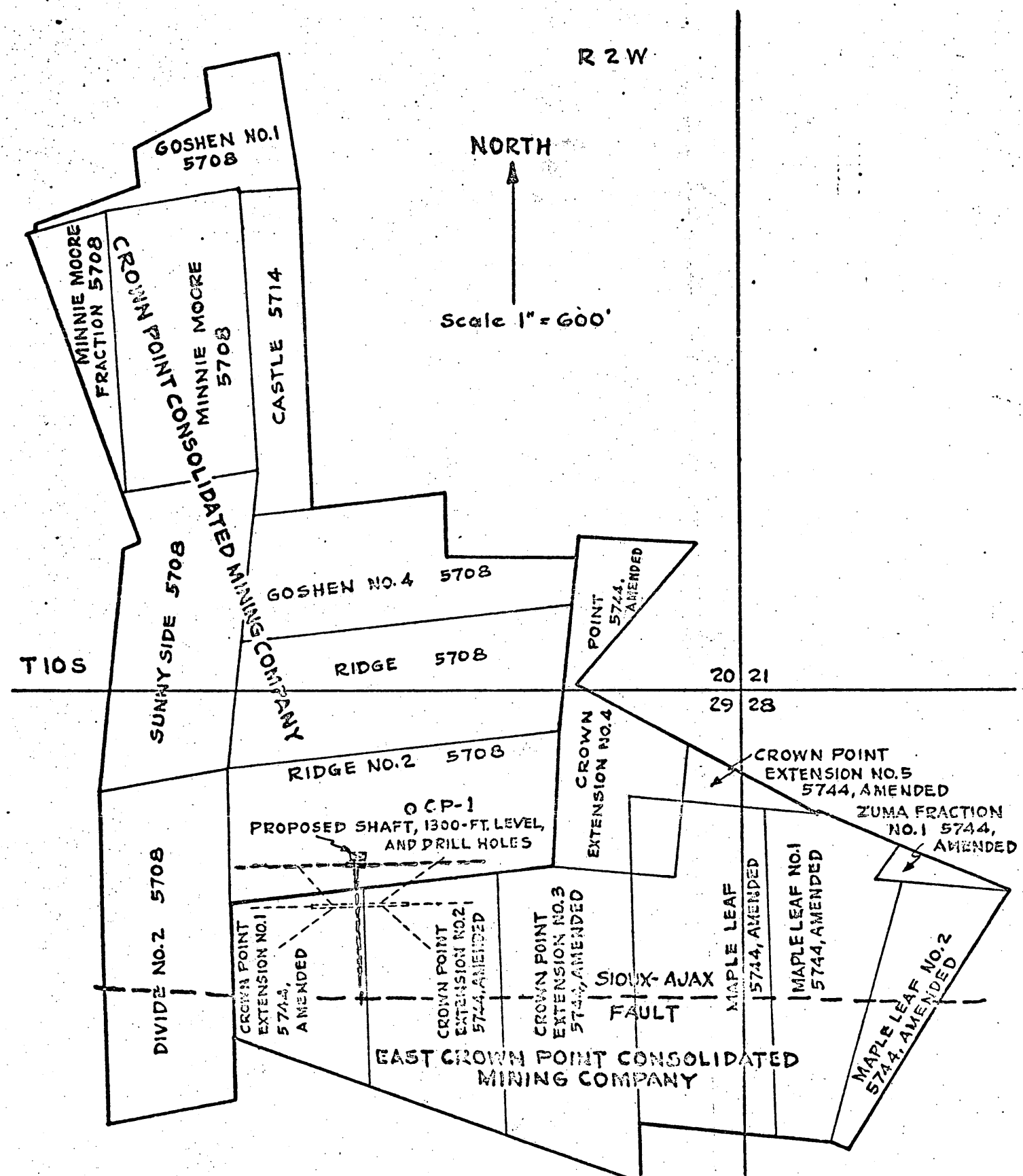

FIGURE 1.- CLAIM MAP AND PROPOSED EXPLORATION,
(REVISED) CROWN POINT AND EAST CROWN POINT PROPERTIES,
TINTIC MINING DISTRICT, UTAH AND JUAB COUNTIES, UTAH

MME Form 7
(2/63)

OFFICIAL F

Date	Sur	
3/10/71	Emerick	
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		120M

March 10, 1971

Memorandum

To: The File

From: William L. Emerick, Office of Minerals Exploration

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Justification for Amendment No. 1

The Operator requested an amendment to the contract in a letter dated March 1, 1971, to the Field Officer, Region III. The request results from a critical study of the geology in the lower part of the shaft by the Operator and its consultant.

A 100-foot section of altered monzonite porphyry occurs at a point 114 feet above the bottom of the shaft. The Bluebell limestone underlying the monzonite porphyry is highly altered and brecciated. Because of these conditions, the Operator's consultant deemed it prudent to modify the original plan of exploration outlined in Stage II of the contract. His recommendation and modified work plan includes three drill holes from drill stations near the 1,300 level shaft station situated in a stub crosscut to the south and stub drifts east and west from the crosscut. These holes will check the geology before any other work is undertaken.

The three drill holes will determine if the monzonite porphyry body has affected or eliminated the target structures, namely, the Sioux-Ajax fault zone to the south and the north-south-trending ore channels and northeast-trending fissure zones north of the Sioux-Ajax fault zone. The information obtained from the three holes will determine the course and direction of further exploration.

Amendment No. 1 provides for the modified work plan under Stage II of the contract. The total estimated cost of the project is unchanged.

I concur with the Field Officer's recommendation and the suggested change in work plan.

William L. Emerick

William L. Emerick

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
Mr. Emerick

WLEmerick/gla 3-10-71

Government's copy

MME Form 50
July 1965

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

EXPLORATION CONTRACT
(Long Form)

Docket No.	Commodity	Contract No.	~~County~~ Counties	State
OME-6646	Silver-Copper-Gold	2285	Utah and Juab	Utah

It is agreed JUL 10 1969 (Date), between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and

Western States Minerals, Inc., a Wyoming corporation

whose mailing address is 1111 West View Drive, Riverton, Wyoming 82501, hereinafter called the "Operator," as follows:

ARTICLE 1. Authority and scope.--(a) This contract entered into under the authority of Public Law 701, 85th Cong., 2d sess. (72 Stat. 700; 30 U.S.C. § 641 - 646), consists of this form, the attached Annex I (land description), Exhibit A (work and costs), and the maps and documents listed. The work is a search for new or unexplored deposits of the commodity designated above. The Operator shall begin the work on or before August 1, 1969 (Date), and, subject to the provisions of Article 9 and Exhibit A, shall either have completed the work within 30 months from the date of the contract or shall have incurred allowable costs (see Article 6) in a sum not less than the total cost set forth in Exhibit A.

(b) The total allowable cost of the work set forth in Exhibit A is $238,230.00. The Government will contribute 25 percent in Stage I and 50 percent in Stage II ~~50 percent~~ of the allowable costs as they are incurred, in a total sum not in excess of $75,025.00 in accordance with the provisions of Articles 3, 4, 5, and 6. "Costs incurred" means costs that have been paid or have become due and payable, or that the Government determines have become obligations.

(c) Interest computation.--Simple interest at the rate of 8½ percent shall accrue from the dates Federal funds are made available until the period specified for payment of royalty expires, or until the amount of Federal funds contributed is fully repaid with interest.

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

ARTICLE 2. Operator's right in land.--(a) The Operator represents and undertakes that Annex I correctly describes the land which is the subject of this contract and the nature of the Operator's right of property and possession therein (whether as owner, lessee, or otherwise), and that such right, title, or interest is subject only to the following claims, liens, or encumbrances:

SEE ANNEX I

(b) 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 lien agreement of any holder of the legal title of the land (lessor, seller, optionor, etc.) are attached as follows:

SEE ANNEX I

(c) The Operator shall preserve and maintain his right, title, or 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. 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 royalty on production and liens for the payment thereof. Two true copies of such instrument shall be furnished to the Government. If the Government's rights to royalty as provided in Article 7 have been terminated, the provisions of this paragraph (c) shall become inapplicable.

ARTICLE 3. Performance of the work.--(a) Operator's responsibility.--The work shall be performed diligently, efficiently, in a workmanlike manner in accordance with good mining standards, and in compliance with State laws governing health, safety, and liability insurance covering employment. The Operator shall provide suitable and adequate equipment, facilities, materials, supplies, and labor to complete the work as specified in Article 1(a).

(b) Independent contracts.--To the extent that the allowable costs are estimated in Exhibit A with express reference to performance by independent contractors on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations), the work may be so performed (see Article 6(a), Category (1)). Any such independent contract shall refer to some specific and identifiable part of the work, and shall be subject to all of the pertinent terms and conditions of this exploration contract; but the Government shall not be considered a party thereto, and its rights under this contract, including the right to terminate its contributions, shall not be affected thereby. Regardless of the provisions of any such independent contract, the Government will participate in payments to the independent contractor only as to work performed in accordance with the provisions of this exploration contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable.

(c) 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 production operations during the period that royalty is payable to the Government. The Operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 4. Contribution by the Government.-- The Government will make its contribution on the basis of the monthly vouchers referred to in Article 5(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 and the Operator's final report has been received, the Government may withhold such sums as are necessary to protect its interests. The Government may make payments for the account of the Operator directly to independent contractors and suppliers rather than to the Operator.

ARTICLE 5. Reports, accounts, audits.--(a) Operator's records.--The Operator shall keep suitable records and accounts of the 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 all pertinent books, documents, papers, and records of the Operator. If work under this contract is carried on in conjunction with any other operations, or if labor, supervision, services, materials, supplies, equipment, facilities, or other requirements for carrying on the work are also used in connection with other operations, the costs shall be segregated and accounted for on a basis and by methods and accounts that are satisfactory to and approved by the Government.

(b) Monthly reports.--The Operator shall provide the Government with four copies of monthly reports in three sections as follows:

(1) Operator's Monthly Voucher claiming costs for work performed;

(2) Operator's Progress Report showing the number of units of the various types of work performed; and

(3) a narrative report of the work 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; however, the original of the Operator's Monthly Voucher shall be supported by documentary evidence, such as certified copies or transcripts of payrolls and invoices, for all costs claimed under Article 6 (a) (1).)

(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 three copies of a final report (in addition to the final monthly report). 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 related costs.

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

(e) Compliance with requirements.--If the Government determines that 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 preparation or completion of the same 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 6. Costs.--(a) Allowable costs.--The allowable costs of the work to which the Government will contribute are limited to:

(1) the necessary, reasonable, and direct actual costs that are estimated in Exhibit A by categories as specified in this article; and

(2) fixed costs for units of work to be performed (per foot, per hour, etc.) agreed upon in lieu of actual costs and set forth in Exhibit A.

The Government will not contribute to costs under any category or subcategory omitted from the estimate of costs in Exhibit A. Any excess over any estimate which is indicated as the maximum of any category, subcategory, or item, either as to requirement or related cost; any excess over a fixed unit cost; and any excess over the total allowable cost of the work are not allowable. The Operator shall incur such excesses for his own account without contribution by the Government, but the Operator is not obligated to incur more than his agreed percentage of the total allowable cost of the work.

Any category or subcategory or element thereof not designated as a maximum in this article, or in Exhibit A may be exceeded, provided that the total allowable cost of the work, which is a maximum, is not exceeded.

CATEGORY (1)--INDEPENDENT CONTRACTS.--(See Article 3(b)). The total of this category and the average unit cost estimated for each type of work to be performed under an independent contract are maximums.

CATEGORY (2)--PERSONAL SERVICES.

Subcategory (a)--Supervision and Technical Services--All elements of this subcategory (number of supervisors, technicians, outside consultants, periods of employment, rates of pay, and total) are maximums.

Subcategory (b)--Labor.

CATEGORY (3)--OPERATING MATERIALS AND SUPPLIES.--Includes such items as drill bits and steel, explosives, fuel, pipe, power, timber, rail, and small tools costing less than $50 each.

CATEGORY (4)--OPERATING EQUIPMENT.

Subcategory (a)--Rental.--The number of each rented item [6 mine cars, 1 truck], the rate of rental [$100 per month, $5 per hour], and the total of this subcategory are maximums.

Subcategory (b)--Purchases.--The total of this subcategory is a maximum.

Subcategory (c)--Depreciation.--All elements of this subcategory (time periods, rate of depreciation, and subcategory total) are maximums.

CATEGORY (5)--INITIAL REHABILITATION AND REPAIRS.--Costs of items listed under this category include all requirements, such as labor, materials and supplies, and supervision at a rate not higher than provided for in Category (2), and shall not be duplicated under any other category. The total of this category is a maximum.

Subcategory (a)--Initial rehabilitation and repairs of existing buildings, fixtures, and installations (exclusive of mine workings).--The total of this subcategory is a maximum.

Subcategory (b)--Initial rehabilitation and repairs of operating equipment.--The total of this subcategory is a maximum.

CATEGORY (6)--NEW BUILDINGS, FIXTURES, AND INSTALLATIONS (EXCLUSIVE OF MINE WORKINGS).--Costs of items listed under this category include all requirements, such as labor, materials and supplies, and supervision at a rate not higher than provided for in Category (2), and shall not be duplicated under any other category. The total of this category is a maximum.

CATEGORY (7)--MISCELLANEOUS.--Includes requirements and costs that do not fall within any of the first six categories, such as repairs other than initial and maintenance of operating equipment, analytical work, prints and other reproductions, accounting, Operator's share of payroll taxes, liability insurance covering employment, travel, and communications.

(b) Nonallowable costs.--In addition to the limitations imposed by paragraph (a) of this Article 6 the Government will not contribute to the following costs:

(1) Costs of the land, such as rental, depreciation, depletion, or other costs of acquiring, owning, or holding possession;

(2) Indirect costs, such as general overhead, corporate management, interest, taxes (other than payroll and sales taxes), insurance (other than liability insurance covering employment), damages to persons, damages to property (other than necessary repairs or replacements of equipment or other property used in the work);

(3) Previous work performed or costs incurred before the date of this contract; and

(4) Deferred payments.--Any costs incurred by the Operator under any rental-purchase agreement, installment-purchase agreement, or any agreement for the purchase of goods under the provisions of which payment of the full purchase price is deferred more than 90 days from the delivery of the goods, unless the purchase agreement is approved by the Government in writing.

(c) Reductions in costs.--The Operator shall account for and give the Government credit for any incidental benefits, credits, or money received in the ordinary course of business in prosecuting the work (as by salvage or sale of materials or equipment, furnishing of room or board, furnishing of power or services to third persons, rebates or discounts on purchases, etc.), in the same ratio in which the Government contributes to costs; and such amounts shall be treated as a reduction in costs incurred so that they are available for use within the limit of the original total cost. The provision does not apply to receipts from production which are subject to the Government's royalty under the provisions of Article 7.

ARTICLE 7. Repayment by Operator.--(a) Certification.--If the Government considers that mineral or metal production from the land covered by the contract may be possible as a result of the exploration work, it shall so certify in writing to the Operator at any time not later than six months after a sufficient final report and final accounting (see Article 5) have been furnished.

(b) Royalty on production.--The Operator, whether or not the producer (for example, if the Operator either transfers or does not retains his interest in the land), shall pay to the Government a royalty on all minerals and metals mined or produced from the land as follows:

(1) irrespective of any certification of possible production--from the date of the contract until the lapse of the time within which the government may issue such certification or until the total net amount contributed by the Government is fully repaid with interest, whichever occurs first; or

(2) if the Government issues a certification of possible production--for a period of ten years from the date of the contract, or until the total net amount contributed by the Government is fully repaid with interest, whichever occurs first.

(c) Payment of royalty.--(1) The Government's royalty shall be five percent of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrate, 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 (such as treatment processes performed by the buyer, sampling and assaying to determine the value of the production sold, and freight payable by the buyer to a carrier (not the Operator or producer)), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. No costs of the Operator or Producer are deductible in arriving at the "gross proceeds" as that term is here used.

The term "treatment processes" means those processes (such as milling, concentrating, smelting, refining, or equivalent, but excluding fabricating or manufacturing) applied to the crude ore or other production after it is extracted from the ground to put it into a commercially marketable form.

(2) 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.

(d) Unsold production.--If any production (ore, concentrate, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used 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, concentrate, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used 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 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) Lien for payment.--To secure the payment of royalty (see Article 7(b)), the Operator hereby grants to the Government a lien upon his interest in the land and upon any production of minerals and metals therefrom until the royalty claim is extinguished by lapse of time or is fully paid.

(f) Notice to purchasers.--The Operator or producer 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 Government, and this estimate shall be final and binding upon the Operator or producer.

(g) No obligation to produce.--Nothing in this contract shall be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

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

ARTICLE 8. Interests in purchased property.--(a) Title and ownership.--All costs under this contract shall be incurred by the Operator in the Operator's own name and for the Operator's own account; but any property acquired to the cost of which the Government contributes shall belong to the Operator and the Government jointly in proportion to their respective contributions although title thereto shall be taken in the name of the Operator.

(b) Preservation of property.--Until the final disposal of any property in which the Government has an interest, the Operator shall preserve and protect same for the best interest of the Government, and any reasonable and necessary cost thereof will be treated as an allowable cost of the exploration. After the completion of the work, termination of the Government's obligation to contribute, or when such property is not being used for the work, the Operator shall not use it elsewhere without the written consent of the Government and without paying a reasonable rental to be fixed by the Government for its proportionate interest.

(c) Disposal of property.--Upon the completion of the work, termination of the Government's obligation to contribute to costs, or when the property is no longer needed for the work, the Operator shall promptly dispose of salable or salvageable property in which the Government has an interest for the joint account of the Government and the Operator, either by return to the vendor, sale to others, purchase by the Operator, or sale or transfer to the Government at a price at least as high as could be obtained from others, unless the Government in writing waives its interest in any such property. Without advance approval of the sales price by the Government, the Operator shall not sell at any price any item of property that cost more than $500, and shall not sell at less than 25 percent of the purchase price any item of property that cost $500 or less. The Government, in lieu of approving the sales price for any such item, may itself purchase the item at the best price which the Operator is able to obtain or offers. Property remaining upon any termination of the work shall be considered in groups or categories (such as drill steel, explosives, pipe, or rail), and if the original cost of the remaining unexpended portion of any such group or category is less than $50, the Government waives its interest therein. If necessary to accomplish the disposal of any item, the Operator shall dismantle and sever it from the land, the cost thereof to be treated as a cost of the exploration.

(d) Default of the Operator re disposal.--If within 90 days after the completion of the work, termination of the Government's obligation to contribute to costs, or after the property is no longer needed for the work, the Operator has failed to sell or otherwise liquidate or dispose of any property in which the Government has an interest, the Government, at any time prior to final settlement under the contract, may:

(1) in writing extend the time within which the Operator must dispose of or liquidate the property;

(2) by written notice to the Operator, place upon such property what it determines to be a fair valuation thereof, not in excess of the cost less 1.66 percent per month from the date such property was purchased under this contract to the termination of said 90-day period; and such property shall thereupon be considered and accounted for as having been purchased by the Operator at the valuation so fixed by the Government; and

(3) enter and take possession of such property wherever it may be found, and remove and dispose of it for the joint account of the parties.

ARTICLE 9. Termination of the Government's obligations.--(a) If the Government determines that operations at any time have failed to achieve anticipated results and further work is not justified, the Government may give the Operator written notice thereof, and thereupon:

(1) the Government shall be free of all obligation to contribute to costs not then incurred other than such as may be allowable under the provisions of the contract as necessary and incidental to final accounting and reporting; and

(2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to final accounting and reporting.

(b) If the Government determines that the Operator is 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:

(1) the Government shall be relieved of all obligation to contribute to costs not incurred when the notice was given, other than such as may be allowable by the provisions of the contract as necessary and incidental to final accounting and reporting; and

(2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to final accounting and reporting.

The Government may also avail itself of any other remedy the law may provide for breach of contract, including the right to rescind the contract and to demand repayment of all moneys contributed by the Government under the contract.

(c) The giving of any notice by the Government under the provisions of this Article 9 shall not affect the Government's rights as provided for in the contract with respect to royalty and liens to secure the payment thereof, and such rights shall be fully preserved.

(d) The determinations of the Government are subject to appeal under Article 13.

ARTICLE 10. Notices to be given by the Government may be delivered to the Operator, or may be sent by certified 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 11. 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 12. Nondiscrimination in Employment. The provisions respecting nondiscrimination in employment which are required by section 301 of Executive Order 10925, dated March 6, 1961 as amended and supplemented are attached hereto as Exhibit B and are hereby incorporated in and made a part of this contract.

ARTICLE 13. Disputes.--Any dispute arising under this contract which is not disposed of by agreement shall be decided by the Director, U. S. Geological Survey, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Operator. The decision of the Director, U. S. Geological Survey, shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Operator mails or otherwise furnishes to the Director, U. S. Geological Survey, a written appeal addressed to the Secretary of the Interior. The decision of the Secretary or his duly authorized representative for the determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence.

The term "Director, U. S. Geological Survey," as used herein includes his duly authorized representative.

ARTICLE 14. Work Hours Act of 1962 - Overtime Compensation.--This contract, to the extent that it is of a character specified in the Work Hours Act of 1962 (Public Law 87-581, 76 Stat. 357-360) and is not covered by the Walsh-Healey Public Contracts Act (41 U.S.C. 35-45), is subject to the following provisions and to all other provisions and exceptions of said Work Hours Act of 1962.

(a) Overtime requirements.--No Operator or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic to be employed on such work in excess of eight hours in any calendar day or in excess of forty hours in any workweek unless such laborer or mechanic receives compensation at a rate of not less than one and one-half times his basic rate of pay for all hours worked in excess of eight hours in any such calendar day or in excess of forty hours in any such workweek, as the case may be.

(b) Violations; liability for unpaid wages; liquidated damages.--In the event of any violation of the clause set forth in subparagraph (a) of this paragraph, the Operator and any subcontractor responsible therefor shall be liable to any affected employee for his unpaid wages. In addition, such Operator and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for

liquidated damages. Such liquidated damages shall be computed, with respect to each individual laborer or mechanic employed in violation of the clause set forth in subparagraph (a) of this paragraph, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (a) of this paragraph.

(c) Withholding for unpaid wages and liquidated damages.--The U. S. Geological Survey may withhold or cause to be withheld, from any moneys payable on account of work performed by the Operator or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Operator or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (b) of this paragraph.

ARTICLE 15. Copeland (Anti-Kickback) Act--Nonrebate of wages.--The regulations of the Secretary of Labor applicable to contractors and subcontractors (29 CFR, Part 3), made pursuant to the Copeland Act, as amended (40 U. S. C. 276c) and to aid in the enforcement of the Anti-Kickback Act (18 U. S. C. 874) are made a part of this contract by reference. The Operator will comply with these regulations and any amendments or modifications thereof and will be responsible for the submission of affidavits required of independent contractors thereunder. The foregoing shall apply except as the Secretary of Labor may specifically provide for reasonable limitations, variations, tolerances, and exemptions.

ARTICLE 16. Changes and added provision.--

Executed in quintuplicate the day and year first above written.

WESTERN STATES MINERALS, INC.
(Operator)

By John L. Larsen

Title President

THE UNITED STATES OF AMERICA

By Arthur A. Baker
Acting Director, U. S. Geological Survey

Long
App'd. Sol. Off.
Emerick
Stokenso
Peterson

I, Tim Watt (Name), certify that I am the _____ secretary of the corporation named as Operator herein; that Robert L. Larsen (Name), who signed this contract on behalf of the Operator, was then President (Title) 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.

John L. on Field Officer's copy see attached

Tim Watt

[CORPORATE SEAL]

EXPLORATION CONTRACT
WESTERN STATES MINERALS, INC.
OME-6646

ANNEX I

The land referred to in Article 2 of the contract consists of eighteen (18) patented lode mining claims situated in Secs. 20, 28, and 29, T. 10 S., R. 2 W., Salt Lake Base Line and Meridian, Tintic Mining District, Utah and Juab Counties, Utah.

These claims are shown on Figure 1, entitled "Claim Map and Proposed Exploration, Crown Point and East Crown Point Properties, Tintic Mining District, Utah and Juab Counties, Utah," which is attached and made part hereof.

The Operator is in possession of the following patented mining claims under terms of a Lease and Agreement dated February 24, 1967, by and between Crown Point Consolidated Mining Company and Western States Minerals, Inc.:

Name	Survey No.
Goshen #1	5708
Minnie Moore	5708
Minnie Moore Fraction	5708
Sunny Side	5708
Goshen #4	5708
Ridge	5708
Ridge #2	5708
Divide #2	5708
Castle	5714

The following patented mining claims are in possession of the Operator under the terms of a Mining Lease and Agreement dated April 15, 1967, by and between East Crown Point Consolidated Mining Corporation and Western States Minerals, Inc.:

Name	Survey No.
Crown Point Extensions Nos. 1 through 5	5744, amended
Maple Leaf	5744, amended
Maple Leaf No. 1	5744, amended
Maple Leaf No. 2	5744, amended
Zuma Fraction #1	5744, amended

Lien and Subordination Agreements executed by the owners of the patented mining claims are attached and made a part hereof.

3

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

FOR GOVERNMENT USE ONLY
Operator
Docket No. OME –
Contract No. 14-23-090 – 2285
Contract Date JUL 10 1969

LIEN AND SUBORDINATION AGREEMENTS 1/

To the United States of America:

That certain land in the County of UTAH, State of UTAH,

described as follows: 2/ IN EXHIBIT A, ATTACHED HERETO

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

WESTERN STATES MINERALS, INC. 3/

hereinafter called the "Operator". In consideration for and as an inducement to the Government executing the Contract, the undersigned:

1. (a) Being the owner of an interest in the land, hereby grants to the Government a lien upon all of his right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of the royalty on production provided for by the Contract, and agrees if the Operator's interest should be surrendered or terminated at any time prior to the expiration of the rights of the United States under said Contract to pay royalty to the Government according to the terms of said Contract; or

(b) Being the holder of a claim, lien, or encumbrance against the land, hereby subordinates his claim, lien, or encumbrance in or against the land and in any production therefrom to the rights of the Government under the Contract with respect to royalty on production and liens to secure same. 4/

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

3. Represents and undertakes that there is no claim, lien, or encumbrance upon the undersigned's right, title, claim, or interest in or against the land other than the following: (If "none" insert the word "none". Do not leave blank.)

(NONE)

1/ Production from the land is not required, and in the absence of production there is no obligation to pay royalty to the Government.

2/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease /or contract, deed, or other document/ dated_____, and recorded in Book_____, Page____, official records of said county". If (b) is used, the book and page of recordation must be inserted above. If the space provided is insufficient, use an Annex and refer to the Annex in the space.

3/ Insert name exactly as it appears in the Application MME Form 40.

4/ Subparagraph 1(a) does not apply to the holder of a claim, lien, or encumbrance.

4. Undertakes and agrees (a) neither to commit any act nor assert any claim in conflict with the provisions of this Agreement; and (b) to give advance notice of the Government's rights under this agreement to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, claim, or interest in or against the land or any production therefrom, furnishing the Government with two true copies of such notice; and

5. Consents to all amendments (including an agreement of termination) and assignments of the Contract without notice thereof, and undertakes and agrees that this agreement shall extend and apply thereto.

6. Added provisions None (State "None" or "See Annex No.____".)

Dated this 28 day of December, 1968.

Crown Point Consolidated Mining Co. — 124 So. Uni Ave. (Street)

Clayton Roundy (Seal) — Provo Utah. Box 64 (City & State)
President

_____ (Seal) — _____ (Street) (City & State)

_____ (Seal) — _____ (Street) (City & State)

_____ (Seal) — _____ (Street) (City & State)

_____ (Seal) — _____ (Street) (City & State)

_____ (Seal) — _____ (Street) (City & State)

I, Vern Roundy (Name), certify that I am the Secretary (Title—Secretary, etc.) of the corporation named herein; that Clayton Roundy (Name), who signed this agreement was then President (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

_____ (Corporate Seal)

EXHIBIT A

THE FOLLOWING PATENTED LODE MINING CLAIMS:

GOSHEN #1 SUR. #5708, 3.72 ACRES.

MINNIE MOORE, MINNIE MOORE FRACTION, SUNNY SIDE, 40.30 ACRES.

GOSHEN #4 RIDGE, RIDGE #2, DIVIDE #2, CERT. #01034, SUR. #5708, 72.347 ACRES.

AND ADDITIONAL PROPERTY WHICH IS DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF CASTLE #2 LODE, SURVEY #5714, BEING IN THE SOUTHEAST $\frac{1}{4}$ OF SECTION 20, TWP. 10 SOUTH, RGE. 2 WEST, S.L.M.; THENCE NORTH 1° 54' WEST, 1500 FT.; THENCE WEST 408.2 FT., THENCE SOUTH 1499.2 FT., THENCE EAST 457.9 FT. TO THE POINT OF BEGINNING, 10.0 ACRES.

ALL OF WHICH IS LOCATED IN PARTS OF SECTIONS 20, 28 and 29 OF TWP. 10 SOUTH, RGE. 2 WEST, S.L.M., UTAH COUNTY, STATE OF UTAH.

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

FOR GOVERNMENT USE ONLY
Operator
Docket No. OME –
Contract No. 14-23-090 – 2285
Contract Date JUL 10 1969

LIEN AND SUBORDINATION AGREEMENTS 1/

To the United States of America:

That certain land in the County of Utah, State of Utah,

described as follows: 2/ upon ~~Annex~~ Exhibit A attached,

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

Western States Minerals, Inc. 3/

hereinafter called the "Operator". In consideration for and as an inducement to the Government executing the Contract, the undersigned:

1. (a) Being the owner of an interest in the land, hereby grants to the Government a lien upon all of his right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of the royalty on production provided for by the Contract, and agrees if the Operator's interest should be surrendered or terminated at any time prior to the expiration of the rights of the United States under said Contract to pay royalty to the Government according to the terms of said Contract; or

(b) Being the holder of a claim, lien, or encumbrance against the land, hereby subordinates his claim, lien, or encumbrance in or against the land and in any production therefrom to the rights of the Government under the Contract with respect to royalty on production and liens to secure same. 4/

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

3. Represents and undertakes that there is no claim, lien, or encumbrance upon the undersigned's right, title, claim, or interest in or against the land other than the following: (If "none" insert the word "none". Do not leave blank.)

The title of the undersigned is subject to a lease in favor of the Operator. Such title is believed to be otherwise free of encumbrances (except the lien securing general taxes), but such title is not warranted in the lease nor in this Agreement.

1/ Production from the land is not required, and in the absence of production there is no obligation to pay royalty to the Government.

2/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease /or contract, deed, or other document/ dated_____, and recorded in Book_____, Page____, official records of said county". If (b) is used, the book and page of recordation must be inserted above. If the space provided is insufficient, use an Annex and refer to the Annex in the space.

3/ Insert name exactly as it appears in the Application MME Form 40.

4/ Subparagraph 1(a) does not apply to the holder of a claim, lien, or encumbrance.

4. Undertakes and agrees (a) neither to commit any act nor assert any claim in conflict with the provisions of this Agreement; and (b) to give advance notice of the Government's rights under this agreement to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, claim, or interest in or against the land or any production therefrom, furnishing the Government with two true copies of such notice; and

5. Consents to all amendments (including an agreement of termination) and assignments of the Contract without notice thereof, and undertakes and agrees that this agreement shall extend and apply thereto.

6. Added provisions none (State "None" or "See Annex No. ____".)

Dated this 28 day of December, 1968.

East Crown Point Consolidated Mining Company P. O. Box 270 (Street)
(City & State) Eureka, Utah

By Gordon D. Stott (Seal)
President

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

I, E.R. Tomkinson (Name), certify that I am the Secretary (Title—Secretary, etc.) of the corporation named herein; that Gordon D. Stott (Name), who signed this agreement was then President (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

E.R. Tomkinson
(Corporate Seal)

EXHIBIT A

(Annexed to and part of Mining Lease
And Agreement dated as of April 15, 1967)

The premises belonging to East Crown Point Consolidated Mining Company covered by the Mining Lease And Agreement dated as of April 15, 1967 and referred to therein as the "Leased Premises" are situated in the East Tintic Mining District, Utah County, State of Utah, and are more particularly described as follows:

The following patented lode mining claims:

Crown Point Extension No. 1, Crown Point Extension No. 2, Crown Point Extension No. 3, Crown Point Extension No. 4, Crown Point Extension No. 5, Maple Leaf, Maple Leaf Lode #1, Maple Leaf #2, Zuma Fraction #1, U.S. Mineral Survey No. 5744, amended,

less the following portions of such claims:

7.107 acres from Crown Point Extension Nos. 1,2, and 3 lode claims conveyed to Tintic Central Mining Company on October 8, 1921;

0.022 acres from the Maple Leaf lode claim conveyed to Zuma Mining Company in January, 1922;

5.193 acres from Maple Leaf, Maple Leaf #1 and #2 lode claims conveyed to Tintic Central Mining Company on October 8, 1921;

6.216 acres from Zuma Fraction #1 lode claim conveyed to Zuma Mining & Milling Company in January, 1922; and

5.837 acres from Zuma Fraction #1 lode claim conveyed to P. J. Fennel & W. F. Shriver of Eureka, Utah in January, 1922.

92.324 acres

A metes and bounds description of the Leased Premises follows:

From Cor. No. 1, Crown Point Extension No. 1 lode claim, bearing N. 34° 00' E. 4160.5 ft. to 1/4 Sec. Cor. between Secs. 20 and 21, T. 10 S., R. 2 W., SLB&M; thence N. 86° 14' E. 1460.0 ft. to Cor. No. 2 of the Ridge No. 2, Survey No. 5708; thence North 600 ft. to Cor. No. 5 of the Crown Point Extension No. 4; thence N. 5° 52' E. 784.7 ft. to intersection on South boundary of No. 1 Iron Placer; thence S. 89° 29' E. 544.2 ft. to intersection on Line 1-4 of Zuma No. 3, Survey No. 5735; thence S. 42° 26' W. 845.7 ft. to Cor. No. 4, Zuma No. 3, Mineral Survey No. 5735; thence S. 61° 33' E. 1222 ft. to Cor. No. 3, Zuma No. 1, Mineral Survey No. 5735; thence No. 42° 26' E. 14.2 ft. to intersection on Line 2-3, Maple Leaf Lode #1, Mineral Survey No. 5774; thence S. 66° 04' E. 866.7 ft. to Cor. No. 3, Zuma Fraction #1; thence S. 33° 00' W. 1377.8 ft. to Cor. No. 3, Maple Leaf #2; thence N. 66° 04' W. 98.2 ft. to Cor. No. 4, Maple Leaf #2; thence N. 84° 22' W. 757.3 ft. to Cor. No. 4, Maple Leaf; thence S. 0° 23' E. 217.1 ft. to a point on Line 3-4, Crown Point Extension No. 3; thence N. 69° 03' W. 958.0 ft. to Cor. No. 3, Frank lode claim, Mineral Survey No. 6025; thence N. 69° 03' W. 959.6 ft. to a point on Line 1-2, Crown Point Extension No. 1; thence N. 0° 17' W. 649.2 ft. to place of beginning. Comprising 92.324 acres.

EXPLORATION CONTRACT
WESTERN STATES MINERALS, INC.
OME-6646

EXHIBIT A

The purpose of this project is to explore for silver-copper-gold replacement ore bodies in channels, breccia zones, or dikes north of the Sioux-Ajax fault zone in the Bluebell Dolomite Formation of Devonian age and other formations of Paleozoic age.

The work shall be performed by shaft sinking, drifting, and diamond core drilling from underground stations.

General Provisions

The vertical shaft shall be not less than 14 feet by 7 feet outside timber and shall have two compartments using standard 8" x 8" timber sets on 6-foot centers. Each compartment shall be not less than 5' x 5' in cross section in the clear of timber. Ladders throughout and landings at vertical intervals of not more than 20 feet shall be installed in the manway compartment.

Drifts and crosscuts shall be not less than 5' x 7' in cross section in the clear of timber and shall be timbered as necessary using standard 8" x 8" sets.

Mine rails in the drifts and crosscuts shall not be less than 12-pound size, air lines not less than 2 inches in diameter, and water lines not less than 1 inch in diameter. The shaft and drifts shall be ventilated, using not less than 12-inch diameter ventilation tubing.

The Operator shall provide such equipment, materials, supervision, labor, and technical services, including sampling and assaying, as may be required to complete the work in a satisfactory manner.

The Operator at its own cost and expense shall construct a headframe and install a power line and hoisting, ventilation, and pumping equipment necessary to sink and to operate a vertical shaft extending from the surface to a depth of approximately 1,300 feet and workings therefrom.

No drilling or underground work shall be done within 100 feet of the exterior boundaries of the land outlined on Figure 1.

The location, direction, and extent of each work item shall be subject to prior Government approval. The Government will not participate in the costs incurred for incomplete drill holes or for casing left in holes at the request of the Operator.

All diamond drill holes drilled from underground locations shall be completed with standard AX (nominal diameter 1-1/8") core size or equivalent wire line size equipment.

Significantly mineralized core shall be split and one split assayed for silver and gold. Where indicated by the mineralization, the core may be assayed also for copper. No sample shall represent a core length greater than five feet. The remaining core shall be stored in proper sequence with the unmineralized core.

Facilities shall be provided for recovering drill sludges. Sludge samples shall be retained when drilling in significantly mineralized rock.

Diamond drill core shall be stored in boxes identified as to hole number with markers in the core sections indicating the depth represented. Sludge samples shall be stored in suitable containers properly identified as to source and location. The stored core and sludge samples shall be retained for Government inspection and possible use. With prior Government approval, the Operator may dispose of the core and sludge samples.

All significantly mineralized areas intersected by underground workings shall be sampled by cutting channels normal to the trend of mineralization at intervals of not more than 5 feet and in addition a representative bulk sample shall be taken of each round broken in such areas.

True copies of assay certificates for all samples shall be submitted with the Operator's monthly report which shall include also a map or sketch showing the work completed during the reporting period. The map or sketch should show the general geologic conditions of the area traversed and the location and assay value of the samples taken from drill core and underground workings. Copies of the logs of completed drill holes shall likewise be submitted with the Operator's monthly report.

Mine installations and operating practices shall conform to mine safety regulations of the State of Utah.

The work shall be divided into two stages with Stage I consisting mainly of shaft sinking, and Stage II consisting of crosscutting, drifting, and diamond drilling.

Contract funds not expended to complete work on items in Stage I may be applied to work on items in Stage II with the prior written approval of the Government.

Description of the Work

The work shall consist of sinking a vertical shaft 1,300 feet, crosscutting and drifting about 500 feet on a level established near the 1,300-foot level, and diamond core drilling about ten holes totalling approximately 4,000 feet from underground sites on the 1,300-foot level.

Stage I

From a site 250 feet west and 200 feet south of drill hole CP I, shown in Section 29 on Figure 1, sink a vertical shaft about 1,300 feet to provide access for underground workings to be driven in the Bluebell Dolomite Formation at an elevation about 5,300 feet above sea level.

A shaft station, rock storage pocket, and sump shall be excavated to service workings to be driven on the 1,300-foot level.

Stage II

Starting from the shaft station on the 1,300-foot level, crosscut south not more than 500 feet to locate the Sioux-Ajax fault. Any remaining footage shall be used to drift east and/or west from the crosscut to intersect possible north-trending ore channels north of the Sioux-Ajax fault.

From the proposed crosscut and drifts on the 1,300-foot level at sites to be selected by the Operator and with the approval of the Government confirmed in writing, drill about ten diamond core drill holes in an east-west fan pattern to explore north-south ore channels above, below, and at the level of the 1,300-foot drift.

The approximate locations of the work described are shown in plan view on Figure 1.

Estimated Costs of the Work

Stage I

Fixed Unit Costs 1/ 2/

Shaft sinking, including timbering and excavating for station, loading pocket, and sump,		
1,300 feet @ $135.50/ft.	$176,150.00	
1 - Outside consultant,		
2 days @ $75.00/day	150.00	
Per diem outside consultant,		
2 days @ $16.00/day	32.00	
Transportation for consultant,		
233 miles @ $0.12/mile (rounded)	28.00	
Total Estimated Fixed Unit Costs Stage I		$176,360.00
Government Participation @ 25%		$ 44,090.00

Stage II

Fixed Unit Costs 1/2/

Crosscutting and drifting, including timbering and preparing drill sites,		
500 feet @ $37.95/ft.	$ 18,975.00	
1 Outside consultant,		
9 days @ $75.00/day	675.00	
Per diem outside consultant,		
9 days @ $16.00/day	144.00	
Transportation for consultant,		
633 miles @ $0.12/mile (rounded)	76.00	
Total Estimated Fixed Unit Costs, Stage II		$ 19,870.00

Actual Costs

Category (1) Independent Contracts

Drilling

Mobilization and demobilization of drill	$ 200.00	
Collar pipe - NX or NC,		
100 feet @ $7.40/ft.	740.00	
Diamond core drilling,		
4,000 feet	35,590.00	

	NX	BX	AX
0-250 ft.	$6.60	$6.30	$6.00
250-500 ft.	6.90	6.60	6.30
500-750 ft.	7.20	6.90	6.60

Lost casing in completed holes -		
400 feet	1,200.00	
NX @ $3.00/ft.		
BX @ $2.00/ft.		
Cement, drill mud, additives and hole plugging agents	2,000.00	
Cementing and redrilling,		
50 hours @ $13.50/hr.	675.00	
Reaming and installing casing,		
50 hours @ $12.00/hr.	600.00	
Standby time,		
50 hours @ $13.50/hr.	675.00	
		$41,680.00

Category (7) Miscellaneous

None except:

Cardboard core boxes,

320 @ $1.00 each 320.00

Total Estimated Actual Costs, Stage II $42,000.00

Total Estimated Costs, Stage II $61,870.00

Government Participation @ 50% $30,935.00

S U M M A R Y

Total Estimated Cost of Stage I $176,360.00

Government Participation @ 25% . . . . . $ 44,090.00

Total Estimated Cost of Stage II . . . . . $ 61,870.00

Government Participation @ 50% . . . . . $ 30,935.00

Total Estimated Cost of Project $238,230.00

Government Participation . . . . . $ 75,025.00

1/ Covers all costs whatsoever, including equipment, materials, labor, technical services, taxes, and insurance.

2/ The Government retains no equity in any of the equipment or materials used.

EXHIBIT B

NONDISCRIMINATION IN EMPLOYMENT

(Section 202, Executive Order 11246, September 24, 1965)

"During the performance of this contract, the contractor agrees as follows:

'(1) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

'(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

'(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

'(4) The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

'(5) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contractingagency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

'(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

'(7) The contractor will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, That in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.'"

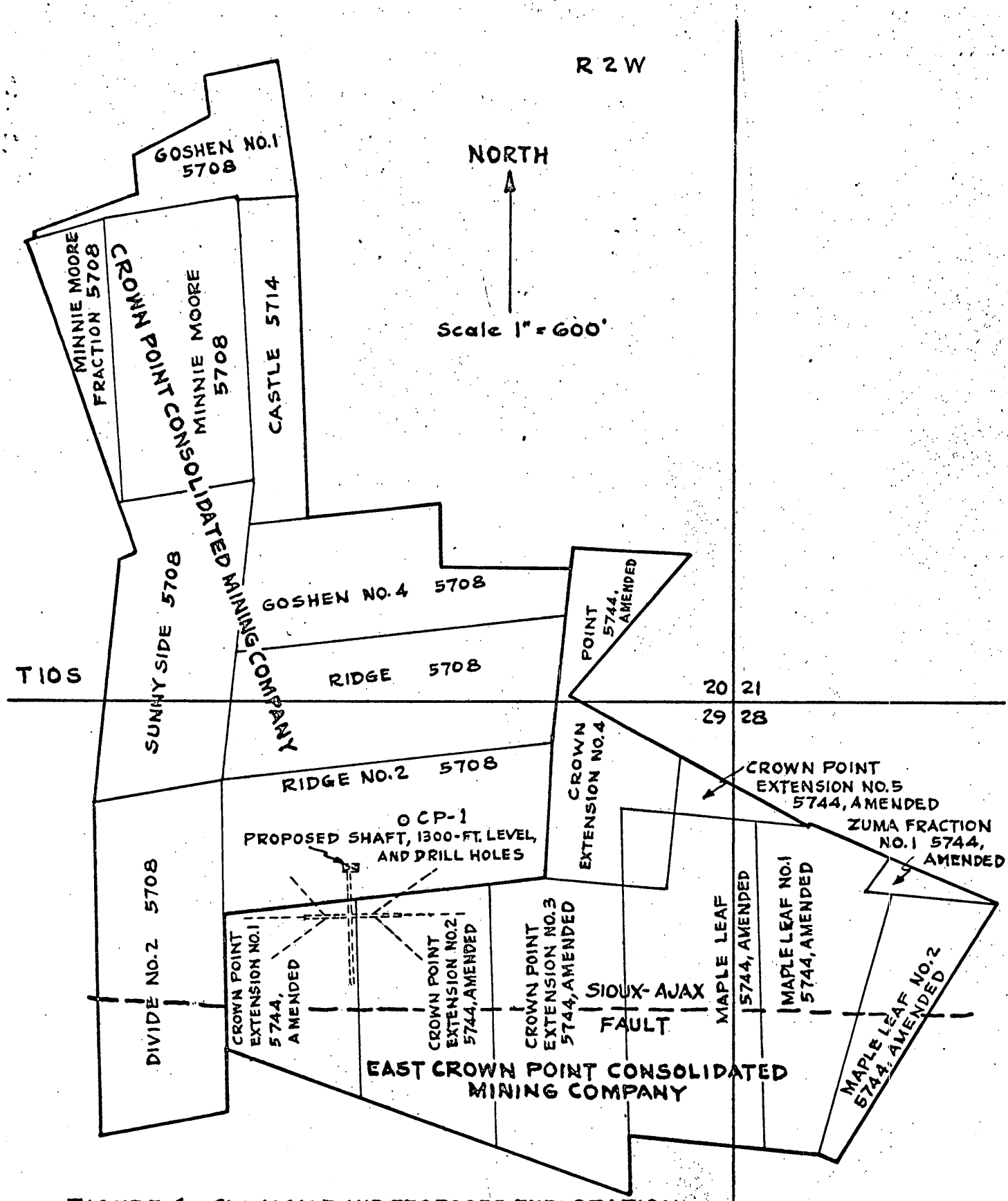

FIGURE 1.- CLAIM MAP AND PROPOSED EXPLORATION, CROWN POINT AND EAST CROWN POINT PROPERTIES, TINTIC MINING DISTRICT, UTAH AND JUAB COUNTIES, UTAH

Revised Application to Office of Minerals Exploration.

Estimate of Cost:

Crown Point and East Crown Point Projects		$239,125.00
O.M.E. Share		$75,025.00
Surface Set Up		
Power Line	$2,000.00	$2,000.00
Shaft Sinking		
Equipment @ Material		
4" Aluminum Pipe	$ .90 air	
2" Aluminum Pipe	.60 water	
18" Vent Bag	2.00 per foot	
Electricity	2.00 per foot	
Blasting Supplies	4.00 per foot	
Hoist Rental	6.00	
Compressor Rental	10.00	
Mucking Machine	3.00	
Drill Bits @ Steel	4.00	
Equipment Repair	2.00	
Dump Truck	3.00	
Water Truck	3.00	
Timber	35.00 (see #7)	
	$ 75.50 per foot	
	times 1,300 feet	98,150.00

Shaft Labor

1 hoistman
1 topman
3 miners
1 carpenter

6 men @ $30.00

$180.00 for 3 feet per day or $60.00 per foot x 1,300 feet 78,000.00

SHAFT TOTAL $178,150.00

O.M.E. Share (one-fourth) $44,537.50

Attachement to 1/7/69 ltr. A.R. Rogers

Estimate of Cost - continued

Drift - 500 feet

Equipment @ Materials

4" Aluminum pipe	$	.90 air	
2" Aluminum pipe		.60 water	
Rail, ties @ spikes		2.70	
Drill bits @ steel		3.00	
Blasting supplies		3.00	
Mucking Machine		2.00	
Motor		2.00	
Hoisting muck		1.00	
Drilling equipment		2.50	
Compressor rental		5.00	
Hoist rental		3.00	
	$	25.70 x 500 feet	$12,850.00

Labor

1 topman
1 hoistman
2 miners

4 men @ $12.25 x 500 feet	6,125.00
Drift Total @ $37.95 per foot	18,975.00
O.M.E. Share (one-half)	9,487.50

Diamond Drilling

est. Cost.

10 holes - 400' deep $10.50 per foot Bid submitted by Boyles Brothers	42,000.00
O.M.E. Share (one-half)	21,000.00

PRESIDENT - GLEN LARSEN
SECRETARY AND
TREASURER - JOHN L. LARSEN

VICE PRESIDENT - LESLIE W. LARSEN
VICE PRESIDENT - LLOYD LARSEN

WESTERN STATES MINING AND CONTRACTING, INC.
CUSTOM MINING AND MINING CONTRACTORS
1111 WESTVIEW DRIVE
RIVERTON, WYOMING

TELEPHONE: 856-2796

December 3, 1968

Mr. Del Crouse
American National Bank
Riverton, Wyoming

Dear Mr. Crouse,

Please accept this letter as an application for a loan in the amount of $75,025.

This money is needed to complete our proposed exploration program on our leases of the Crown Point and East Crown Point properties in the Tintic Mining District near Eureka, Utah.

Our proposed exploration program consists of(1) sinking a 1300 foot vertical shaft, (2) running 500 feet of 5'x 7' drift and (3) drilling 6000 feet of diamond core hole in search of lead and silver bearing mineralization.

Attached, is a geology report on the properties which show the excellent geological reasons why we wish to explore these properties further.

Also included are a financial statement on our company and a list of equipment which we own and which could be used as security on the loan.

We propose paying the interest on this note out of our current cash flow and reducing the principle by paying 5% of our gross sales of ore from this property as it is mined.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very Truly Yours,
Western States Minerals,Inc.

John L Larsen

John L. Larsen
President

encl.3

American National Bank of Riverton
Box BA
RIVERTON, WYOMING

DEL CROUSE, PRESIDENT

January 6, 1969

Mr. John L. Larsen, President
Western States Minerals, Inc.
Riverton, Wyoming

Dear Mr. Larsen:

Our Board of Directors has been unable to favorable consider your loan application for $75,025.00 as outlined in the letter application attached hereto.

The amount applied for greatly exceeds this banks loan limit and the use of the funds is for operations in an area outside our trade territory. /NC

Thank you for thinking of us when in need of a loan and we hope if you have other needs for bank services in the future you will think of the American National.

Sincerely yours,

Del Crouse

Del Crouse, President

PRESIDENT - GLEN LARSEN
SECRETARY AND
TREASURER - JOHN L. LARSEN

VICE PRESIDENT - LESLIE W. LARSEN
VICE PRESIDENT - LLOYD LARSEN

WESTERN STATES MINING AND CONTRACTING, INC.
CUSTOM MINING AND MINING CONTRACTORS
1111 WESTVIEW DRIVE
RIVERTON, WYOMING

TELEPHONE: 856-2796

December 3, 1968

Mr. Gerald Heckart
First National Bank
Riverton, Wyoming

Dear Mr.Heckart,

Please accept this letter as an application for a loan in the amount of $75,025.

This money is needed to complete our proposed exploration program on our leases of the Crown Point and East Crown Point properties in the Tintic Mining District near Eureka, Utah.

Our proposed exploration program consists of (1) sinking a 1300 foot vertical shaft, (2) running 500 feet of 5' x 7' drift and (3) drilling 6000 feet of diamond core hole in search of lead and silver bearing mineralization.

Attached, is a geology report on the properties which show the excellent geological reasons why we wish to explore these properties further.

Also included are a financial statement on our company and a list of equipment which we own and which could be used as security on the loan.

We propose paying the interest on this note out of our current cash flow and reducing the principle by paying 5% of our gross sales of ore from this property as it is minded.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very Truly Yours,

Western States Minerals,Inc.

John L Larsen

John L. Larsen
President

encl.3

P.O. BOX 233
ZIP CODE 82501
AREA CODE 307
PHONE 856-2211

The 1ST FIRST NATIONAL BANK of Riverton, Wyoming

G. L. HECKART
EXECUTIVE VICE PRESIDENT

January 6, 1969.

Western States Mining Company,
Riverton,
Wyoming 82501.

Dear Sirs:

It will not be possible for The First National Bank of Riverton to honor your application for a loan in the amount of $75,025.00. The projected repayment schedule is not acceptable to ourm bank policies.

Very truly yours,

G. L. Heckart

G.L. Heckart
Executive Vice President

GLH/sb
c.c.

Western States Mining and Contracting, Inc.
Custom Mining and Mining Contractors
1111 WESTVIEW DRIVE • RIVERTON, WYOMING 82501
TELEPHONE 856-2796

GLEN LARSEN, PRESIDENT
JOHN L. LARSEN, SECRETARY-TREASURER

LLOYD LARSEN, VICE PRESIDENT
LESLIE LARSEN, VICE PRESIDENT

October 21, 1968

Mr. Frank Johnson
Chief, O. M. E.
U. S. G. S.
Washington, D. C. 20242

RE: O. M. E. 6646 Silver

Dear Frank;

Here is the information you requested for revision. I do hope it meets with your approval.

Enclosed are some pictures of how far we have progressed. Please return them.

Thank you.

Very truly yours,

John L. Larsen
lmc

John L. Larsen

OFFICE
COPY
O. M. E.
RECEIVED
NOV 4 1968
INITIALS
130
bal 120 m
110
120

JLL/lmc

(Copy to Hosler needs to be sent.)

Revised Application to Office of Minerals Exploration.

Estimate of Cost:

Crown Point and East Crown Point Projects	$230,025.00

Surface Set Up

Power Line	$ 2,000.00	$ 2,000.00

Shaft Sinking

Equipment & Material:

4" Aluminum Pipe	$ .90	air
2" Aluminum Pipe	.60	water
18" Vent Bag	2.00	per foot
Electricity	2.00	per foot
Blasting Supplies	4.00	per foot
Hoist Rental	6.00	
Compressor Rental	10.00	
Mucking Machine	3.00	
Drill Bits & Steel	4.00	
Equipment Repair	2.00	
Dump Truck	3.00	
Water Truck	3.00	
Timber	35.00	(see #7)
	$ 75.50	per foot
	times 1,300	feet

98,150.00

Shaft Labor

1 hoistman
1 topman
3 miners
1 carpenter
6 men @$30.00 per day

$180.00 for 3 feet or $ 60.00 per foot x 1,300 feet 78,000.00

SHAFT TOTAL $178,150.00

O. M. E. Share (one-third) $ 59,383.33

Proposed we should
.25% goals Corp in
shaft sinking
.9% $44,537.50
See application dated
7/9/68

Stay around
60,000

Drift - 500 feet

Equipment & Materials

4" Aluminum pipe	$ .90	air
2" Aluminum pipe	.60	water
Rail, ties, & spikes	2.70	
Drill bits & steel	3.00	
Blasting supplies	3.00	
Mucking Machine	2.00	
Motor	2.00	
Hoisting muck	1.00	
Drilling equipment	2.50	
Compressor rental	5.00	
Hoist rental	3.00	
	$ 25,70 X 500 feet	$ 12,850.00

Labor

1 topman
1 hoistman
2 miners
4 men @ $ 12.25 X 500 feet 6,125.00

37.95/ft.

18975.00

½ 50 - 9,487.50

Diamond Drilling

est. cost.
10 holes - 400' deep $8.00 per foot
Bid submitted by Boyles Brothers 32,000.00 ½ 16

Drift Total $ 50,975.00

O. M. E. Share (one-half) $ 25,487.50

Corporation making application:

WESTERN STATES MINERALS, INC.
LLLL WEST VIEW
RIVERTON, WYOMING

Owned by:

Glen L. Larsen
John L. Larsen
Lloyd Larsen
Tim Watt
Leslie Larsen

Affiliated for finances with:

WESTERN STATES MINING & CONTRACTING, INC.
LLLL WEST VIEW
RIVERTON, WYOMING

Owned by:

John Larsen - Sec/Treas.
Glen Larsen - President
Lloyd Larsen - Vice President
Leslie Larsen - Vice President

The Cash flow to support this project will come from Western States Mining & Contracting, Inc. (referred to as the Parent Company), to support our share of project.

Financial Statement of Parent Company attached hereto.

WESTERN STATES MINING & CONTRACTING, INC.
BALANCE SHEET
DECEMBER 31, 1967

ASSETS		
CURRENT ASSETS:		
Cash in Bank	$(13,208.63)	
Accounts Receivable	37,717.05	
Prepaid Expenses	3,645.97	$ 28,154.39
FIXED ASSETS:		
Equipment	$ 96,285.35	
Less Reserve	23,261.87	73,023.48
		$101,177.87
LIABILITIES		
CURRENT LIABILITIES:		
Accounts Payable	$ 15,620.09	
Payroll Taxes Payable	1,957.89	
Note Payable - C. & H. Const.	1,600.00	$ 19,177.98
LONG TERM LIABILITIES:		
Note Payable - Colorado National	$ 7,395.77	
Note Payable - 1st Security - Moab	4,512.13	
Note Payable - B & H Mines	2,000.00	
Note Payable - American Nat'l	1,136.79	
Note Payable - Western Nuclear	7,000.00	22,044.69
CAPITAL AND SURPLUS		
Capital Stock	$ 5,622.54	
Earned Surplus	54,332.66	59,955.20
		$101,177.87

WESTERN STATES MINING & CONTRACTING, INC.
STATEMENT OF PROFIT & LOSS
FOR TWELVE MOMTHS
ENDED DECEMBER 31, 1967

INCOME:

Contract Income		$383,910.36

Expenses:

Wages	$124,340.16	
Officers Salareis	41,000.00	
Gas & Oil	28,438.87	
Repairs	41,175.33	
Utilities	9,704.88	
Office	772.43	
Advertising	1,496.04	
Insurance	1,848.17	
Taxes	15,743.14	
Travel	12,111.92	
Supplies	28,038.21	
Equipment Rent	18,737.69	
Sub Contracts	7,242.21	
Interest	1,516.80	
Accounting & Legal	3,033.35	335,199.20
Net Profit Before Depreciations		$ 48,711.16
Depreciation		13,813.41
Net Profit		$ 34,897.75

WESTERN STATES MINING & CONTRACTING, INC.

September 30, 1968

ACCOUNTS RECEIVABLE:

Drilling Contract - Sinclair Oil	$ 18,538.86	
Mining Contracts - Western Nuclear	18,560.00	
Claim Sales - Sinclair Oil	37,000.00	$ 74,098.86

PROJECTED INCOME:

	October	November	December	
Drilling	$ 5,000.00	$ 7,000.00	$ 5,000.00	
Mining	12,000.00	15,000.00	18,000.00	
	$ 27,000.00	$ 22,000.00	$ 23,000.00	
			*** *** ***	
Total Drilling & Mining			$ 72,000.00	
Claim Sales			52,400.00	124,400.00
Total Income Balance Year				$198,498.86

PROJECTED EXPENDITURES:

1st National Bank	$ 20,000.00	
Expenses	31,000.00	
Payroll	28,000.00	
Coleman Flying	5,000.00	
Sub Contracts	3,000.00	
Claim Purchase	22,500.00	109,500.00
Excess		$ 88,998.86
Withhold Claim Sales	$ 52,400.00	
December Income	23,000.00	75,400.00
Excess for Balance Year		$ 13,598.86

Western States Minerals, Inc.
1111 West View
Riverton, Wyoming

First National Bank
Riverton, Wyoming

Attn: Mr. Gerald Heckart

Dear Gerry;

Please accept this letter as a loan application in the amount of $277,550.00.

This money is needed to do exploration work on the East Crown Point and Crown Point Properties, Tintic District, Utah.

Our initial project would be to sink a 1,300 foot shaft and run a 2,000 foot drift in search of silver bearing minerals.

Attached are:

Geology report on properties.
Financial report - 1966.
Equipment owned for security of loan.

We would pay this loan with 5% gross sales of ore derived from this property. We would also pay the interest on this loan from current cash flow until the ore is being mined.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very truly yours,

WESTERN STATES MINERALS, INC.

John L. Larsen
President

encl - 3
JLL/lmc

Western States Minerals, Inc.
1111 West View
Riverton, Wyoming

First Security Bank
Moab, Utah

Attn: Ray Howard

Dear Ray:

Please accept this letter as a loan application in the amount of $277,530.00.

This money is needed to do exploration work on the East Crown Point and Crown Point Properties, Tintic District, Utah.

Our initial project would be to sink a 1,200 foot shaft and run a 2,000 foot drift in search of silver bearing minerals.

Attached are:

Geology report on properties.
Financial report - 1966.
Equipment owned for security of loan.

We would pay this loan with 5% gross sales of ore derived from this property. We would also pay the interest on this loan from current cash flow until the ore is being mined.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very truly yours,

WESTERN STATES MINERALS, INC.

John L. Larsen
President

Encl 3
JLL/lmc

Western States Minerals, Inc.
1111 West View
Riverton, Wyoming

May 24, 1967

American National Bank
Riverton, Wyoming

Attn: Mr. John Benesch

Dear Mr. Benesch:

Please accept this letter as a loan application in the amount of $[illegible].

This money is needed to do exploration work on the East Cream Point and Cream Point Properties, Tintic District, Utah.

Our initial project would be to sink a 1,[illegible] foot shaft and run a 2,000 foot drift in search of silver bearing minerals.

Attached are:

Geology report on properties
Financial report - 1966
Equipment owned for security of loan.

We would pay this loan with 5% gross sales of ore derived from this property. We would also pay the interest on this loan from current cash flow until the ore is being mined.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very truly yours,

WESTERN STATES MINERALS, INC.

John L. Larsen
President

encl - 3
JLL/lmc

Item # 4 Assessibility of Property

Company personnel available to aid ONE representative:

Mr. Glen L. Larsen
489 N. 3 W.
Provo, Utah
Phone 374-8541 Area Code 801

Mr. John L. Larsen
1111 Westview Drive
Riverton, Wyoming
Phone 856-2796 Area Code 307

The shipping and supply points involved are:

Both the U. P. Railroad and the D. & R. G. W. Railroad are within a 10 mile radius.

Five miles SE of Eureka, Utah is the site. This can be reached via Knightsville road to Iron Blossom or Silver Pass road via Trixie Claims.

Call or write either of the above mentioned names for transportation and guidance to property.

Item # 5 **Exploration Work**

The shaft will be 5' by 5' to compartment in the clear.

The drift is 5' by 7' in the clear.

There will be a total of 1,300 feet of shaft, and 2,000 feet of drift.

We are prepared to start work immediately with shaft completion in 17 months. The drift completion will require an additional 11 months or a total of 28 months from the starting date of the project.

Item #6 Experience

Mr. Glen Larsen
489 N. 3 West
Provo, Utah

Mr. Larsen has 30 years living in the Tintic Mining District working as Supervisor for Mammoth Mine, International Smelting, Meumont Mining Company, Centenial Development and operated leased mines. He has studied Geology quite extensively in District through special classes and self training.

Mr. Roger Banghart
Geologist and Engineer

Mr. Banghart has been Kennecott Copper Geologist for 13 years, 2 years Field Geologist for Federal Resources, and Manager of Silver King Mines for years.

Item #7 Estimates of Additional Materials and Supplies.

Pieces	Size	Description	Required	Rate	Amount
520	8x8	#1 Mining Grade D.F.	38,827 '	$125.00	$ 4,853.30
2340	8x8	#1 Mining Grade D.F.	74,880 '	125.00	9,360.00
1400	2x12	#1 Mining Grade D.F.	124,000 '	125.00	15,600.00
2600'	4x6	Select Structural 545 Guides	5,200 '	170.00	884.00
1500		Mine Ladder			900.00
6000		Smooth Steel Rod			2,280.00
600	3/2x6	lag screws	600	25.00	150.00
1300		4 common	1,200		169.00
7500		Mine Wedges			375.00
1500	3/4	Nuts			156.00
2500	3/4	Cut Washers			62.50
2500		Cast Washers			200.00
4160	12'	2 x 12	8,323		1,040.00
2080	12'	8 x 8	11,092		1,386.50
930	14'	2 x 2	1,360		68.00
1400'		1/4" Cable			200.00
		Pipe Lgrs.-Cement - I Beam			
		Power Cable			6,081.26
		Taxes			1,112.56
					$ 45,000.00

12.3% of Gross Labor for FICA		4.4%	
	Workmen's Comp.	5.0%	
	Employment Security	3.2	
(Estimate only as Utah WCD is computed on $ 4.84 per $100.00			$ 8,796.75

Consultant Geologist	10 Days @$ 75.00	$ 750.00	
	Expenses @$25.00 per day	250.00	$ 1,000.00

FORM 311A 5M 2-58

Longyear

E. J. LONGYEAR COMPANY
General Offices, 76 South 8th St.
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 9-7631 • CABLE LONGCO

OMA Region III
RECEIVED
FEB 20 1968
Denver, Colorado

865 West 2600 South
P. O. Box 15218
Salt Lake City, Utah
February 14, 1968

Western States Minerals & Contractors
1111 Westview
Riverton, Wyoming 82501

Attention Mr. Jack Larsen

Gentlemen:

In response to your recent request for a general cost estimate for drilling a gold and silver prospect near Eureka, Utah, we are pleased to submit the following:

1. We understand that the work as now planned will consist of approximately 4,000 linear feet to be drilled underground in ten holes varying in inclination from a minus 45° to a plus 45°, and ranging up to a maximum of 400 feet in length. We further understand that the formation is to consist of dolomite and limestone.

2. For this work we propose to furnish one Longyear underground diamond core drill of suitable capacity, together with the necessary accessory equipment required to complete the work as now planned. We further propose to operate the drill two eight hour shifts per day, six days per week.

3. We will carry public liability insurance covering personal injury and property damage and Workmen's Compensation insurance, and also all-risk insurance on the drilling equipment protecting against loss by theft, fire, flood, landslides and other similar hazards. Certificates showing the coverage referred to will be furnished upon request.

4. Based on the conditions as outlined, we are pleased to quote as follows:

a) Mobilization and demobilization of personnel and drilling equipment - $250.00 Lump Sum

b) Diamond core drilling -

	BQWL	AQWL
(For holes with inclination from 0° to - 45° as measured from the horizontal)		
0 to 400' in depth	$6.75/ft.	$6.50/ft.
(For holes with inclination from 0° to + 45° as measured from the horizontal)		
0 to 400' in depth	$8.75/ft.	$8.50/ft.

c) Casing lost in holes - 80 % List Price
Casing left in hole at your request - 100% List Price

d) Reaming and casing -

AX size $2.75/ft.
BX size $3.00/ft.

e) Cementing, waiting for cement to set, and drilling out cement - $16.50/hour, plus cost of materials used.

f) Drill hole inclination tests, and delays for your convenience or for which you are responsible - $13.50/hr.

g) Moving, rigging up and rigging down, inserting and pulling casing - $6.75/man Hr.

h) Core boxes - cardboard construction, to hold 10' of core - $1.25/box

5. It is understood and agreed that you will provide, without charge to the Longyear Company, the following facilities and services:

a) Compressed air and water in sufficient volume and at sufficient pressure to permit the drilling operations to be carried out in an efficient and workmanlike manner.

b) Facilities for moving equipment from the collar of the shaft to the first drill hole location, and thereafter from one drill station to another, and return to the collar of the shaft upon completion of the work.

c) Suitable transportation each work day for our personnel from the collar of the shaft to the drill station and return.

d) Drill station of sufficient size to permit efficient handling of drill stem and core barrel in ten foot lengths.

e) Proper lighting and ventilation at each drill station.

6. Drill cores will be turned over to your representative at the drill stations, in core boxes furnished by you.

7. Statements covering the work performed will be prepared as promptly as possible after the first of each month, and payment will be due within twenty days from date of invoice.

8. We appreciate the opportunity to quote on this project, and hope that if you proceed with the work, we will be able to work with you on it.

Sincerely,

E. J. LONGYEAR COMPANY

D. F. Crotty

DFCrotty:e

Manager, Rocky Mt. Zone
Contract Drilling Division

DIAMOND CORE DRILLING
DIAMOND DRILLING EQUIPMENT
GROUTING
FOUNDATION TESTING
MINING
QUARRYING
SHAFT SINKING
TUNNEL DRIVING
MINE PLANT DESIGN
AND FABRICATION

Boyles Bros. DRILLING COMPANY

CONTRACTORS-ENGINEERS-GEOLOGISTS

General Offices and Plant
1624 Pioneer Road P. O. Box 58 Phone 487-7595
SALT LAKE CITY, UTAH 84110
Cable: BOYLESCO

BRANCH OFFICES
ARIZONA (PHOENIX)
CALIFORNIA (AUBURN)
COLORADO (GOLDEN)
NEVADA (SPARKS)
WASHINGTON (SPOKANE)
CHILE (SANTIAGO)
CABLE: BOYLESBROS
MEXICO, D.F.
PERU (LIMA)
CABLE: BOYLESCOP

February 5, 1968

Western States Mining & Construction Co.
11 West View Drive
Riverton, Wyoming 82501

Attention Mr. Jack Larson

Gentlemen:

We would like to present the following terms on your contemplated drilling at Crown Point Mine near Eureka, Utah:

1. Mobilization of equipment and men - $200.00.

2. Drilling rates:

   (a) Collar Pipe, NX or NC, 0 to 100 feet - $7.40 per foot.

   (b)

	NX	BX	AX
0 to 250 feet	$6.60	$6.30	$6.00
250 to 500 feet	6.90	6.60	6.30
500 to 750 feet	7.20	6.90	6.60
750 to 1,000 feet	7.50	7.20	6.90
1,000 to 1,250 feet	7.80	7.50	7.20

3. Cementing or drilling cement, $13.50 per hour plus cement or cement substitutes.

4. Delay asked for or caused by Owner, $13.50 per hour.

5. Casing left by request or we are unable to recover, would be list price less 15%.

6. If mud and additives were furnished by Boyles it would be at list price.

7. Reaming, if necessary, would be $3.65 per foot, all sizes.

8. All diamond bit cost in excess of $1.20 per foot would be charged to owner, as verified by our supplier's cut-out sheets.

Thank you for asking us to present these prices.

We have found that in our present and previous drilling in this area, the overall hole cost has been in the $9.80 to $10.60 per foot range. If excessive quartzite was drilled, it exceeded these figures.

Very truly yours,

J. F. Brennan

J. F. Brennan
District Manager

JFB:bg

CORE DRILLING
DRILLING EQUIPMENT
ON TESTING
G
NKING
DRIVING
NT DESIGN
D FABRICATION

Boyles Bros.
DRILLING COMPANY
CONTRACTORS-ENGINEERS-GEOLOGISTS
General Offices and Plant
1624 Pioneer Road P. O. Box 58 Phone 487-7595
SALT LAKE CITY, UTAH 84110
Cable: BOYLESCO

BRANCH OFFICES
ARIZONA (PHOENIX)
CALIFORNIA (AUBURN)
COLORADO (GOLDEN)
NEVADA (SPARKS)
WASHINGTON (SPOKANE)
CHILE (SANTIAGO)
CABLE: BOYLESBROS
MEXICO, D.F.
PERU (LIMA)
CABLE: BOYLESCOP

February 5, 1968

Western States Mining & Construction Co.
11 West View Drive
Riverton, Wyoming 82501

Attention Mr. Jack Larson

Gentlemen:

We would like to present the following terms on your contemplated drilling at Crown Point Mine near Eureka, Utah:

1. Mobilization of equipment and men - $200.00.

2. Drilling rates:

   (a) Collar Pipe, NX or NC, 0 to 100 feet - $7.40 per foot.

   (b)

	NX	BX	AX
0 to 250 feet	$6.60	$6.30	$6.00
250 to 500 feet	6.90	6.60	6.30
500 to 750 feet	7.20	6.90	6.60
750 to 1,000 feet	7.50	7.20	6.90
1,000 to 1,250 feet	7.80	7.50	7.20

3. Cementing or drilling cement, $13.50 per hour plus cement or cement substitutes.

4. Delay asked for or caused by Owner, $13.50 per hour.

5. Casing left by request or we are unable to recover, would be list price less 15%.

6. If mud and additives were furnished by Boyles it would be at list price.

7. Reaming, if necessary, would be $3.65 per foot, all sizes.

8. All diamond bit cost in excess of $1.20 per foot would be charged to owner, as verified by our supplier's cut-out sheets.

Thank you for asking us to present these prices.

We have found that in our present and previous drilling in this area, the overall hole cost has been in the $9.80 to $10.60 per foot range. If excessive quartzite was drilled, it exceeded these figures.

Very truly yours,

J. F. Brennan

J. F. Brennan
District Manager

JFB:bg

WESTERN STATES MINING & CONTRACTING, INC.
BALANCE SHEET
DECEMBER 31, 1967

ASSETS		
CURRENT ASSETS:		
Cash in Bank	$(13,208.63)	
Accounts Receivable	37,717.05	
Prepaid Expenses	3,645.97	$ 28,154.39
FIXED ASSETS:		
Equipment	$ 96,285.35	
Less Reserve	23,261.87	73,023.48
		$101,177.87
LIABILITIES		
CURRENT LIABILITIES:		
Accounts Payable	$ 15,620.09	
Payroll Taxes Payable	1,957.89	
Note Payable - C. & H. Const.	1,600.00	$ 19,177.98
LONG TERM LIABILITIES:		
Note Payable - Colorado National	$ 7,395.77	
Note Payable - 1st Security - Moab	4,512.13	
Note Payable - B & H Mines	2,000.00	
Note Payable - American Nat'l	1,136.79	
Note Payable - Western Nuclear	7,000.00	22,044.69
CAPITAL AND SURPLUS		
Capital Stock	$ 5,622.54	
Earned Surplus	54,332.66.	59,955.20
		$101,177.87

WESTERN STATES MINING & CONTRACTING, INC.
STATEMENT OF PROFIT & LOSS
FOR TWELVE MONTHS
ENDED DECEMBER 31, 1967

INCOME:		
Contract Income		$383.910.36
EXPENSES:		
Wages	$124,340.16	
Officers Salaries	41,000.00	
Gas & Oil	28,438.87	
Repairs	41,175.33	
Utilities	9,704.88	
Office	772.43	
Advertising	1,496.04	
Insurance	1,848.17	
Taxes	15,743.14	
Travel	12,111.92	
Supplies	28,038.21	
Equipment Rent	18,737.69	
Sub Contracts	7,242.21	
Interest	1,516.80	
Accounting & Legal	3,033.35	335,199.20
Net Profit Before Depreciation		$ 48,711.16
Depreciation		13,813.41
Net Profit		$ 34,897.75

WESTERN STATES MINING & CONTRACTING, INC.
Claims and Ore Reserves
December 31, 1967

CLAIMS:

Lye		408	
Seely		200	
Job		300	
Candy & Hot Dog		93	
Green Mountain		60	
CAM		116	
Keg		168	
Jim		30	
John		27	
FL		141	
	TOTAL	1,543	
Bonanza	5% Royalty Retained	120	
Mammoth	5% Royalty Retained	50	
MD	5% Royalty Retained	68	
TOTAL ESTIMATED VALUE CLAIMS			$308,600.00

ORE RESERVES:

Snoball Mine	15,000 Tons	$126,000.00

LEASE ON CROWN POINT PROPERTY:

Government O. M. E. Loan tentative approval on $150,000.00
Final due March 1968 to sink 1,300' Shaft and 500' Drift.

WESTERN STATES MINING & CONTRACTING, INC.
ACCOUNTS RECEIVABLE
DECEMBER 31, 1967

Roberts Drilling	$ 4,750.00
Cities Service	6,596.31
Petrotomics	5,745.74
Western Nuclear	15,000.00
Utah Mining	5,625.00
	$ 37,717.05

Other Receivables - Sales Claims:

Cities Service	due March 1968	$ 9,400.00
Cities Service	due June 1968	9,400.00
Phillips Petroleum	due July 1968	7,500.00
Phillips Petroleum	due Sept 1968	7,500.00

WESTERN STATES MINING & CONTRACTING, INC.
EQUIPMENT
December 31, 1967

	Fair Market Value
1967 Chev 3/4 T.	$ 350.00
200 Amp Lincoln Welder	500.00
1955 Dodge PU	350.00
G D 500 Compressor	4,500.00
I R 365 Compressor	1,000.00
T D-9 Loader	3,500.00
T D-6 Loader	2,500.00
1954 IHG 1½T. Dump	750.00
1954 Chev 1½T. Dump	750.00
Emico Mucking Machine	3,000.00
CP Liner & Shell	1,000.00
1952 Jeep	250.00
H D-9 Loader	3,500.00
H D-5 Loader	3,000.00
IRK 315 Compressor	2,500.00
IRK 315 Compressor	2,500.00
1948 Dodge 3/4 T.	100.00
Cleveland Air Drill	2,500.00
1960 Cessna Sky Lane	10,000.00
1964 Chev PU	1,200.00
T D-6 Loader	2,500.00
T D-6 Loader	2,500.00
H D-5 Loader	3,000.00
Pump	500.00
Pump	300.00
Young Buggy	7,000.00
Young Buggy	4,000.00
Franks Drill Rig	7,000.00
Mayhew Drill Rig	8,500.00
IK 210 Compressor	2,500.00
IK 315 Compressor	2,500.00
H D-9	3,000.00
1952 R 190 Water Truck	1,000.00
3HP Joy Fan	300.00
5HP Joy Fan	500.00
1953 IHC Winch	350.00
40 Ft. Spencer Trailer	1,500.00
3 Power Saws	500.00
Young Buggy	5,000.00
1952 GMC Water Truck	1,500.00
H D-5 Tractor	3,000.00
200 Amp Lincoln Welder	500.00

WESTERN STATES MINING & CONTRACTING, INC.
EQUIPMENT (Continued)

4 Sets Wheat Lights	$ 1,200.00
1953 IHC Welding Truck	300.00
Scintillator	125.00
Double Drum Hoist	7,500.00
Hough Model O Loader	2,500.00
Hough Model O Loader	1,000.00
Bob Cat Loader	6,000.00
T D-18 Cat Dozer	2,500.00
Ford Major Back Hoe	2,000.00
H D-5 Loader	3,000.00
H D-5 Loader	3,000.00
671 Diesel Engine	750.00
Air Hoist	500.00
Mancha Motor & Battery	1,000.00
10 H-10 AL Jack Legs & Machine	5,000.00
1,600 feet 6" Pipe	1,600.00
2,000 feet 4" Pipe	1,000.00
2,000 feet Power Cable	2,000.00
1963 Chevrolet Diesel	7,000.00
1963 Chevrolet Diesel	7,000.00
1963 Chevrolet Diesel	7,000.00
	$163,175.00

Lease Purchase

1965 Chevrolet Pickup
1966 Chevrolet Pickup
1967 Chevrolet Pickup
1967 Ford Pickup
1966 IHC Pickup

Estimate of Cost - Crown Point and East Crown Point Project $277.550.00

Surface Set Up

Headframe	$ 10,000.00	
Buildings	5,000.00	
Site Preparations	2,500.00	
Set Up Hoist	1,000.00	
Power Line	7,000.00	$ 25,500.00

Shaft Sinking

Equipment & Material		
4" Aluminum Pipe	$ .90	air
2" Aluminum Pipe	.60	water
18" Vent Gas	2.00	per foot
Electricity	2.00	per foot
Blasting supplies	4.00	per foot
Hoist Rental	6.00	
Compressor Rental	10.00	
Mucking Machine	3.00	
Drill Bits & Steel	4.00	
Equipment repair	2.00	
Dump truck	3.00	
Water truck	3.00	
Timber	35.00	(explained in #7)
	$ 75.50	per foot x 1,300 feet $ 98,150.00

Shaft Labor

1 hoistman
1 topman
3 miners
1 carpenter
6 men @$ 30.00

$100.00 for 3 feet or $ 60.00 per foot x 1,300 feet $ 78,000.00

Estimate of Cost - continued

Drifting - 2,000 feet

Equipment & Materials		
4" Aluminum pipe	$ .90 air	
2" Aluminum pipe	.60 water	
Rail, ties, & spikes	2,70	
Drill bits & steel	3.00	
Blasting supplies	3.00	
Mucking machine	2.00	
Motor	2.00	
Hoisting muck	1.00	
Drilling equipment	2.50	
Compressor rental	5.00	
Hoist rental	3.00	
	$ 25.70 X 500 feet	$ 12,850.00

Labor

1 topman
1 hoistman
2 miners
4 men @ $ 12.25 X 500 feet $ 6,125.00

Diamond Drilling
est. cost
10 holes - 400' deep $ 8.00 per foot 32,000.00
Bid submitted by Boyles Brothers - Ed Longyear
TOTAL ESTIMATED COST $52,625.00

Corporation making application:

WESTERN STATES MINERALS, INC.
1111 WEST VIEW
RIVERTON, WYOMING

Owned by:

Glen L. Larsen
John L. Larsen
Lloyd Larsen
Tim Watt
Leslie Larsen

Affiliated for finances with:

WESTERN STATES MINING & CONTRACTING, INC.
1111 WEST VIEW
RIVERTON, WYOMING

Owned by:

John Larsen - Sec - Treas.
Glen Larsen - President
Lloyd Larsen - Vice President
Leslie Larsen - Vice President

The Cash flow to support this project will come from Western States Mining and Contracting, Inc. (referred to as the Parent Company) , to support our 25% of project plus 90 day starting period.

Financial Statement of Parent Company attached hereto.

WESTERN STATES MINING & CONTRACTING, INC.
BALANCE SHEET
DECEMBER 31, 1966

ASSETS		
CURRENT ASSETS:		
Cash in Bank	$ (4,132.85)	
Accounts Receivable	37,394.51	
Prepaid Expenses	3,480.24	$ 36,741.90
FIXED ASSETS:		
Equipment	$ 42,735.00	
Less Reserve	9,498.46	33,236.54
		$ 69,978.44
LIABILITIES		
CURRENT LIABILITIES:		
Accounts Payable	$ 12,717.96	
Payroll Taxes Payable	2,673.62	
Note Payable - G.M.A.C.	532.00	$ 15,923.58
LONG TERM LIABILITIES:		
Note Payable - Colorado National	$ 9,932.41	
Note Payable - Tim Watt	6,000.00	
Note Payable - John Larsen	2,000.00	
Note Payable - Century White	1,090.00	
Note Payable - Western Nuclear	9,975.00	28,997.41
CAPITAL AND SURPLUS		
Capital Stock	$ 5,622.54	
Earned Surplus	19,434.91	25,057.45
		$ 69,978.44

WESTERN STATES MINING & CONTRACTING, INC.
STATEMENT OF PROFIT & LOSS
FOR TWELVE MONTHS
ENDED DECEMBER 31, 1966

INCOME:		
Contract Income		$218.910.77
EXPENSES:		
Wages	$ 64,592.09	
Officers Salaries	40,758.60	
Gas & Oil	24,198.32	
Repairs	19,125.10	
Utilities	2,816.56	
Office	172.08	
Advertising	156.15	
Insurance	1,365.70	
Taxes	7,574.70	
Travel	2,417.11	
Supplies	11,018.81	
Equipment Rent	8,953.38	
Sub Contracts	7,237.52	
Interest	991.83	
Accounting & Legal	1,869.40	(193,247.35)
Net Profit Before Depreciation		$ 25,663.42
Depreciation		6,228.51
Net Profit		$ 19,434.91

Western States Minerals, Inc.
1111 West View
Riverton, Wyoming

First National Bank
Riverton, Wyoming

Attn: Mr. Gerald Heckart

Dear Gerry;

Please accept this letter as a loan application in the amount of $277,550.00.

This money is needed to do exploration work on the East Crown Point and Crown Point Properties, Tintic District, Utah.

Our initial project would be to sink a 1,300 foot shaft and run a 2,000 foot drift in search of silver bearing minerals.

Attached are:

Geology report on properties.
Financial report - 1966.
Equipment owned for security of loan.

We would pay this loan with 5% gross sales of ore derived from this property. We would also pay the interest on this loan from current cash flow until the ore is being mined.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very truly yours,

WESTERN STATES MINERALS, INC.

John L. Larsen
President

encl - 3
JLL/lmc

Western States Minerals, Inc.
1111 West View
Riverton, Wyoming

First Security Bank
Moab, Utah

Attn: Kay Cloward

Dear Kay:

Please accept this letter as a loan application in the amount of $277,550.00.

This money is needed to do exploration work on the East Crown Point and Crown Point Properties, Tintic District, Utah.

Our initial project would be to sink a 1,300 foot shaft and run a 2,000 foot drift in search of silver bearing minerals.

Attached are:

Geology report on properties.
Financial report - 1966.
Equipment owned for security of loan.

We would pay this loan with 5% gross sales of ore derived from this property. We would also pay the interest on this loan from current cash flow until the ore is being mined.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very truly yours,

WESTERN STATES MINERALS, INC.

John L. Larsen
President

encl 3
JLL/lmc

Western States Minerals, Inc.
1111 West View
Riverton, Wyoming

May 24, 1967

American National Bank
Riverton, Wyoming

Attn: Mr. John Beneach

Dear Mr. Beneach;

Please accept this letter as a loan application in the amount of $277,350.00.

This money is needed to do exploration work on the East Crown Point and Crown Point Properties, Tintic District, Utah.

Our initial project would be to sink a 1,300 foot shaft and run a 2,000 foot drift in search of silver bearing minerals.

Attached are:

Geology report on properties
Financial report -- 1966
Equipment owned for security of loan.

We would pay this loan with 5% gross sales of ore derived from this property. We would also pay the interest on this loan from current cash flow until the ore is being mined.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very truly yours,

WESTERN STATES MINERALS, INC.

John L. Larsen
President

encl - 3
JLL/lmc

Item # 4 Assessibility of Property

Company personnel available to aid GME representative:

Mr. Glen L. Larsen
489 N. 3 W.
Provo, Utah
Phone 374-8541 Area Code 801

Mr. John L. Larsen
1111 Westview Drive
Riverton, Wyoming
Phone 856-2796 Area Code 307

The shipping and supply points involved are:

Both the U. P. Railroad and the D. & R. G. W. Railroad are within a 10 mile radius.

Five miles SE of Eureka, Utah is the site. This can be reached via Knightsville road to Iron Blossom or Silver Pass road via Trixie Claims.

Call or write either of the above mentioned names for transportation and guidance to property.

Item # 5 Exploration Work

The shaft will be 5'by5' to compartment in the clear.

The drift is 5' by 7' in the clear.

There will be a total of 1,300 feet of shaft, and 2,000 feet of drift.

We are prepared to start work immediately with shaft completion in 17 months. The drift completion will require an additional 11 months or a total of 28 months from the starting date of the project.

Item #6 Experience

Mr. Glen Larsen
489 N. 3 West
Provo, Utah

Mr. Larsen has 30 years living in the Tintic Mining District working as Supervisor for Mammoth Mine, International Smelting, Meumont Mining Company, Centenial Development and operated leased mines. He has studied Geology quite extensively in District through special classes and self training.

Mr. Roger Banghart
Geologist and Engineer

Mr. Banghart has been Kennecott Copper Geologist for 13 years, 2 years Field Geologist for Federal Resources, and Manager of Silver King Mines for years.

Item #7 Estimates of Additional Materials and Supplies.

Pieces	Size	Description	Required	Rate	Amount
520	8x8	#1 Mining Grade D.F.	38,827 '	$125.00	$ 4,883.30
2340	8x8	#1 Mining Grade D.F.	74,880 '	125.00	9,360.00
1400	2x12	#1 Mining Grade D.F.	124,000 '	125.00	15,600.00
2600'	4x6	Select Structural 545 Guides	5,200 '	170.00	884.00
1500		Mine Ladder			900.00
6000		Smooth Steel Rod			2,280.00
600	3/2x6	log screws	600	25.00	150.00
1300		4 common	1,200		169.00
7500		Mine Wedges			375.00
1500	3/4	Nuts			156.00
2500	3/4	Cut Washers			62.50
2500		Cast Washers			200.00
4180	12"	2 x 12	8,323		1,040.00
2080	12"	8 x 8	11,092		1,386.50
9360	14'	2 x 2	1,360		68.00
1400'		1/4" Cable			200.00
		Pipe Lgrs.-Cement - I Beam			
		Power Cable			6,081.26
		Taxes			1,133.56
					$ 45,000.00

12.3% of Gross Labor for FICA 4.4%
Workmen's Comp. 5.0%
Employment Security 3.2

(Estimate only as Utah WCD is computed on $ 4.84 per $100.00 $ 8,796.75

Consultant Geologist 10 Days @$ 75.00 $ 750.00
Expenses @$25.00 per day 250.00 $ 1,000.00

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration

October 4, 1967

OFFICIAL COPY
O. M. E.
RECEIVED
OCT 5 1967

INITIALS	CODE
gla	130
[illegible]	120 M
[illegible]	~~110~~
	120

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals
Crown Point and East Crown Point Claims
Utah County, Utah

Transmitted herewith is one copy of a revised OME exploration program on the above-stated subject. One copy has been retained for the OME Region III field office files.

J. William Hasler
mc

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosure

September 28, 1967

P. O. Box 537
East Ely, Nevada

Mr. William Hassler
USBM OME
Federal Center Bldg.
Denver, Colorado

Dear Mr. Hassler:

The enclosed report and supporting maps are submitted to you as our revised program for exploring the Crown Point properties in the Tintic District, Eureka, Utah. This program explores a specific target area and should meet the requirements of the Government's OME program.

In addition to our own examination, this property and the ore controls contained thereon, have been thoroughly studied by the U.S.G.S. The Survey has been very instrumental in using these guides for discovering ore in the Tintic District.

The mining equipment, financial requirements and ability to direct and support this program can be very ably handled by the Larsens.

The Larsens and I will be most willing to meet with you and other OME representatives either in Denver or Washington to further discuss and/or clarify this requested program.

Sincerely,

Roger C. Banghart

Roger C. Banghart

REVISED

O M E

EXPLORATION PROGRAM

CROWN POINT AND EAST CROWN POINT CLAIMS

TINTIC MINING DISTRICT, UTAH CO., UTAH

REPORT SUBMITTED TO:

Messrs John & Glen Larson
Western States Mining and
Contracting, Inc.
Riverton, Wyoming 82501

REPORT SUBMITTED BY:

Mr. Roger C. Banghart
East Ely, Nevada
Registered professional engineer
Missouri E 11320
Idaho Geol. Eng. 1736

Roger C. Banghart
Sept 30, 1967

INTRODUCTION

In April, 1967, a report was submitted on the Crown Point and East Crown Point claims in the Tintic Mining District, Utah County, Utah requesting exploration assistance under the government's OME program for silver. An evaluation of this report concluded that the program was too broad and should be centered on a specific target area encompassing the more definite geologic features and ore controls within the leased ground.

The enclosed map and cross sections will help visualize the ore controls and the target area.

ORE CONTROLS

Without repeating in detail the report of April, 1967, the pertinent geological criteria for finding an ore body on this property will be re-emphasized and a revised program recommended.

The geologic features which control the deposition of ore within the Crown Point leases are outlined below:

1. Sioux Ajax Fault

   This major east-west fault has localized four mines in the Tintic District: Mammoth, Spy, Iron Blossom, and Trixie discovery. The Eureka Standard fault which is probably a continuation of the Sioux Ajax Fault locallized three mines, the Eureak Standard, Apex Standard, and Burgin.

2. North Trending Ore Channels

   On the 680 level of the Crown Point No. 3 shaft ore channels have been discovered in the basal beds of the Victoria formation. The ore channels as mapped consist of a system of breccia zones and pebble dikes containing ore stage mineralization,

This mineralization consists of galena, jasperoid, and manganese oxide. The Tintic quartzite boulders in the pebble dikes indicate the structures reach to great depths. CP #1 drill hole, collared 350 feet due south of the 680 level toward the Sioux Ajax Fault located minor galena and the speckled bed at the base of the Victoria Formation. The mineralization encountered in this hole further emphasizes and extends the 680 level ore channels to the south toward the Sioux Ajax fault.

3. Bluebell Formation

A full section of the highly receptive host rock, the Bluebell Formation presents itself for exploration immediately below the 680 level and between 950 feet and the bottom of the proposed 1300 foot shaft. This formation has accounted for 1/4 of the district's production or $110,000.000.00

The ore channels which were descovered on the 680 level are in the basal beds of the overlying Victoria Formation. The Victoria Formation was the least productive in the district and the ore stage mineralization consisting of galena, jasperoid and manganese oxides had to transgress through the Bluebell Formation to be deposited in the Victoria Formation.

4. Mineralization

The jasperoid and manganese mineralization is directly associated with the ore and was deposited during the early part of the ore stage of deposition. Only the Victoria Formation which contains this mineralization and galena has been explored within the Crown Point lease. These mineralized structures traced downward into the Bluebell Formation will most probably blossom out into major ore zones.

Although the pyritic zones in the volcanics are broader type ore controls, it should be noted that such pyritic areas overly the Iron Blossom mine, Eureka Lily mine, Tintic Standard Mine, Trixie discovery and Burgin mine.

REVISED EXPLORATION PROGRAM

A definite target area presents itself for exploration by extending the known mineralized ore channels of the 600 level southward to the Sioux Ajax fault and downward into the Bluebell Formation.

To adequately explore this area the following program is recommended:

1. Collar a 1300 foot shaft at a point 250 feet west and 200 feet south of CP #1 drill hole. This shaft will penetrate directly into the target area and will explore the Blue bell Formation.
2. Drift 200 feet south on the 1300 foot level to locate the Sioux Ajax fault.
3. Crosscut 500 feet east along the north wall of the Sioux Ajax fault to locate and explore the downward and southerly projected ore channels.
4. Diamond drill ten, 400 feet holes to explore the ore channels along strike and dip.

CONCLUSIONS

This revised OME program explores a specific target area through a 1300 foot shaft, 700 feet of drifting and crosscutting and 4000 feet of diamond drilling.

This target area consists of projecting downward known ore channels from the unproductive Victoria Formation into the most favorable host rock in the district, the Bluebell Formation. In addition, these

ore channels will be explored at their intersection with the Sioux Ajax Fault which is one of the most important structures in the Tintic District for locallizing ore bodies.

The structural intersection of the Sioux Ajax Fault with the north trending ore channels in a most favorable host rock, the Bluebell Formation would lend itself to a program for finding flat ore channels in the Bluebell Formation and chimney type ore bodies at the intersection with the Sioux Ajax fault.

These geologic features define a definite target area of major importance to the discovery of ore in the Tintic District.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration

October 13, 1967

OFFICIAL COPY
O. M. E.
RECEIVED
OCT 16 1967

INITIALS	CODE
	130
	120
	110
RMB	120

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals
Crown Point and East Crown Point Claims
Utah County, Utah

Enclosed is a copy of a letter dated October 10, 1967 concerning an amended application on the subject property, from Mr. Hal T. Morris, Chief, Branch of Base and Ferrous Metals.

I am inclined to favor Hal's opinion that the target area proposed by the applicant in his amended application is about as specific as any as have been explored in the East Tintic District.

This proposed exploration program is, I believe, one of these high risk projects that OME should seriously consider if we are to fulfill our obligation to find and discover new ore bodies of silver. Extensive and costly exploration has paid off insofar as the Burgin project is concerned, and I think we should go for at least a few of these high risk programs, especially when they are in districts that have produced and still have a great potential as the East Tintic District has had and may well have in the future. If we continue to go for only promising and indicated target areas, I feel we will lose the purpose of the OME program and may well fail to substantially increase reserves of mineral commodities. It is true that most applications, or most properties examined hold little promise of a new discovery, but I firmly believe that one of this type is worth the risk.

The potential in the East Tintic District is greater than those of the Vipont Mine (OME-6452) Box Elder County, Utah or the Round Mountain project (OME-6549) in the Westcliffe Plateau area, Custer County, Colorado.

Copy to Washington
6-11-67

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Base and Ferrous Metals
345 Middlefield Road
Menlo Park, California 94025

IN REPLY REFER TO:
OMF
RECEIVED
OCT 11 1967
Denver, Colorado

October 10, 1967

Mr. J. William Hasler
Office of Minerals Exploration
U.S. Geological Survey
Denver Federal Center
Denver, Colorado 80225

Dear Bill:

My interests and prejudices concerning the East Tintic district, as well as my friendship and admiration for Glen Larsen, should completely disqualify me from offering any comments about the proposed exploration program of the Crown Point and East Crown Point properties by Western States Minerals. However, since you have solicited my advice, I can offer the following:

1. The target area proposed by Banghart and the Larsens is about as specific as any that has ever been explored in the East Tintic district; in local viewpoint it easily qualifies as "exploration" rather than "prospecting".

2. Similar intersections of zones of sparsely mineralized fissures and pebble dikes with strong cross-breaking faults, particularly in areas of altered volcanic rocks and such a highly favorable host rock as the Bluebell Dolomite, are, in fact, regarded as prime geologic targets. Unfortunately, Banghart did not stress the north-trending fissure zone and its intersection with the Sioux-Ajax fault as strongly as he should.

3. The rather unpredictable localization of replacement ore bodies in the Bluebell Dolomite in the adjacent Tintic District also suggests that obvious localizing structures are not always necessary for the occurrence of rich and extensive replacement ore bodies in this receptive host rock. In fact, specific structural localization of many of the ore bodies in the nearby Iron Blossom ore zone is difficult to demonstrate.

4. The occurrences of jasperoid, galena, and manganese oxides in the Victoria Formation in the Crown Point No. 3 mine were confirmed by G. W. Crane, a highly competent geologist who was resident in the Tintic district for the greater part of his professional life. These occurrences suggest leakage of ore solutions that were most apt to have deposited their ores in the underlying Bluebell if they flowed in any considerable volume. Only physical exploration will tell.

All in all, the proposed program contains many elements of risk, but it is not at all unreasonable for the East Tintic district. If it is successful, the pay-off could be large. I honestly believe that if the Larsens do not have the opportunity to carry it off, someone else will in the next 10-20 years.

I am also confident that you will get more out of an investment in Glen Larsen, considering his personal financial position, than nearly any other man I know.

I hope that these comments will help you in your decision.

Sincerely yours,

Hal

Hal T. Morris, Chief
Branch of Base and Ferrous Metals

Enclosure

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration

August 1, 1967

OFFICIAL COPY
O. M. E.
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AUG 2 1967

INITIALS	CODE

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: Western States Minerals, Inc. (Silver)
Crown Point and East Crown Point
Utah County, Utah

Transmitted herewith is one copy of an application on the above-mentioned subject and a copy of a letter dated July 7, 1967 from Hal T. Morris, Chief, Branch of Base and Ferrous Metals.

J. William Hasler
mc.

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration

IN REPLY REFER TO: Previous attached c.c

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July 11, 1967

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: Application for Financial Assistance in Minerals Exploration by the Western States Minerals, Inc., 1111 Westview, Riverton, Wyoming

The applicant company has applied to the Office of Minerals Exploration for financial assistance to explore the Crown Point and East Crown Point properties, Utah County, Utah for silver by sinking a shaft and subsequent cross cutting and drifting to explore the intersection of a series of north-northeasterly trending-ore-bearing fissures with the strong, easterly trending-Sioux-Ajax normal fault, particularly at the horizon of the favorable Fish Haven and Bluebell dolomite. The proposed exploration program is estimated to cost $277,550.

In a conversation on July 7, 1967 with Mr. John Larsen, the President of the company, relative to the subject application, he informed me that the necessary equipment is on the property and that the equipment will be rented from the Western States Mining and Contracting, Inc. to the Western States Minerals, Inc. The two companies are separate corporations and are incorporated in the State of Wyoming.

Mr. Larsen also claims that the exploration work herein outlined can be completed at the cost quoted and that the applicant company has an adequate flow of cash to support the proposed exploration program. This is somewhat questioned by Mr. Hal Morris, U. S. Geological Survey, in his memorandum to me dated July 7, 1967 concerning the proposed exploration program.

A review of the application indicates that the greater details are needed concerning the surface installation and plans, specification for the head frame, buildings, the site preparation, installation of the hoist. I believe there should be greater detailed cost estimate on the power line, as well as the details of the shaft that is proposed to be sunk.

The applicant proposes a total cost at an estimated $135.50 per foot for a 5-foot by 5-foot 2 compartment vertical shaft, including materials and labor, he also estimates $37.95 per foot for a 5-foot by 7-foot drift including materials and labor. This figure is somewhat below the quotation for costs in the prescribed Ventura Oil Company contract OME-6524, which are at $40.00 per foot, and I am informed by the Operator that this will barely cover the costs of the drifting. In this case I would anticipate that the cost of driving a 5-foot by 7-foot drift in the Tintic district would be comparable to the Ventura country rock if not possibly more difficult. My estimate would be in the neighborhood of between $45.00 and $55.00 per foot.

I can only agree with Hal Morris, Geologist, U. S. Geological Survey, in his memorandum dated July 7, 1967 concerning the subject application in that the Crown Point and East Crown Point area is good exploration, possibly from the results obtained in the Bergin area by Kennecott Copper.

J. William Hasler by DMT

J. William Hasler
Field Officer, Region III
Office of Minerals Exploration

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

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O. M. E.
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JUL 6 1967

July 3, 1967

Jzy 110
HK 120
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Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: Application for financial assistance in Minerals Exploration by the Western States Minerals, Inc., 1111 Westview, Riverton, Wyoming 82501, to explore for silver on the Crown Point and East Crown Point, Utah County, Utah

The applicant sent two copies of the application on the subject property, which arrived in this office June 29, 1961, however, the application contained no date nor was it signed by an official of the applicant company. The application will be returned to the Western States Minerals Inc. for completion.

The property is located in the Tintic Mining District, Utah consequently I shall refer the application to Hall Morris for his review and comments as soon as the application is returned in completed form in this office.

I have shown the application in the June 1967 monthly report.

J. William Hasler
mc

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

MME Form 40
Jan. 65

Budget Bureau No. 42-R1508
Approval expires Dec. 31, 1968

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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O. M. E.
RECEIVED
AUG 2 1967

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Pursuant to Public Law 85-701 (72 Stat. 700; 30 U.S.C. 641)

INITIALS	CODE

NAME OF APPLICANT *(Full legal name and mailing address as they should appear on contract if one is executed.)*

Western States Minerals, Inc.
1111 Westview
Riverton, Wyoming 82501

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6646
DATE RECEIVED: 8-2-67
REGION: III
DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

- INDIVIDUAL [ ]
- CORPORATION [X]
- PARTNERSHIP [ ]
- OTHER *(Specify)* [ ]

STATE IN WHICH FIRM IS ORGANIZED:

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
John L. Larsen	Riverton, Wyoming	President
Glen L. Larsen	Riverton, Wyoming	Vice Pres.
G. Lloyd Larsen	Riverton, Wyoming	Vice Pres.
Leslie W. Larsen	Riverton, Wyoming	Vice Pres.
Tim Watt	Casper, Wyoming	Sec.-Treas.

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE: Silver

ESTIMATED COST OF PROJECT: $ $277,550.00

PROPERTY NAME	LOCATION COUNTY	LOCATION STATE
Crown Point and East Crown Point	Utah	Utah

GENERAL INSTRUCTIONS

Before filling out this application, please read the *OME Regulations for Obtaining Federal Assistance in Financing Explorations for Mineral Reserves* (30 CFR Chap. III). To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit two copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 2, existing mine workings and geology in item 3, and the proposed exploration work in item 5. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 3(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Office of Minerals Exploration, Department of the Interior,* ~~Washington 25, D. C., or with the nearest OME Field Office.~~ Washington, D. C., 20242, or with the nearest OME Field Office.

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, and that he would not ordinarily undertake the proposed exploration under current conditions and circumstances at his sole expense.

7/7/1967
DATED

John L. Larsen
BY *(Signature)*

President
TITLE

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. Financial Eligibility:

(a) Submit evidence of efforts made within 90 days preceding the filing of this application to obtain credit from your bank of account and at least one other banking institution or other private source of credit. Such evidence shall include true copies of correspondence which show: (1) date of loan request, (2) amount and terms requested, (3) proposed use of loan funds, and (4) the replies from credit sources. If the loan was offered under terms which you consider unreasonable, state why you consider them so.

(b) List names and addresses of affiliated, parent, or controlling companies or organizations and state extent and nature of their interest.

(c) State how you propose to furnish your share of the cost of the exploration work.

2. Applicant's Rights in Land:

(a) State your interest in the land and mineral rights, whether owner, lessee, purchaser under contract, or other. If you are not the owner, submit one true copy of the lease, contract, or other document (with address of owner) under which you control the property. Describe all liens, mortgages, or other encumbrances on the land and state book and page number and official place where recorded.

(b) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all adjacent land which you own or control. Describe any part of the land or workings which should not be subject to Government royalty and liens. If the land consists of unpatented claims, state book and page number for each recorded location notice, including amended locations, and official place where recorded. State all the names by which you know the property.

(c) For all land or mineral rights encumbered or not owned, submit five copies of Lien and Subordination Agreements on OME Form 52. If the agreements cannot be obtained, state reasons and provide copies of letters of refusal.

3. Physical Description:

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the land. Include existing mine workings and all production facilities.

(b) State your interest, if any, in operations described in (a).

(c) State, if you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves, giving quantities and grades and sampling methods used. Support your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you have, indicating whether you require their return.

4. Accessibility of Property:

(a) To aid the OME representative who may examine the property, state name and address of person who will meet him; give directions for reaching the property; and describe accessibility of property and of any mine workings.

(b) Name the shipping and supply points and state the distances to the property.

5. Exploration Work:

(a) Describe fully the proposed exploration work giving individual footages and sizes of openings *for each item of work.* Use narrative, maps, plans, and sections as necessary. Show location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *land boundaries* or to the closest identifiable corner.

(b) If an access road must be built, show the proposed location on the property map and state the length, type and construction methods proposed.

(c) If an OME contract is executed, state how soon thereafter work would be started and finished. State your anticipated average daily or monthly rate of progress for each type of work.

6. Experience:

State your operating experience and background to conduct this exploration work and also that of the person who will supervise the work.

7. Estimate of Costs:

Furnish detailed estimates of the necessary costs *for each item of the work proposed in 5(a)* under the headings listed below with a total for each heading and the estimated total cost of the work. Costs for any work to be performed by an independent contractor should be listed separately under category (a) below. Costs for any work that is not to be performed by an independent contractor should be listed under categories (b) through (g).

(a) Independent contracts. State the total cost of any proposed independent contract for all or any part of the work, and the number of units and the unit cost for each type of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, or per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. (*Note*—If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. The cost of supervision, engineering and geological services, outside consultants, and labor should be itemized by numbers and classes of employees; rates of wages, salaries or fees; and periods of employment. State whether these services are available.

(c) Operating materials and supplies. List items of material and supplies giving quantity and cost of each. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of equipment and tools costing $50 or more per unit. Give specifications and indicate how each item is to be acquired—i.e., rented, purchased or provided by the applicant. If rented or purchased, state the estimated rental or purchase price. If furnished by the applicant, state condition and present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant which will be used in the exploration work.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration work, stating specifications and cost including labor, materials, and supervision.

(g) Miscellaneous. Describe the type and estimate the cost of repairs and maintenance of the operating equipment listed in 7(d). Do not repeat initial repairs listed in 7(e). Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories. [*Note*—The Government will not contribute to costs incurred before the date of the contract, or to costs of or incident to: (1) acquiring, using, or possessing land and any existing improvements, facilities, buildings, installations, and appurtenances, or the depreciation and depletion thereof; (2) general overhead, corporate management, interest and taxes (other than payroll and sales taxes); (3) insurance (other than employees' liability insurance); and (4) damages to persons or property (other than authorized repair to or replacement of equipment or other property used in the work).]

INT.-DUP. SEC., WASH., D.C

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Base and Ferrous Metals
345 Middlefield Road
Menlo Park, California 94025

IN REPLY REFER TO:

OME Region III
RECEIVED
JUL 10 1967
Denver, Colorado

July 7, 1967

Mr. J. William Hasler
Office of Minerals Exploration
U.S. Geological Survey
Denver, Colorado 80225

Dear Bill:

Last month, while I was doing some field work near Eureka, Utah, I had several conferences with Glen Larsen of the Western States Mining and Contracting Co. of Riverton, Wyoming, concerning their application for an OME loan to explore the Sioux-Ajax fault zone on the Crown Point and East Crown Point properties in the East Tintic mining district, Utah. At this time I also read the report of their consulting geologist, Roger Banghart, and looked over some additional maps and other exhibits that Glen was preparing. Banghart is well experienced in the geology of the East Tintic district, and I found nothing of any consequence in his report that I could not support from my own knowledge and experience.

The area that Western States plans to explore has considerable merit, but so little is known about the details of the subsurface geology that none of us should delude ourselves that the exploration program will be simple, direct, or inexpensive. Briefly, the exploration target is the intersection of a series of north-northeasterly trending ore-bearing fissures with the strong, easterly trending Sioux-Ajax normal fault, particularly at the horizon of the favorable Fish Haven and Bluebell Dolomites. As in other parts of the East Tintic district, the folded and faulted sedimentary rocks are concealed beneath a considerable thickness of latite and quartz latite lavas and tuffs. Although these volcanic rocks predate the ore-depositing episode, they do not locallize ore bodies of commercial size or grade; however, they do contain zones of hydrothermal alteration and geochemical anomalies that are possible guides to ore deposits in the underlying Paleozoic rocks. I agree with Glen that the only satisfactory way to explore these structures and

favorable beds will be to sink through the lavas and Paleozoic rocks to a horizon in the lower part of the Bluebell Dolomite in the hanging wall block of the fault and then drive workings parallel to the fault in the search for ore-bearing fissures. When (if?) these fissures are encountered, they should be drifted southward into the fault zone to explore for replacement ore bodies, quite possibly chimneys or steep pipes, within the fault zone.

It is obvious that the Crown Point area has all of the attributes of a good prospect---favorable host rocks, a major fault, ore bearing fissures, zones of hydrothermal alteration, and geochemical anomalies---and, most importantly, it is surrounded by productive mines. On the less favorable side, the properties that Glen has under lease contain large areas of unexplored terrane, and far more money than is available under OME policies may be required to adequately explore such an extensive target area. Glen is far from being a wealthy man, and this venture will require him to deplete his savings and to mortgage all that he owns. However, he is more than willing to do this, and I doubt that he will ever give up on this venture until it has been carried to final success or failure.

Sincerely yours,

Hal

Hal T. Morris, Chief
Branch of Base and Ferrous Metals

Pages 1 and 10 Received Jan. 13, 1969 to replace poor copies

DALLAS H. YOUNG, JR.
ATTORNEY AT LAW
48 NORTH UNIVERSITY AVENUE
PROVO, UTAH 84601
AREA 801 - 374-1540

LEASE AND AGREEMENT

THIS LEASE AND AGREEMENT, made and entered into this 24th day of February, 1967, by and between CROWN POINT CONSOLIDATED MINING COMPANY, a corporation of the State of Utah, hereinafter designated and referred to as "LESSOR", and Western States Minerials Inc., hereinafter designated and referred to as "LESSEE",

WITNESSETH:

The Lessor, for and in consideration of the rentals and royalties hereinafter required to be paid and of the covenants to be performed and kept by the Lessee, hereby leases and lets unto the Lessee, the following described patented lode mining claims situate in Tintic Mining District, Juab and Utah Counties, State of Utah, listed as follows:

Goshen #1, Sur. #5708,
Minnie Moore, Fraction,
Sunnywide,

Goshen #4, Ridge, Ridge #2,
Divide #2, Cert. 01034,
Sur. #5708,

Beg. at SE Corner of #2
Castle Lode Sur. #5714,
being in SE 1/4 of Sec. 20,
Twp. 10 S., R. E. 2W., SLM;
thence North 1°54' West 1500
feet; West 408.2 feet; South
1499.2 feet; East 457.9 feet
to beginning.

1. TITLE OF LESSOR: Lessor represents that to the best of its knowledge, information and belief, it is the sole and exclusive owner of the hereinabove described mining properties, free and clear of any right or claim of any other person whatsoever, and that each of said claims is now valid and subsisting. In the event Lessee is required to make payment to any person or persons or to pay reasonable attorney's fees in connection with perfection of title of Lessor to said mining claims, the said sums shall be deducted from any amounts due to Lessor under the

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DALLAS H. YOUNG, JR.
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terms of this Lease and Agreement.

2. **TERM.** The term of this Lease shall be for a period of twenty (20) years from the date hereof. Provided, however, this Lease and Agreement shall, at Lessor's option, automatically terminate in the event that the Lessee fails to perform the initial work task described in the next following paragraph in the manner and within the time therein specified.

3. **LESSEE INDEPENDENT CONTRACTOR.** The Lessee is an independent contractor and there shall be no privity of contract between the Lessor and the employees of the Lessee, but all such employees, whether on a wage or profit-sharing basis shall be selected by the Lessee, discharged by the Lessee, directed by the Lessee, and paid by the Lessee; and subject only to the specific limitations herein set out, the Lessee shall have exclusive dominion and control of the leased property and of the operations therein during the term of this Lease.

4. **ROYALTIES.** Lessee agrees to pay to Lessor a royalty on the "net smelter value" per dry ton of ore produced from the mining properties. The said royalty shall vary according to the per ton value of the ore, as follows:

NET SMELTER VALUE PER TON			ROYALTY
$ -0-	to	$ 9.99	5 %
10.00	to	10.99	7-1/2%
11.00	to	11.99	8 %
12.00	to	12.99	8-1/2%
13.00	to	13.99	9 %
14.00	to	14.99	9-1/2%
15.00	to	15.99	10 %
16.00	to	16.99	10-1/2%
17.00	to	17.99	11 %
18.00	to	18.99	11-1/2%
19.00	to	19.99	12 %
20.00	to	20.99	12-1/2%
21.00	to	21.99	13 %
22.00	to	22.99	13-1/2%
23.00	to	23.99	14 %
24.00	to	24.99	14-1/2%
25.00	to	25.99	15 %
26.00	to	26.99	15-1/2%
27.00	to	27.99	16 %
28.00	to	28.99	16-1/2%

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PROVO, UTAH 84601
AREA 801 • 374-1540

NET SMELTER VALUE PER TON			ROYALTY
$29.00	to	$29.99	17 %
30.00	to	30.99	17-1/4%
31.00	to	31.99	17-1/2%
32.00	to	32.99	17-3/4%
33.00	to	33.99	18 %
34.00	to	34.99	18-1/4%
35.00	to	35.99	18-1/2%
36.00	to	36.99	18-3/4%
37.00	to	37.99	19 %
38.00	to	38.99	19-1/4%
39.00	to	39.99	19-1/2%
40.00	and	above	20 %

Ores from the subject mining properties shall not be commingled with ores from other properties. Blending shall be done with the result that will obtain the highest value to Lessor.

"Net proceeds" as used herein is defined to be the gross amount received from all sources from the sale of any ores mined from the aforesaid properties after deducting the actual cost of transporting the ore from the mining premises to the mill, plant, or dock of the mineral purchasers. In the event the ore is shipped to a mill for milling or smelting, then "net proceeds" shall mean net smelter returns of gross amounts received from the mill or smelter processor after deduction of costs of transportation from the mining premises to the mill or smelter. The said royalty payments shall be payable within fifteen (15) days after receipt by Lessee of the money from the sale of said ore.

5. MINIMUM ANNUAL WORK PROGRAM. The Lessee shall diligently pursue such development work as may reasonably provide a means whereby the ore body can be reached and mined, and shall enter upon said leased premises within 60 days after date of execution of this lease to begin work and cause the same to be worked with reasonable diligence (by the term "reasonable diligence" as used herein, the parties agree that work of a value of $25,000.00 per year shall constitute prima facie evidence of such reasonable diligence) and that they will cause all work in said demised premises to be performed in a safe and miner-like manner in accordance with the mining laws of the State of Utah, and with

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AREA 801 • 374-1540

such rules and regulations as may have been or may be issued by the Industrial Commission of Utah or by the State Metal Mine Inspector. All mine openings necessary to the work hereunder to be performed and all mine openings necessary for ingress to or egress from the demised premises shall be maintained in accordance with standards established by the above mentioned rules and regulations and that such openings shall be kept clear of waste rock, rubbish or other obstruction unless prevented by extraordinary mining casualty. Openings from which ore has been removed shall be backfilled with waste rock if necessary for safe and economical mining practice to prevent the caving of walls or ore in place.

6. TAXES. Lessee shall pay all state and county tax assessments upon any and all structures and other improvements, machinery, equipment, tools, supplies, and personal property whatsoever placed upon the leased premises by the Lessee. Lessee shall also pay all state and county "net proceeds" of production taxes assessed against Lessee and other taxes assessed against Lessee on account of his operations hereunder. Lessor shall pay all state and county net proceeds or production taxes assessed against Lessor on account of Lessor's receipt of rents and royalties of whatever nature provided herein to be paid to Lessor by the Lessee.

7. INSURANCE. The Lessee shall, at Lessee's own expense, carry Workmen's Compensation Insurance and Occupation Disease Compensation Insurance covering all of Lessee's employees and that the Lessee shall pay any taxes, and/or make any deductions under the Federal Social Security Act, and/or Utah Employment Security Act for which the Lessee may become obligated, and shall comply with all other laws, rules and regulations of any governmental authority affecting the Lessee's operations on said demised premises and shall supply the Lessor with supporting evidence of such compliance.

DALLAS H. YOUNG, JR.
ATTORNEY AT LAW
48 NORTH UNIVERSITY AVENUE
PROVO, UTAH 84601
AREA 801 · 374-1540

8. RIGHT OF ENTRY. The Lessor reserves the right of entry into said property for the purpose of inspection of the workings, for surveying and sampling, and for checking on compliance with safety rules and regulations.

9. LOSS OF SHIPMENTS. The Lessee shall pay any loss or expense resulting from any shipment of ores, the proceeds from which are insufficient to meet all freight, smelter and other costs and charges in connection therewith.

10. LIABILITY AND NON-RESPONSIBILITY. The Lessee shall forthwith post and thereafter keep posted in conspicuous places on the demised premises as many written notices as may be necessary to adequately notify all persons who may come within or upon the said demised premises, that the same are held by the Lessee under lease from the Lessor, and the Lessee and not the Lessor is liable for all labor performed and supplies and/or materials used by the Lessee in and upon the demised premises, and that the Lessee and not the Lessor shall be responsible for all debts and expenses incurred in mining operations in or upon the demised premises. The lessee shall hold the Lessor harmless and shall fully indemnify the Lessor against all claims and demands of any kind and nature which may be made upon the Lessor or against the demised premises for or on account of any debts or expenses contracted or incurred by the Lessee as well as from and against all acts, transactions, or omissions by the Lessee, his agents and servants, including claims, demands, causes of action, cost and expenses arising during the continuance of this lease agreement, from or on account of injury to any person, whether occasioned by any unsafe or dangerous condition of any part of the demised premises or any workings thereon or therein used by the Lessee, or otherwise, and shall defend the Lessor at his own cost and expense from any such liability or asserted liability.

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11. ASSIGNMENT. The Lessee shall not assign or sublet this lease, or any interest therein, or the premises affected thereby, or in any portion thereof, without the written consent of the Lessor, nor allow any person not in privity with the parties hereto to take or hold said premises, or any part thereof under any pretense whatsoever. Provided, however, in the case of a partial assignment of interest by the Lessee to some person or entity who proposes to operate the property jointly with the Lessee, Lessor shall not unreasonably withhold its consent to such assignment, provided the proposed assignee is financially responsible and possesses reasonable mining experience.

12. CARE OF PROPERTY. The Lessee shall deliver to the Lessor the said premises with appurtenances and improvements, in good order and condition, with all shafts, tunnels, levels and other permanent workings thoroughly clear of waste, rubbish and water and ready for immediate working, accidents not arising from negligence alone excepted, without demand or further notice on the last day of the term, or any extension of term hereof, or at any time previous thereto, upon demand for forfeiture; provided, that the Lessee shall have sixty (60) days from and after the date of any such termination in which to remove all broken ore from the property for shipment under the terms of this agreement; and Lessee shall have the right during such interim, to remove from the said premises all tools, equipment and supplies owned by the Lessee.

13. SHIPMENTS. All ores produced by the Lessee shall be shipped in the name of the Lessor for the account of the Lessee, and the Lessor is hereby given a lien upon all ores extracted from the premises during the term of this lease and agreement to secure payment to the Lessor of any and all sums due or owing to Lessor.

14. LESSOR'S RIGHT OF EXAMINATION. The Lessee shall have

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access to all original records of mine, mill and smelter returns to enable him to check such receipts, deductions and payments. The Lessee shall have the right to be present or be represented at the sampling of any ores shipped by him should he so desire. The Lessee shall pay the cost of assaying mine samples and settlement control samples, and also the cost of any surveys desired by him. The Lessor shall not be liable for ores lost by theft, accident, or financial difficulties of the ore buyer not arising from its negligence, nor shall the Lessor collect any royalties on ores so lost.

15. OMB TRANSACTIONS. Should the Lessee participate with the United States of America in an Exploration Project Contract, there shall first be paid to the United States of America out of the proceeds from sale of any ores mined as a result of the exploration carried out under provisions of said contract, its royalty as specified in the terms of said contract.

The Lessee agrees, in the event any subsidy shall be paid to the Lessee by the United States Government or any agency thereof during the term of this agreement on the metal content of the ores mined from the leased premises, the amount of said subsidy payments shall be considered additional value to which Lessor's royalty shall apply. Provided, however, in no event shall the Lessee enter into any agreement or make any arrangement with the said agency or agencies of the government of the United States which will create any obligation payable other than out of a specified percentage of production realized from the subject property. Furthermore, the Lessee shall not execute and deliver any agreement with any such governmental agency without submitting a copy thereof to the Lessor and permitting the Lessor and its attorneys to review the same. Lessor's consent to the provisions of any such contract shall be necessary but shall not be unreasonably withheld.

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16. OPERATING EXPENSES. The Lessee shall furnish, at his sole expense, all operating supplies, materials and equipment required in the performance of work under this agreement, but the Lessee may purchase from the Lessor, at Lessor's option, such supplies, materials and equipment as the Lessor may have on hand and available for sale.

The cost of re-opening and maintaining mine workings necessary to the operations under this agreement shall be at the sole expense of the Lessee.

17. DEFAULT. If Lessee fails, neglects or refuses to pay the rents and royalties each month as herein provided, or fails, or neglects to perform the other terms, covenants, conditions, or any part thereof, as herein provided, and such default continues for thirty (30) days after notice to Lessee in writing to rectify such default, the Lessor or his agent may re-enter and take possession of said mining claims and premises and may remove all persons found thereon and thereupon this Agreement and Lease shall be forthwith terminated and all payments of every kind theretofore made to Lessor shall be retained as rental for the use and occupation of said premises by Lessee, and thereupon within sixty (60) days, Lessee shall remove his personal property and other property from said premises, provided that any such notice of default sent by Lessor to Lessee must be signed by the Lessor or the attorney for the Lessor.

18. SAFE OPERATION. All operations shall be conducted in a safe and prudent manner and it is agreed that, should any dispute arise between the Lessor and the Lessee regarding the conduct of operations in a safe and prudent manner, such dispute shall be referred to the State Mine Inspector for decision, such decision to be final and binding upon both parties.

19. FORCE MAJEURE. In the event Lessee is prevented from performing this agreement by labor strikes, fires, floods,

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explosions, riots, any unusual mining casualities, acts of God, government restrictions of orders, suspension of buying by the government where no commercial market is available, severe weather conditions or other extraordinary events beyond his control, then the time of performance of this agreement by Lessee shall be suspended during the continuance of such acts which prevent performance.

20. TERMINATION. Lessee may cancel or terminate this Lease upon sixty days' notice in writing to that effect mailed to Lessor as provided under "Notice" at any time during the life of this lease. In the event of such termination, Lessee shall have the right to abandon his operation of the mining properties without the payment of any further sums, except rents and royalties required to be paid before expiration of said notice and without further penalty to the Lessee and sums of money paid to the Lessor prior to such termination shall be accepted by the Lessor and received by Lessor in full and complete payment of all claims of every kind and nature which the Lessor may have against the Lessee.

21. NOTICES. That any written notice or demand to be given under the terms hereof may be given by mail and will be deemed served if and when mailed in the State of Utah, if given by Lessor, addressed to Lessee at:

if given by Lessee, addressed to Lessor at:

22. SUCCESSORS AND ASSIGNS. That this lease and agreement shall be binding upon and inure to the benefit of the successors and assigns of the Lessor, and of the heirs, executors, administrators, personal representatives, and consent assigns of the Lessee.

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Replacement page received Jan 13 '69

23. REPORTS. Lessor shall be entitled to receive copies of any assay, geological and engineering reports relating to drilling operations conducted by the Lessee as well as any other operations. The same shall be furnished to Lessor promptly upon request for same.

EXECUTED the day and year first above written.

CROWN POINT CONSOLIDATED MINING COMPANY

By Clayton Romney
Its President

ATTEST:

Ken Romney
Secretary

LESSOR

Western States Minerials Inc.

Joel L. Lan
Its President

LESSEE

STATE OF UTAH)
: ss.
COUNTY OF UTAH)

On this 9th day of J. [illegible], 1967, personally appeared before me [illegible] and [illegible], who, being by me duly sworn, did say: That they are the [illegible] and [illegible], respectively, of CROWN POINT CONSOLIDATED MINING COMPANY, a Utah corporation, and that the within and foregoing instrument was signed on behalf of said corporation by authority of a resolution of its Board of Directors, and said [illegible] and [illegible] duly acknowledged to me that said corporation executed the same.

My Comm. Expires:

NOTARY PUBLIC
Residing at: Provo, Utah

STATE OF UTAH)
: ss.
COUNTY OF UTAH)

On the [illegible] day of [illegible], 1967, personally appeared before me [illegible], signer of the within and foregoing instrument, who duly acknowledged to me that he executed the same.

My Comm. Expires:

NOTARY PUBLIC
Residing at:

My Commission expires March 31, 1969.

DALLAS H. YOUNG, JR.
ATTORNEY AT LAW
46 NORTH UNIVERSITY AVENUE
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23. **REPORTS**. Lessor shall be entitled to receive copies of any assay, geological and engineering reports relating to drilling operations conducted by the Lessee as well as any other operations. The same shall be furnished to Lessor promptly upon request for same.

EXECUTED the day and year first above written.

CROWN POINT CONSOLIDATED MINING COMPANY

By Clayton Roundy
Its President

ATTEST:

Fern Roundy
Secretary

LESSOR

John L. Lara

LESSEE

STATE OF UTAH)
: ss.
COUNTY OF UTAH)

On this 24th day of February, 1967, personally appeared before me Clayton Roundy and Fern Roundy, who, being by me duly sworn, did say: That they are the President and Secretary, respectively, of CROWN POINT CONSOLIDATED MINING COMPANY, a Utah corporation, and that the within and foregoing instrument was signed on behalf of said corporation by authority of a resolution of its Board of Directors, and said Clayton Roundy and Fern Roundy duly acknowledged to me that said corporation executed the same.

My Comm. Expires:
COMMISSION EXPIRES OCT. 4, 1968

NOTARY PUBLIC
Residing at: Provo, Utah

STATE OF UTAH)
: ss.
COUNTY OF UTAH)

On the _____ day of _____, 1967, personally appeared before me _____, signer of the within and foregoing instrument, who duly acknowledged to me that he executed the same.

My Comm. Expires:

NOTARY PUBLIC
Residing at:

DALLAS H. YOUNG, JR.
ATTORNEY AT LAW
48 NORTH UNIVERSITY AVENUE
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Pale copy
Western States
Minerals, Inc.

I N D E X

Mining Lease And Agreement dated as of April 15, 1967 by and between:

EAST CROWN POINT CONSOLIDATED MINING COMPANY, Lessor

and

WESTERN STATES MINERALS, INC., Lessee

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MINING LEASE AND AGREEMENT

THIS MINING LEASE AND AGREEMENT made and entered into as of April 15, 1967 by and between East Crown Point Consolidated Mining Company, a corporation, hereinafter called "Lessor", and Western States Minerals, Inc., a corporation, hereinafter called "Lessee", witnesseth that:

In consideration of the royalties reserved and the covenants and agreements hereinafter expressed, the parties agree:

ARTICLE I

1.1 Rights Granted. Lessor does hereby, subject to the provisions hereof, grant, demise and let unto Lessee the mining ground, comprising approximately 92.324 acres, situated in the East Tintic Mining District, Utah County, Utah, and more particularly described upon the attachment marked Exhibit A and shown upon the map marked Exhibit B, which are annexed and made part hereof (hereinafter referred to as the "Leased Premises"), with the right to explore for, mine, process and dispose of all ores and minerals and to construct all such works, building, plants, structures and appliances as may be necessary or convenient for the exploration, mining, preparation and marketing of such ores and minerals, and the right to use the surface of the Leased Premises for the exercise of the rights and privileges herein granted.

1.2 Term. This lease shall be effective for a term of twenty (20) years beginning April 15, 1967 and ending April 14, 1987, unless terminated as hereinafter provided.

ARTICLE II

2.1 Titles. Lessor does not warrant its title to the Leased Premises as against the claims of others. Lessor declares that to the best of its knowledge and belief its titles are valid. Lessor does not undertake to make good the title to the Leased Premises but agrees that any title hereafter acquired or perfected in the Leased Premises by it shall support and be subject to the rights herein granted. Should the parties find it necessary to cure any defect in the title of Lessor, the expense incurred in curing such defect may be deducted from any royalties payable hereunder to Lessor.

ARTICLE III

3.1 Royalties. Lessee agrees to pay to Lessor a royalty on the "net smelter returns" per dry ton of ore produced from the mining properties, in accordance with the following schedule:

NET SMELTER RETURNS PER TON			ROYALTY
$ -0-	to	$ 9.99	5 %
10.00	to	10.00	7-1/2%
11.00	to	11.99	8 %
12.00	to	12.99	8/1/2%
13.00	to	13.99	9 %
14.00	to	14.99	9-1/2%
15.00	to	15.99	10 %
16.00	to	16.99	10-1/2%
17.00	to	17.99	11 %
18.00	to	18.99	11-1/2%
19.00	to	19.99	12 %
20.00	to	20.99	12-1/2%
21.00	to	21.99	13 %
22.00	to	22.99	13-1/2%
23.00	to	23.99	14 %
24.00	to	24.99	14-1/2%
25.00	to	25.99	15 %
26.00	to	26.99	15-1/2%
27.00	to	27.99	16 %
28.00	to	28.99	16-1/2%
29.00	to	29.99	17 %
30.00	to	30.99	17-1/4%
31.00	to	31.99	17-1/2%
32.00	to	32.99	17-3/4%
33.00	to	33.99	18 %

NET SMELTER RETURNS PER TON			ROYALTY
34.00	to	34.99	18-1/4%
35.00	to	35.99	18-1/2%
36.00	to	36.99	18-3/4%
37.00	to	37.99	19 %
38.00	to	38.99	19-1/4%
39.00	to	39.99	19-1/2%
40.00	and above		20 %

3.2 Net Smelter Returns defined. The term "net smelter returns," as used in this lease, shall mean the net amount of money received from the sale of ore or concentrates after deducting:

(a) Smelter treatment or other charges and penalties; treatment or other charges made at a mill; and also transportation charges, if any, paid by purchaser of said ore or concentrates; and

(b) All trucking, railroad and other costs; if any, paid by Lessee in connection with the transportation of ores from mine to smelter, or concentrates from mill to smelter; and

(c) Any and all umpire charges which Lessee may be required to pay.

There shall be included in net smelter returns any net proceeds received from the sale of bullion, precipitates or other products derived from ores from the Leased Premises. If the mill or smelter to which such ores or products shall be delivered is owned or operated by Lessee, the mill or smelter charges shall not be greater than those of other comparable mills or smelters for milling or smelting similar material.

3.3 Royalties - how paid. Royalties shall be paid on or before the last day of the month succeeding the month during which Lessee shall have received payments on any shipment or, in the case of minerals not sold but sent to a mill or other facility operated by Lessee, on the date of shipment.

ARTICLE IV

4.1 Minerlike Operations. Lessee shall conduct all operations on the Leased Premises in the manner necessary to good, minerlike and economical mining.

4.2 Conservation of Ores. Lessee agrees to remove, insofar as practicable and consistent with good mining practice, all commercial ore encountered in exploration, development and mining operations in the Leased Premises, to the end that said ores shall be preserved or removed and shall not be wasted or left in an inaccessible condition. Lessee agrees to ship all marketable ores and products and any other materials of value produced from the Leased Premises to the smelter, reduction works or plant offering the most favorable terms, transportation and other costs and charges considered.

4.3 Commingling Prohibited. Lessee agrees that all ores, concentrates and all other materials of value that may be extracted from the Leased Premises shall be entirely mined, processed, shipped and accounted for separately from the ores and ore products of others.

4.4 Payment of Labor and Material Claims. Lessee agrees to furnish and pay for all labor, power, tools, equipment, powder, timber, and other materials and supplies that may be used by it in the prosecution of work under this lease, and not to allow any claim or lien for any such thing to be effectually made or asserted against the Leased Premises or against Lessor.

4.5 Indemnity. Lessee agrees to hold Lessor harmless from and fully indemnify it against all claims and demands of any kind or nature which may be made upon it or against the Leased Premises for or on account of any debt or expense contracted or incurred by Lessee, or arising out of the acts, transactions, or omissions by Lessee, its agents, or servants. Lessee will defend and save Lessor harmless as to any liability or asserted liability for or on account of injury to or death of any person (except representatives of the Lessor upon the premises under permission granted pursuant to Paragraph 8.4 below) or for damage to any property sustained during the continuance of this lease resulting from unsafe condition of any premises leased herein due to any act or omission of Lessee.

4.6 Statutory Compliances. Lessee agrees to carry workmen's compensation insurance and occupational disease disability compensation insurance covering Lessee's employees and sublessees; to pay any taxes and/or make any deductions under the Federal Insurance Contributions Act, the Federal Unemployment Tax Act and the Utah Employment Security Act for which Lessee may become obligated; and to comply with all other laws, rules and regulations of any duly constituted governmental authority affecting Lessee's operations in the Leased Premises and, on Lessor's request, to furnish Lessor supporting evidence of complaince with the requirement of this paragraph.

ARTICLE V

5.1 Possession and Exploration. Lessee agrees to take possession of the Leased Premises promptly on the date hereof and

to commence actual work within ninety (90) days.

5.2 Initial Work Task. Lessee agrees to expend in actual and reasonable exploration upon the Leased Premises not less than $15,000.00 in the six-month period commencing April 15, 1967.

5.3 Minimum Annual Work Program. Lessee shall, after completion of the Initial Work Task required by paragraph 5.2, perform or cause performance of actual and reasonable exploration and mining work of a value of $24,000.00 on the Leased Premises during the twelve months commencing October 15, 1967, and like work of like value during each successive twelve-month period commencing on each October 15th thereafter while the lease remains effective.

5.4 Expenditures to be Credited. The expenditures which may be credited against the Minimum Annual Work Program may include all expenditures made by Lessee in connection with any and all investigations, exploration, development, mining, extraction, beneficiation, milling, processing, removal and sale of mineral or ore within and from the properties, except royalties paid to Lessor, income and franchise taxes, supervisory salaries not completely and directly connected with the operations on the properties, the acquisition costs of depreciable items, and allowance for depletion. Without limiting the generality of the foregoing, minimum work requirement expenditures shall include depreciation on depreciable items acquired solely for use on the Leased Premises; supervisory salaries directly related to operations on the properties; the acquisition cost of items used solely in operations on the properties which by generally accepted accounting principles are expenses at

at the time of acquisition, reasonable rental charges for equipment owned and used by Lessee for only that time when used solely on the Leased Premises; the reasonable portion of transportation expenses of employees, professional staff, materials and equipment to the site of the work on the Leased Premises, and for the return of the equipment and such employees and staff on completion of their work in the proportion that such equipment, employees' and staffs' time was used on the Leased Premises. Home office overhead expenses may not be credited.

ARTICLE VI

6.1 Lessor's Taxes. The Lessor shall pay all Federal, state and county taxes of any kind assessed it on account of the receipt of royalties paid to it by Lessee hereunder.

6.2 Personal Property Tax. Lessee shall pay all state and county taxes assessed to it or to Lessors upon any improvements, machinery, equipment, tools, supplies and other property placed in or upon the Leased Premises by Lessee.

6.3 Property Tax. Lessee shall pay all state and county property tax assessments upon the Leased Premises, except as provided in Paragraph 6.5 hereof.

6.4 Severance Tax. "Severance" or "production" taxes, if any, shall be prorated among and shall be paid by Lessee and Lessor in proportion to their respective participations in the proceeds thereof. The words "severance" or "production" taxes, as used herein, shall not be construed as including the tax referred to in Paragraph 6.5 or any tax resulting from a valuation based upon "net annual proceeds," nor the "mining occupation tax" referred to in Paragraph 6.6.

6.5 Net Proceeds Tax. Taxes resulting from assessed valuation of the Leased Premises based upon "net annual proceeds," as provided in Section 59-5-57 U.C.A.1953, as amended, or any valuation method which may be substituted therefor, shall except as otherwise provided in this paragraph be prorated among and shall be paid by Lessee and Lessor in proportion to their respective participations in such "net annual proceeds."

If for any calendar year after the termination of this lease (including the calendar year during which the lease is terminated) the assessed valuation of the Leased Premises, based upon "net annual proceeds," shall exceed the assessed valuation which would otherwise have resulted but for "net annual proceeds" from Lessee's operations conducted under this lease, then notwithstanding the termination of this lease, any additional taxes which result from such difference (increase) in assessed valuation shall be prorated among and shall be paid by Lessee and Lessor in proportion to their respective participations in such "net annual proceeds" which resulted in such increased assessed valuation.

6.6 Mining Occupation Tax. Lessee shall be solely responsible for and agrees to pay any "mining occupation tax" arising as a result of any operations conducted under this lease.

ARTICLE VII

7.1 Termination for Cause. If Lessee shall fail to keep or perform any covenant or agreement herein contained and Lessor shall give Lessee notice specifying such failure and demanding possession of the Leased Premises, and if at the expiration of

ninety (90) days after the date of such mailing the specified failure continues unremedied, this lease shall at the election of the Lessor terminate and expire, and without further demand or notice Lessor may enter upon and into the Leased Premises and dispossess all persons occupying the same, with or without force, and with or without process of law, or at Lessor's option, Lessee and all persons found in occupation of the Leased Premises may be proceeded against as guilty of unlawful detainer. Failure by Lessor to exercise for any length of time any right of forfeiture for such cause shall not operate as a waiver of such right of forfeiture for such cause still continuing, or for any recurrence thereof, or for any different cause.

7.2 Surrender of Premises on Termination. Lessee will deliver to the Lessors the Leased Premises with the appurtenances and improvements in good order and condition, reasonable wear and tear and damage by natural causes and the mining operations herein authorized excepted, without demand or further notice on the last day of the term hereof, or of any extended term, or at any time previous upon termination hereof.

7.3 Removal of Equipment. On the termination of this lease for any reason, all underground timbering supports, shaft linings and other fixtures necessary for the preservation of any mines, all rails and head frames upon or in the Leased Premises, and all pipes and ventilating tubing, shall be and remain a part of the realty and shall revert to Lessor without further consideration or compensation. Lessee's personal property located within or upon the Leased Premises and all buildings, machinery, equipment

and tools (other than the fixtures to become the property of Lessors as above provided), shall upon any termination of this lease remain upon the Leased Premises and be held as a guarantee in lieu of bond until all provisions hereof respecting payment of royalties and the payment of taxes, and the preservation of the property, shall have been complied with or provided for to Lessor's satisfaction. Upon performance of all such obligations, Lessee shall be entitled to and may within ninety (90) days after such termination of this lease or within such extension of time as may be granted by Lessor remove from the Leased Premises such personal property and improvements, other than those items which are to remain the property of Lessor as above provided.

7.4 Delay Due to Causes Beyond Lessee's Control. If Lessee shall be delayed, or interrupted in, or prevented from, performing its obligations hereunder by Acts of God, fires, flood, strikes or labor troubles, breakage of machinery, inability to obtain necessary materials, supplies or labor, interruptions in delivery or transportation, insurrection or mob violence, injunction, regulations or orders or requirements of Government or other disabling cause beyond its reasonable control, then and in any such case Lessee shall for the time being, and without liability, be excused from performance of its obligations as herein provided, for the period of such prevention, delay or interruption; and all provisions of this lease shall again come into full force and effect immediately upon the termination of the period of prevention, delay or disability resulting from any of such causes.

ARTICLE VIII

8.1 Furnishing Information. Lessee agrees to furnish Lessor brief monthly progress reports, including a statement as to whether or not any shipments of ores or other products were made during the preceding month. Lessee agrees to make available to Lessor upon request a copy of Lessee's assays and assay and geologic maps, logs, and surveys of drill holes and surveys of the surface and of mine workings, and statement of expenditures incurred to the then date.

8.2 Monthly Reports. Within fifteen days after expiration of each month during which actual royalties are payable hereunder, Lessee shall furnish to Lessor a written report showing, as to the shipments with respect to which such actual royalties are then so payable, the tonnages extracted and shipped or sold from the Leased Premises, the royalties payable thereon, and the amounts if any withheld by Lessee. Such report shall also show as to shipments which were made during the preceding month but as to which Lessee shall not have received settlement during said preceding month, the total tonnage shipped from the Leased Premises.

8.3 Accounts and Records. Lessor and its authorized agents shall at reasonable times be permitted to inspect all accounts and records, including any assay maps or records, of Lessee necessary for proper accounting of production and sale of ores and minerals from the Leased Premises, for determining of royalties due Lessor and for determining whether or not the provisions of the lease are being complied with.

8.4 Lessor's Right of Inspection. Lessee shall allow Lessor's agents to enter upon and into Lessee's workings on the Leased Premises for purposes of inspection at such reasonable times as shall not interfere with regular operations. It is agreed that Lessee shall assume no responsibility for the safety of the agents of Lessor when and while upon the Leased Premises or in or about any premises or workings through which such agents may pass in going to or from the Leased Premises except for injuries resulting from gross negligence or willful misconduct of Lessee.

ARTICLE IX

9.1 Assignment or Sublease. Lessee may not assign this lease or a part thereof nor sublet all or part of the Leased Premises without Lessor's written consent. Such consent shall, however, not be unreasonably withheld. It is understood that any assignment or sublease may be made only to substantial and reliable operating companies and only upon terms not inconsistent herewith.

9.2 Successors and Assigns. Each provision hereof shall extend to, benefit, and be binding upon the respective successors or assigns of the parties.

9.3 Surrender by Lessee. Lessee may upon the conditions hereinafter stated surrender this lease at any time upon giving to Lessor thirty (30) days' notice in writing of its intention to do so. Upon such surrender Lessee shall be relieved of its obligations hereunder, except obligations to make royalty payments as to ores or minerals mined and shipped or sold, Lessee's obligations imposed by Article VI with respect to taxes, obligations arising out of any act or omission of Lessee prior to surrender, and Lessee's obligations

to complete the Initial Work Task required by Paragraph 5.2 (which is unconditional).

9.4 Delivery of Instrument of Release. On termination of this lease, Lessee will if Lessor requests it execute and deliver to Lessor an appropriate instrument of surrender and release in recordable form.

ARTICLE X

10.1 Exploration Loan. Lessee may at its option apply for and obtain a loan from the Office of Minerals Exploration, Department of Interior (or its successor or a similar agency) for the performance of exploratory work upon the Leased Premises, and Lessor hereby agrees promptly upon Lessee's request to execute and deliver an Owner's Consent to Lien (or other similar document).

ARTICLE XI

11.1 Notices. All notices required or desired to be given hereunder shall be in writing and sent by United States registered mail, postage prepaid. Notices to Lessor shall be addressed to East Crown Point Consolidated Mining Company, P. O. Box 270, Eureka, Utah. Notices to Lessee shall be addressed to Western States Minerals, Inc., Box 901, Casper, Wyoming. Notice by mail shall be deemed complete when it is registered. Any party may from time to time designate a different single addressee and address.

ARTICLE XII

12.1 Option to Lessor to Participate. Lessee grants to Lessor and its assigns, for a period of three (3) years from the date of this lease and agreement (plus the period of any suspension

pursuant to Paragraph 7.4 hereof), an option to participate in the operation of the property jointly with Lessee, up to a maximum of fifty per centum (50%), upon written notice to Lessee of its election to do so. In the event such option is exercised, Lessor shall pay to Lessee a proportionate part of Lessee's net costs and expenses to that date on the Leased Premises, equal to the percentage of participation so elected by Lessor. To facilitate the calculation of such payment, Lessee agrees to keep separate records of all expenditures made and proceeds received in connection with such operations. The parties do not intend that Lessor's exercise of such option shall work any merger of title, and after any such exercise this Mining Lease And Agreement shall nevertheless remain effective.

IN WITNESS WHEREOF, each of the parties has caused this Mining Lease And Agreement to be executed in its behalf by its officers authorized to do so, all as of the date first above written.

EAST CROWN POINT CONSOLIDATED MINING COMPANY

ATTEST:

By _____

Its President

WESTERN STATES MINERALS, INC.

ATTEST:

Glen Larsen

By _____

Its President

STATE OF Arizona)
) ss.
COUNTY OF Pima)

On the 15th day of May, 1967, personally appeared before me Gordon D. Scott who being by me duly sworn did say that he is the President of East Crown Point Consolidated Mining Company, and that said instrument was signed in behalf of said corporation by authority of a resolution of its Board of Directors, and said Gordon D. Scott acknowledged to me that said corporation executed the same.

Margia L. Lewis
Notary Public
Residing in Tucson, Ariz.

My commission expires:
June 28, 1969

STATE OF Wyoming)
) ss.
COUNTY OF Fremont)

On the 4th day of May, 1967, personally appeared before me John L. Haesen who being by me duly sworn did say that he is the President of Western States Minerals, Inc. and that said instrument was signed in behalf of said corporation by authority of a resolution of its Board of Directors, and said he acknowledged to me that said corporation executed the same.

Lynn M. Lane
Notary Public
Residing in Riverton, Wyo.

My commission expires:

My Commission expires March 31, 1969

EXHIBIT A

(Annexed to and part of Mining Lease
And Agreement dated as of April 15, 1967)

The premises belonging to East Crown Point Consolidated Mining Company covered by the Mining Lease And Agreement dated as of April 15, 1967 and referred to therein as the "Leased Premises" are situated in the East Tintic Mining District, Utah County, State of Utah, and are more particularly described as follows:

The following patented lode mining claims:

Crown Point Extension No. 1, Crown Point Extension No. 2, Crown Point Extension No. 3, Crown Point Extension No. 4, Crown Point Extension No. 5, Maple Leaf, Maple Leaf Lode #1, Maple Leaf #2, Zuma Fraction #1, U.S. Mineral Survey No. 5744, amended,

<u>less</u> the following portions of such claims:

7.107 acres from Crown Point Extension Nos. 1,2, and 3 lode claims conveyed to Tintic Central Mining Company on October 8, 1921;

0.022 acres from the Maple Leaf lode claim conveyed to Zuma Mining Company in January, 1922;

5.193 acres from Maple Leaf, Maple Leaf #1 and #2 lode claims conveyed to Tintic Central Mining Company on October 8, 1921;

6.216 acres from Zuma Fraction #1 lode claim conveyed to Zuma Mining & Milling Company in January, 1922; and

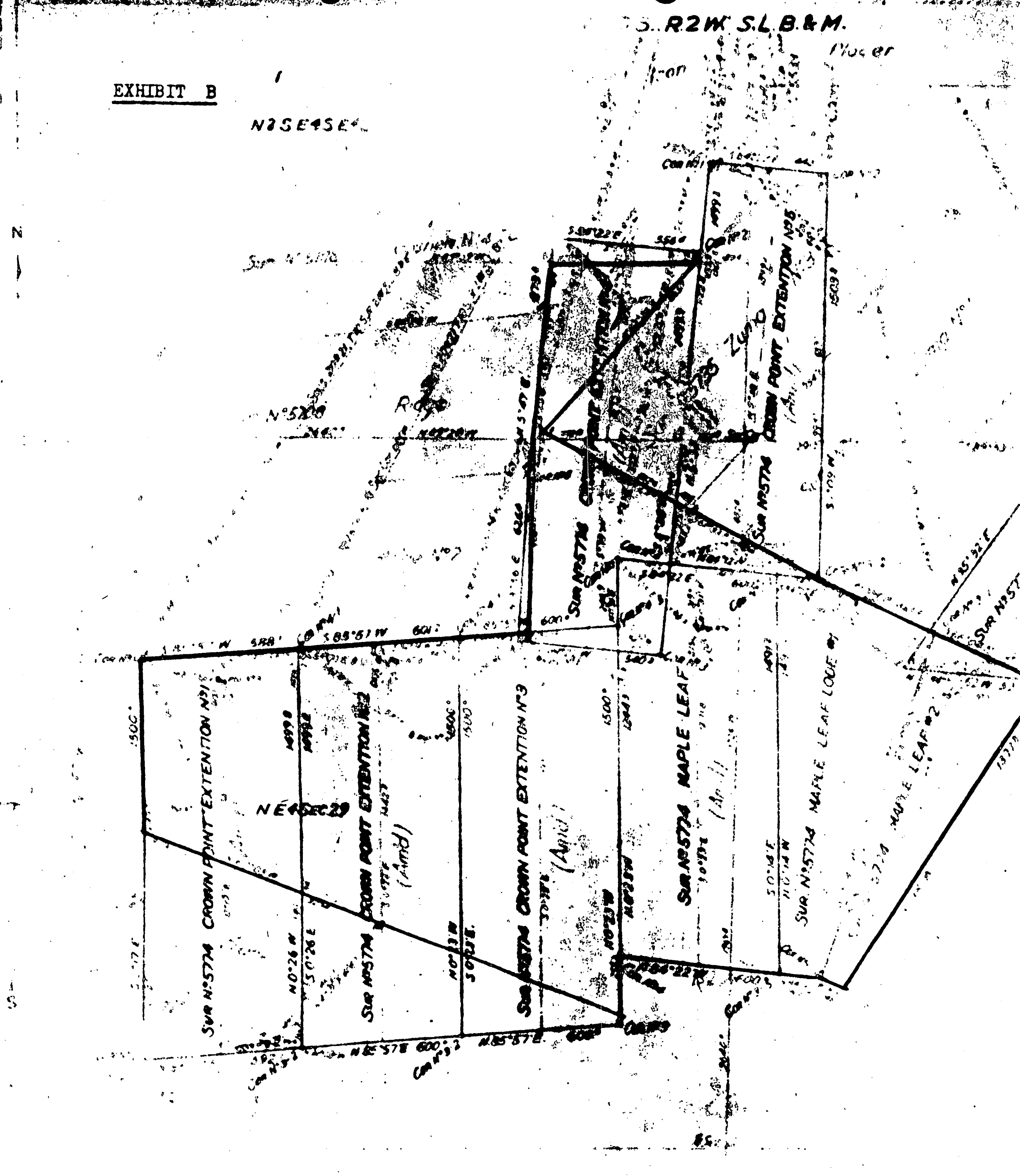
5.837 acres from Zuma Fraction #1 lode claim conveyed to P. J. Fennel & W. F. Shriver of Eureka, Utah in January, 1922.

92.324 acres

A metes and bounds description of the Leased Premises follows:

From Cor. No. 1, Crown Point Extension No. 1 lode claim, bearing N. 34° 00' E. 4160.5 ft. to 1/4 Sec. Cor. between Secs. 20 and 21, T. 10 S., R. 2 W., SLB&M; thence N. 86° 14' E. 1460.0 ft. to Cor. No. 2 of the Ridge No. 2, Survey No. 5708; thence North 600 ft. to Cor. No. 5 of the Crown Point Extension No. 4; thence N. 5° 52' E. 784.7 ft. to intersection on South boundary of No. 1 Iron Placer; thence S. 89° 29' E. 544.2 ft. to intersection on Line 1-4 of Zuma No. 3, Survey No. 5735; thence S. 42° 26' W. 845.7 ft. to Cor. No. 4, Zuma No. 3, Mineral Survey No. 5735; thence S. 61° 33' E. 1222 ft. to Cor. No. 3, Zuma No. 1, Mineral Survey No. 5735; thence No. 42° 26' E. 14.2 ft. to intersection on Line 2-3, Maple Leaf Lode #1, Mineral Survey No. 5774; thence S. 66° 04' E. 866.7 ft. to Cor. No. 3, Zuma Fraction #1; thence S. 33° 00' W. 1377.8 ft. to Cor. No. 3, Maple Leaf #2; thence N. 66° 04' W. 98.2 ft. to Cor. No. 4, Maple Leaf #2; thence N. 84° 22' W. 757.3 ft. to Cor. No. 4, Maple Leaf; thence S. 0° 23' E. 217.1 ft. to a point on Line 3-4, Crown Point Extension No. 3; thence N. 69° 03' W. 958.0 ft. to Cor. No. 3, Frank lode claim, Mineral Survey No. 6025; thence N. 69° 03' W. 959.6 ft. to a point on Line 1-2, Crown Point Extension No. 1; thence N. 0° 17' W. 649.2 ft. to place of beginning. Comprising 92.324 acres.

EXHIBIT B


R2W S.L.B.&M.
Placer
N2SE4SE4
N
S
NE4SEC29
SUR N°5774 CROWN POINT EXTENTION N°1
CROWN POINT EXTENTION N°2
(Amd)
SUR N°5774 CROWN POINT EXTENTION N°3
(Amd)
CROWN POINT EXTENTION N°5
SUR N°5774
SUR N°5774 MAPLE LEAF
SUR N°5774 MAPLE LEAF LODE #1
MAPLE LEAF #2
S 85°51' W
N 85°57' E
S 84°22' W
1500'
600'

Gov't Copy

O M E

EXPLORATION PROGRAM

CROWN POINT AND EAST CROWN POINT CLAIMS

TINTIC MINING DISTRICT, UTAH CO., UTAH

REPORT SUBMITTED TO:

Messrs. John & Glen Larsen
Western States Mining and
Contracting, Inc.
Riverton, Wyoming 82501

REPORT SUBMITTED BY:

Mr. Roger C. Banghart
East Ely, Nevada
Registered professional engineer
Missouri E 11320
Idaho Geol. Eng. 1736

Roger C. Banghart
April 24, 1967

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APPENDIX

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Crown Point Lease

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3 - Log of CP #1 Rotary and Diamond Drill Hole, 1964

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SUMMARY

The enclosed report requests exploration assistance under the U. S. Department of Interior, Office of Minerals Exploration program for silver. The funds would be used to develop 223 acres of potential silver bearing claims in the Tintic Mining District, Eureka, Utah.

This lease claims 3700 feet of strike length along an undeveloped yet strongly pyritized lava covered portion of the productive Sioux Ajax Fault. Structural knowledge strongly aided by alteration studies and geochemical techniques have effectively aided in the discovery along the Sioux Ajax-Eureka Standard Fault system of new blind ore bodies, namely the Trixie and Burgin areas.

It is proposed that a two compartment shaft, 1300 feet deep, be excavated which would penetrate through pyritized Tertiary volcanics and then explore a full section of the productive Bluebell Formation. A level would be established at 5300 foot elevation and 2000 feet of drifting along the north side of the Sioux Ajax Fault would be necessary to locate the northsouth trending ore channels in the Bluebell Formation. ?

The end result of this work would be to discover silver-copper-gold ore bodies similiar in tenor to those found in the southern portion of the Tintic ore channels in limestones near the manzonite stock. These ore bodies along the Sioux Ajax Fault would be characterized by the Mammoth, Spy, and Iron Blossom Mines.

PROPERTY (PLATE 2)

Plate 1 shows the leased property in its relationship to the entire district.

The property consists of a unitized agreement combining the Crown Point Consolidated Mining Company and the East Crown Point Consolidated Mining Company. The lessee is Mr. Glen Larsen, who is requesting this OME loan. The combined properties include 223 acres located in Sections 20, 28, and 29, T 10 S, R 2W, Tintic Mining District, Utah Co., Utah. Appendix I, which contains copies of the leases gives the legal description of the property. Plate No. 2, Engineering Map shows the individual claims and the lease boundary as tied into the land grid.

Plate 2 also shows the existing roads and distances to Eureka and other landmarks. The Crown Point 1, 2, and 3 Shafts with their known underground workings are also shown.

As noted on Plate 2, only the northwest portion of the property has been developed. No production has been recorded from these properties. Crown Point No. 1 Shaft is 400 feet deep, and there are no reports concerning the geology and workings. Crown Point No. 2 Shaft has approximately 10,000 feet of workings from the surface down to 1000 feet. No mine maps are available; however, G. W. Crane's report, dated 1928, on this shaft is included in its entirety in Appendix 2.

Crown Point No. 3 Shaft has one level at 680 feet and in this report the maps and cross sections are included as Plate 5. The No. 3 Shaft has the most significant data for use in this exploration program. The stratigraphy encountered, Victoria Formation, with its

strike and dip, and the ore channel inferred from the galena, jasperoid, and manganese mineralization will be used in recommending deeper work in the Bluebell Formation further south towards the Sioux Ajax Fault.

The two drill holes shown on Plate 2, CP 1 and CP 2 were drilled in 1964 by Mr. Larsen. The drill log of CP 1 is included in Appendix 3. CP 1 located a marker bed at the top of the Bluebell Formation and also minor galena. This hole is 300 feet south of the Crown Point No 3, 680 level and the mineral galena is found 40 feet lower.

CP No. 2 drill hole, 900 feet southeast of CP No. 1, penetrated the rubble zone at the base of the volcanics at 1174 feet. The deep volcanics are probably reflected by the prevolcanic erosion trace along the Sioux Ajax Fault.

HISTORY OF EXPLORATION

In recommending this exploration program, a voluminous amount of published and private company reports and maps were available for study. An assimilation of the significant data is included in this report. Appendix 4 lists the pertinent references used. An additional reference not listed is the author's own personal knowledge of the district. The author spent five years between 1958 and 1964 employed as a geologist and project engineer for Bear Creek Mining Co. and Kennecott Copper Corp. at the Burgin Mine.

Historically, discoveries in the Tintic District were made from south to north and from west to east. A fifth ore channel has always been inferred and has been prospected for, east of the four major producing ore channels in the district. In addition, these ore channels had their initial discoveries made as surface exposed northeast fissures in the monzonite stock. When crossing the Sioux Ajax Fault to the north, the fissuring changes to north-south trending replacement ore channels in limestone.

Plate 1 shows these features and also shows that a major northeast fissure zone occurs which projects east of the productive ore channels. This fissure zone becomes covered by altered Tertiary volcanics in the area of the Sioux Ajax Fault on the Crown Point properties.

As pointed out by Crane, 1928, the northwest portion of the Crown Point properties has been adequately explored through the Crown Point No. 2 Shaft. The Crown Point No. 3 Shaft, located in the central portion of the leased area, has the 680 foot level, which crosscuts and drifts in the Victoria Formation, Plate 5. In

addition, a northsouth striking manganese-jasperoid ore channel containing scattered galena was located. Abundant pebble dikes are also present on this level indicating deep seated northsouth structures.

Beginning in the late 1940's and through the 1950's the U. S. Geol. Survey made a thorough study of the district with special emphasis on hydrothermal alteration and geochemical methods for locating blind ore bodies through Tertiary pre-ore lavas.

Almond and Morris's report (Reference 1) shows the anomalous geochemical values in the pyrtiized and argillized volcanics. These volcanics cover the Sioux Ajax Fault where this fault crosses the Iron Blossom ore run and formed the Van Stope (Reference 2).

Lovering's Economic Geology Monograph 1, (Reference 7) entitled "Alteration as a Guide to Ore in the East Tintic District", is a classic economic geology report depicting the various stages of hydrothemal alteration of the Tertiary volcanics overlying the North Lily ore body. These same alteration studies were applied to the rest of the East Tintic District. Plate 4 is a 300 scale enlargement of this work on the Crown Point leased ground. Here pyritic ore stage alteration of Tertiary volcanics has been used to trace the Sioux Ajax Fault and northeast striking fissures south and north of this fault. These same techniques were used in the Chief Oxide-Burgin area and Trixie area discoveries which are along the Sioux Ajax-Eureka Standard Fault system.

In July, 1964 Glen Larsen drilled two surface holes on the leased ground. CP No. 1 (Appendix IV) was collared 300 feet south of the end of the 680 level. Here pyritized volcanics were rotary drilled to 906 feet. Beneath the rubble zone and 40 feet below the 680 level, the uppermost beds of the Bluebell Formation were cored, which contained minor galena. CP No. 2, (Plate 2), drilled further to the southeast, was still in the rubble zone at 1177 feet. These deep volcanics probably depict the prevolcanic trace of the Sioux Ajax Fault.

GEOLOGY

Plate 1 shows the general geology of the Tintic District. The references listed adequately cover the geology, ore controls, and exploration of the district. Figure 1 shows the production according to formation and it should be noted that just about every unit has produced some ore. The Bluebell Formation should be singled out as the most receptive host rock for ore in the district, having produced $110,000,000 or 1/4 of the total district production.

Only that geology which is pertinent to the Crown Point leases will be discussed.

Sioux Ajax Fault

The Sioux Ajax Fault is one of the most important structures in the Tintic District. It strikes generally east-west and dips steeply to the north. Its width is as much as 500 feet. Fissure ore bodies are characteristically to the south and limestone replaced ore channels are to the north. Where the Sioux Ajax Fault intersects the horizontal ore channels, the vertical extent of the ore is extended so that chimneys or ore are developed over much greater vertical distances.

At the west end of its strike, the Sioux Ajax Fault intersects the Mammoth-Chief ore zone forming the copper-silver-gold bearing Apex Stope and East Stope in the Mammoth Mine. The Apex Stope extends from the surface down to 1500 feet (Reference 11).

Next, to the east, the Sioux Ajax Fault intersects the Godiva ore channel forming the Spy ore body which was developed through the Sioux Tunnel. No production records of this copper-silver-gold-lead ore body are available (Reference 5).

Farther to the east the Sioux Ajax Fault intersects the Iron Blossom ore run forming the Van Stope, Plate 2. Cross sections

through the Iron Blossom No. 3 Shaft show the discontinuous vertical extent of the ore from the 300 level down to the 1200 level (Reference 1 and 2).

Adjoining the Iron Blossom ground on the east are the Crown Point leases which shows the Sioux Ajax Fault to be covered by altered lavas for 3700 feet (Plates 3 and 4). The exact sub-volcanic trace of this fault will have to be determined in this proposed exploration program.

To the east of the Crown Point properties the Sioux Ajax Fault joins the Eureka Standard Fault in the Trixie area. Here again the fault is covered by altered volcanics; however, surface drilling by the U. S. Geol. Survey and Bear Creek Mining Company have disclosed in the Trixie area silver-lead sludge and core intercepts of commercial importance.

The Eureka Standard Fault locallized the Eureka Standard silver-gold mine, the Apex Standard Mine and terminates against the East Tintic thrust fault where the Burgin Mine is presently being mined.

The Sioux Ajax Fault together with the Eureka Standard Fault can be traced for approximately four miles. The Sioux Ajax Fault has a normal displacement of approximately 1500 feet (north side down).

Alteration (Plate 4)

Hydrothernal alteration studies of pre-ore Tertiary volcanics have contributed significantly to the discovery of major ore bodies in the East Tintic District.

Almond and Morris 1951 (Reference 1) show the geochemical anomalous values in the pyritized and argillized volcanics covering

the Iron Blossom - Sioux Ajax intersection, which formed the Van Stope.

Lovering, 1949, deciphered the pre-ore to ore stage hydrothernal alteration sequence which was developed in the Tertiary volcanics above the North Lily ore body. On Page 2 of this report he states, "This alteration (pyritic) is localized near major channels of mineralization and is more closely related to ore than to visible instrusives." These alteration studies coupled with a knowledge of the underlying structures have lead to the discovery of the Burgin ore body (Reference 8) and a yet to be developed Trixie discovery.

Plate 3 is a 300 scale enlargement of Reference 6 and shows that 78% of the surface of Crown Point leases are covered by Tertiary pre-ore volcanics. The 22% which are sediments are in the northwest corner of the property. Approximately 40% of the volcanic cover has been strongly pyritized.

This pyritization would reflect ore channels at depth and as noted on Plate 2, the entire south portion of the property has not been prospected below these lavas. These strong pyrtiic zones would reflect the east-west striking Sioux Ajax Fault and north-south and north-east trending ore channels.

These subvolcanic structures would be explored in this requested program.

Stratigraphy

Reference 9 is a detail report on the stratigraphy of the East Tintic mountains. Figure 1 is a generalized stratigraphic column showing the production of the district related to the formations. It is readily seen that the Bluebell formation produced 1/4 of the total district's production, or $110,000,000.

Figure 11

Distribution of Production of Tintic Mining Districts by Formation

AGE		UNIT	Thickness	Approximate Gross Production
Middle or Upper Eocene	Intrusive	Silver City Monzonite		Dollars 12,000,000
		Swansea Qtz Monzonite		
Middle Eocene	Extrusive	Laguna Springs Latite		
		Packard Rhyolite Series		
Mississippian		Humbug	650'	
		Deseret	875'	46,500,000
		Madison Upper	500'	43,000,000
		Madison-lower	250'	
	Miss.-Dev.	Pinon Peak	160'	
	Devonian	Victoria	350'	
	Dev.-Sil.	Blueball	500'	110,000,000
Ordovician		Fish Haven	280'	10,000,000
		Opohonga	875'	9,000,000
U. Cambrian		Ajax	640'	60,500,000
		Opex	500'	7,500,000
		Cole Canyon	600'	7,000,000
M. Cambrian		Blue bird	180'	10,000,000
		Herkimer	375'	
		Dagmar	90'	
		Teutonic	390'	
M.L. Cambrian		Ophir	440'	84,500,000
L. Cambrian		Tintic	3000'	25,000,000
Total Gross Production				425,000,000

8,155 feet

← ? Big producers were silver areas

Acknowledgement: Utah Geol. Soc. Guidebook No 12, p.65

In the area, of this recommended exploration program, the 680 level (Plate 5) and CP 1 drill hole shows the closest known sub-volcanic stratigraphy. The 680 level, elevation 5863, crosscuts and drifts through the basal beds of the Victoria Formation, The gentle westerly dips show the beds to be on the east limb of the Main Tintic Syncline. The strike is west of north reflecting the axis of the syncline. Drill hole CP 1 (Plate 2) located the "speckled bed" which is near the base of the Victoria Formation. This bed would be 40 feet lower than the 680 level.

Of major importance to this proposed program, is the 550 feet of highly productive Bluebell Formation, which presents itself for exploration beneath the 680 level and above water table.

Ore Channels

The ultimate objective of this program is the locating and discovery of ore channels.

Ore stage mineralization in the form of jasperoid, managanese, and galena was found on the 680 level of the No 3 Shaft (Plate 5). This mineralization which is in the Victoria Formation could be a reflection of an ore channel in the underlying Bluebell Formation. A crystal of galena was also discovered in drill hole CP 1, 300 feet due south of the 680 level.

The strong pyritic alteration of the overlying lavas strongly suggest north striking ore bearing structures at depth.

Other surface and 680 level indications of the deep seated, north-south structures, are the pebble dikes which transact the volcanics and the sediments.

CONCLUSIONS

The structural intersection of the Sioux Ajax Fault with known and probable north-south structures in the highly receptive host, Bluebell Formation, beneath hydrothermally altered volcanics lends the Crown Point properties to a very promising exploration program.

EXPLORATION PROPOSALS (Plate 2)

It is recommended that a two compartment shaft 1300 feet deep be excavated to the 5300 foot elevation. This shaft would penetrate the Tertiary lavas and penetrate a full section of the Bluebell Formation. A short drift should be run to the south to locate the Sioux Ajax Fault. At the 5300 foot level, a drift parallel to the hanging wall of the Sioux Ajax Fault would be driven to explore for north striking ore channels. A total of 2000 feet of drifting and crosscutting is requested.

Exploration drifting should stay near or within the Sioux Ajax Fault as a greater vertical extent of ore is usually developed at these structural intersections which would increase the odds for locating an ore channel.

APPENDIX 2

General Report
on the Property
of the
CROWN POINT CONSOLIDATED MINING COMPANY
Tintic Mining District - Utah County, Utah
by G. W. Crane
June, 1928

LOCATION - The Crown Point property is located in the east central portion of the Tintic Mining District, Utah County, Utah. It adjoins the old Iron Blossom and Colorado Consolidated properties on the west and the Iron King and East Crown Point on the east. The highly productive Iron Blossom-Colorado channel lies parallel and about 1000 feet to the west. (See map of the Tintic district accompanying this report.)

HOLDINGS- The property consists of about 150 acres of valuable mineral ground held by an undivided interest in nine lode mining claims all of which are patented. The company is capitalized for $100,000.00 represented by 1,000,000 shares of a per value of ten cents each, of which all but 130,620 shares are issued. Accompanying this report is an official map of the property on a scale of 200 feet to the inch showing details of the claims, general surface geology and most of the underground developments. I have also prepared an east-west cross-section through the Crown Point shaft showing the geological structures and formations developed by the mine workins.

SUFACE CONDITIONS - The property lies along the east foot of the mian mountain range which rises to elevations of 1500 feet above it. Surface elevations range from 7000 to 6500 feet and the slopes are generally easterly. The shaft is reached by a fair road up a brushy gulch not too steep for an auto or truck.

GEOLOGY - The surface formations consist of dolomite limestone and shale of the Pine Canyon and Gardner formations which strike nearly north and south and dip 20° to 30° to the west thus forming a part of the east limb of the major Tintic syncline. At the collar of the Crown Point shaft the depth to the Tintic quartzite is approximately 6000 feet, which means 6000 feet of limestones and dolomites, three fourths of which are especially amenable to replacement by ore where found in connection with Tintic type (fo) mineralization.

Overlying the sedimentary beds at the south end of the property and bordering it on the north are rhyolite flows and tuffs of Tertiary age that are generally recognized as non-ore-bearing and as having had no part in the mineralization of the camp.

QUARTZ LEDGES - Along the eroded contact of the rhyolites and the underlying sediments are numerous prominent surface quartz ledges that are the result of silicification of the limestones and shales due to an ascending hot water criculation following the advent of the rhyolite flows. The hot waters carrying much silica in solution replaced the limestones and surface talus rocks forming jaspery quartz and quartz breccias which usually give an assay but seldom more than traces of gold and silver. The silicificaton process is one that took place long before the formation of the regular type of Tintic ore deposit and should not be confused with the latter. Rusty ledges of jaspery quartz of this origin are traceable at intervals all along the old rhyolite-limestone contacts, especially near the horizon of the black shale which seems to have been readily silicified. But as they do not extend to depths below the rhyolite contact, underground developments have shown no such quartz bodies.

FAULTING- Faulting of any importance is practically wanting on the surface but we know that the Siouz-Ajax fault which crosses the Iron Blossom channel near the Iron Blossom No. 3 shaft must cross the south end of the Crown Point property, perhaps near the middle of the Divide No. 2 claim. More, however, the surface formation is rhyolite which is younger than the faulting and therefore covers it. The Sioux-Ajax fault being pre-mineral may be the locus of ore deposition and therefore deserves special attention.

MONZONITE - The extreme south end of the property laps for 130 to 200 feet upon the surface exposure of the monzonite, an intrusive stock, that is generally considered, in the light of abundant evidence, to be the source of the mineralizing solutions in the Tintic district. The presence of the monzonite on the south and the abundance of replaceable limestones and dolomites to depths of 5000 or 6000 feet over the whole of the property complete the setting of almost ideal conditions for the occurrence of another ore channel of the Tintic type. To determine the existance of such an ore channel considerable work has been done through a shaft located near the north end of the property. (See general surface map for the location of these workings.)

Where?

Property

DEVELOPMENTS - The Crown Point shaft, consisting of one compartment and manway, has been sunk to a depth of 1000 feet with laterals at the 250, 400, 500, 550, 750 and 1000 feet levels, underground explorations totaling about 10,000 feet. The geological plattings on the cross-section show the bedding dipping from20° to 30° to the west with only a minor amount of faulting. The formations explored include the Gardner or Chief series of limestones and dolomites, the Victoria quartzite and a portion of the Blue Bell limestones which with the exception of the Victoria and the Blue Fossiliferous member of the Gardner are generally good ore-bearing formations which in the Chief and other mines of the district have been highly productive.

Faulting in the mine is of minor importance except near the east boundary of the property where a nearly east-west fault shown on the 250 level lifts the mottled dolomite to 200 feet or more to a position opposite the sugary dolomite. The fault planes are tight and show no mineralization. They were not entered elsewhere by any of the lower workings.

FISSURING - A little farther to the southeast on the 250 level considerable work was done on a promising break or fissure which strikes N 40° E and dips about 70° to the northwest. On the plane of this break is a 6 to 8 inch seem of brecciated limestone mixed with intrusive porphyry with here and there some secondary quartz due to the silicification of the fissure walls and at one point considerable iron accompanies the quartz. The best of this material was sampled with considerable expectation but was found to carry only traces of gold and silver and no lead. A break of similar Character has been cut near the face of the east drift on the 1000 level but shows less indication of mineral than that on the 250 level.

BRECCIA DIKES - At various points east of the shaft breccia dikes varying from a few inches to 4 feet in width have been cut. The strike of these dikes is generally 10° to 30° east of north and the dip 60° to 80° to the northwest. They consist of both angular and rounded limestone fragments inbedded in a matrix of porphyry but show no signs of mineralization. Judging from their occurrence elsewhere in the camp under conditions showing their relation to ore bodies I believe these dikes to be of intrusive origin and to be younger than the ore bodies, therefore affording no clue to the location of the latter.

BRECCIA-FILLED CAVES - On the 250 level and about 300 feet west of the shaft drifting has exposed an area about 150 feet wide and 200 feet long over which the formation is almost entirely a soft breccia consisting of angular fragments of various types of limestone and shale and much black chert imbedded in a clayey matrix but in places fairly clean and partly cemented by white incrustations of calcite. Excepting the black chert no quartz is present and there is very little iron or other indications of ore deposition. Over the larger part of the area opened up the breccia has the appearance of a cave filled by materials from the surface the amount and character of the clay matrix varying from place to place but the character of the breccia materials remaining much the same. Where undewent by the 500 and 750 levels no such breccia formation is shown indicating that it is neither intrusive nor the result of important structural movements. The probabilities are that it is a cave filling of recent origin and has no important bearing on the location of mineral deposits.

CHERT - One of the characteristic dolomitic limestone horizons out by the Crown Point mine workings is that known in the Chief mine as the Sugary dolomite which is one of the very best ore bearing horizons in that mine. Near the middle of the Sugary dolomite there is everywhere present a bed of glassy chert varying from one feet to 8½ feet in thickness which is an original sedimentary member in that formation and is in no way directly indicative of ore. In the Crown Point workings this bed of chert has been cut at all levels down to the 750 and is usually from 5 to 5½ feet in thickness. In some places it is porous and rusty and has been taken for mineral quartz and although it has been prospected considerably on both strike and dip no ore discoveries were made.

IRON SHOWINGS - At several points throughout the mine, particularily in the Sugary and Mottled dolomite formations, there are encouraging showings of limonitie iron filling small solution cavities in the limestones, some of which feels gritty to the hand. All such showings were sampled and assayed to detect any possible evidence of their having been deposited by mineralizing solutions of a magmatic source. The results of this sampling are as follows:

Lev-Drift-Location of sample-Character			Au. Ozs	Ag. Ozs	% Pb.
250 East	Raise at point T	Fe.& Qtz.	Tr.	Tr.	none
250 West	16 ft. N. point R	Fe.	Tr.	Tr.	none
400 East	25 ft. NW point D	Fe.&Qtz.	Tr.	Tr.	none
500 East	57 ft. E. point M	Fe.	Tr.	Tr.	none
500 West	8 ft. NW point D	Fe. & Mn.	Tr.	Tr.	none
750 West	8 ft. E. point M	Fe. & Mn.	Tr.	Tr.	none

It will be noted that for each sample the assay returns showed only traces of gold and silver and no lead. As this is no more than is usually obtained from iron showings in general one is hardly warranted in accepting the iron as a definite indication of the Tintic type of depositon for which quartz or manganese as well as iron is required. Perhaps the nearest approach to such a showing is the silicified iron stained limestone adjacent to the fissure described as occurring at the east end of the 250 level. Samples of this however when assayed showed no mineral other than the usual traces of gold and silver.

Another showing of special interest was obtained in the 119 feet winze 400 feet west of the shaft on the 750 level. Here, at a depth of about 80 feet, the winze is reported to have cut 4 feet of 22% manganese ore which also assayed about 2 oz. of silver to the ton. The winze is now inaccessible but the reported character of the material cut is certainly interesting in that it appears to contain enough manganese and silver to be classed as indicative of ore deposition of the Tintic type. Under the circumstances it would be advisable to further prospect this showing, either by work in the winze or by undercutting it on the 1000 foot level. The

accompanying section shows that such a drift on the 1000 level would tap the Mottled dolomite, a very good ore-bearing horizon directly under the showing in the winze. Should more work be undertaken at the old stand I think it whould be done here.

PRESENT STAGE OF DEVELOPMENTS - In the search for an ore channel of the Tintic type, the shaft and mine workings on the Crown Point property were well planned and thoroughly carried out down to the 1000 foot level. The distance to the east of the Iron Blossom channel is just about right for the interception of a new channel and in my opinion the underground workings were spaced sufficiently close to avoid missing a channel occuring within the depth prospected. While there is still a fair prospect to find an ore channel at depths greater than these of the present workings no doubt the best horizons have been prospected for that locality and excepting the work I have suggested for the 1000 foot level of the No. 2 shaft I believe that further work might better be directed to another part of the property.

UNEXPLORED AREAS - Refering to the property map it will be noted that practically all the work on the Crown Point tract to date has been done near its north end while much the larger part of the property, lying to the south and east, is still undeveloped.

In a geological sense, and considering the almost negative results of the work on the north, the southeastern portion of the property is at present much the more attractive development proposition. Should the ore channel sought be farther to the east than at first anticipated, here is the place to look for it and here also is the opportunity to locate an ore body of the East Tintic type. In general structure, the southern portion of the property is similar to that on the north in so far as the dip of the bedding is concerned and the same series of limestone formations are represented.

Another encouraging feature lies in the fact that this part of the property is closer to an eastern belt of intrusive monsonite plugs which are thought to be directly allied to the agencies producing the East Tintic ore bodies. On the surface this belt of instrusion is tracable from a point on the East Crown Point property north and east through the Zuma, Iron King, Big Hill, Bullion and North Lily properties to a point on the railroad near Canyon Siding and is accompanied all the way by surface deposits of iron and manganese oxide of undoubted magmatic (igneous) origin.

CONDITIONS FAVORING ORE DEPOSITION - The deposition of the Tintic type of ore channel is dependent primarily upon two factors - first, a good supply of mineralizing solutions and second, a favorable horizon for its deposition by replacement. The structures involved vary widely in the several channels indicating that structure is of secondary importance.

The source of the mineralizing solutions for the four or five known Tintic channels is definitely known to have been at certain points along the contact of the monzonite and the limestone in the south end of the district varying considerable as to depth beneath the surface. In at least two cases the points of sources are marked by large iron deposits at the surface as exemplified by the Dragon Iron mine at the south end of the Iron Blossom-Colorado channel and the Black Jack iron deposit at the south or contact end of the Mammoth channel. Each of the channels are represented near the monzonite contact by true fissure veins in the more or less metamorphosed limestone with but little replacement of the wall rocks and only at some distance to the north of the monzonite contact or point of source is there pronounced replacement of the limestone beddings. When limestone replacement becomes important the bedding structure and the faulting come into play in controlling the course or direction of the ore channel and in determining its shape and manner of occurrence. For instance

the clay synclinal structure north of the Sioux-Ajax fault in the Colorado channel held the ore to practically one horizon and to a nearly straight line course. In the Centennial Channel, the vertical bedding the the Eureka Hill and Gemini mines held the ore to lines parallel to the bedding. In the Chief and Plutus mines the ore occurs replacing beds dipping at angles of 20° to 30° as in the Crown Point and while following the bedding takes a tortuous or meandering course as influenced by any break or cross structure but clings closely to certain favorable beds. In all of these cases the dip of the bedding while influencing the course followed by the ore has had little or nothing to do with the amount of deposition or the character of the ore which are features that are controlled entirely by the strength and character of the ore depositing solutions and the thickness and character of the limestone bedding rather than by any particular structure.

The Crown Point property is favorably located with respect to the known mineralized areas. Given a strong mineralizing solution from off the contact of the monzonite on the south the structural features and character of the limestone formations on the tract are certainly such as to satisfy all the usual requirements for extensive ore deposition.

PROBABLE CHANNEL - Among students of geological conditions in East Tintic the opinion is general that there will be found another ore channel to the east of and more or less parallel to the Iron Blossom-Colorado channel. Evidence of the existance of such a channel is had in the numerous surface showings of iron and manganese on the adjacent Iron King property and by ore and quartz showings in the underground workings at the old Iron King shaft on the Clipper claim and in the Yankee east workings further north.

On that part of the Iron King property adjoining the Crown Point on the east deposits of manganiferous iron are numerous and have been worked considerably as a flux for old time lead smelters. These deposits were formerly buried beneath the rhyolite flows and no doubt other deposits of the kind lie unexposed under the rhyolite covering the southeast portion of the Crown Point property.

In several places in the Tintic district these manganiferous deposits are directly related to the monzonite intrustions and in at least two instances they are directly associated with lead-silver deposits and carry low silver values. In every case they are proof of local magmatic section and therefore, I believe, offer the best surface evidence we have in East Tintic of the probably existence of ore bodies of the lead-silver type.

The showing in the old Iron King shaft workings is reported to include some lead-silver ore as well as structures indicative of an ore channel. The showing in the Yankee mine was on the 1500 level east drift at a point about 1500 feet east of the shaft and consisted of undoubted ore quartz carrying low values in silver that must be recognized as belonging to the Tintic type of mineralization.

Accepting the above described mineralization as evidence of the probable existance of another ore channel in these parts and judging from developments to date, we may conclude that such a channel must lie somewhere in the undeveloped section between the Crown Point workings on the west and the workings in the Zuma, an adjacent mine on the east, in which case it will be pretty sure to cross the eastern portion of the Crown Point tract.

RECOMMENDATIONS - In the light of the conditions discussed above the southeastern portion of the Crown Point property certainly warrants thorough prospecting. This may be initiated either by an electrical survey or by drilling or by sinking a new shaft and working from that. Should the property contain ore bodies not deeper than say 500 or 600 feet they may be detected by electrical surveys at depths depending largely upon their mine, but should the ore bodies be thoroughly oxidized probably little would be gained by such a survey. The iron ore which was found at depths

600 to 800 feet beneath the surface, a short distance to the east, was about 80% sulphide and for this reason I believe an ore body on the Crown Point property, occurring under similar conditions, could be expected to contain enough sulphides to be detected by an electrical survey if not too deep. Any indications of ore shown by such a survey might first be checked by drilling but since sulphide mineral in Tintic is so generally good lead-silver ore, I would be inclined to recommend dispensing with the drilling and that a shaft be sunk at once to any indications. Should the electrical survey not be made then I recommend that a two compartment shaft be sunk at a point near the west end of the Ridge claim from which, beginning at about the 800 foot level, a campaign of development similar to that on the north be conducted.

Respectfully submitted,

/s/ G. W. Crane

Geologist

June 28, 1928

507 Dooly Block
Salt Lake City, Utah

APPENIDX 3

July/64

LOG OF DRILL HOLE CP-# 1

Crown Point Property

0 - 880" (rotary)	Highly argillized quartz latite with varying amounts of fine grained pyrite with some Fe-staining throughout. Layer of dark-gray, fairly fresh quartz latite at 700'.
880' - 890' (rotary)	Highly Fe-stained (near base of volcanic cover).
890' -896' (rotary)	Rubble zone: mixed fragments of limestone, jasperoid and volcanic material, fair pyrite
896' - 906' (cored)	Brecciated limestone; well healed, dark-gray, dense, massive, fine to medium grained; occasional frags of quartz latite in breccia which indicates that this breccia is related to the rubble zone.
906' - 960' (rotary)	Mostly medium gray, medium grained limestone, with occasional jasperoid frags and minor f.g. pyrite (could be Vic. formation).
960' - 975' (cored from 960' down) (NX size)	Dense, blue-gray, fine grained dolomite laced with small secondary dolomite veinlets. (typical of Bluebell dolomite) One piece of core @ 960' shows a few white spheroids which may be part of "speckled bed". Also occasional nodules of possible chert of dark-gray jasperoid. Bedding@ 972' about 45° to core axis.
975' - 977'	Fissure zone; intensely oxidized with much limonite and manganese oxides; some preserved fine grain cubic pyrite.
977' - 996'	Dense, blue-gray, f.g. dolomite as above. Mn. dendrites on frac. planes.
996' - 1000'	Fine grained silt stone, slightly limey; abundant tiny horn corals and large nodules of f.g. dark-gray chert. Bedding: about 30° to core axis.
1000' - 1012'	Intensely bleached, light-gray, fine grained dolomite; much limonite and some Mn. oxides generally highly fractured and altered and vuggy; much development of calcite x stals in vugs and seams. (3" frag. of porphyry dike material at 1009') Occassional seams of massive limonite.

	Copper	Zinc	Lead	Silver
Sample No. 3	10	90	45	-1

1012' - 1022'	Intensely bleached light-gray, f.g. dolomite as above but much less fractured. Much development of spots of limonite and Mn-oxides on fractured planes; fairly soft and altered.

*1016'	One small bleb of galena rimmed with secondary Pb mineral (probably cerussite) in highly bleached zone @ 1016'.
1022' - 1028'	Less bleached, med.-gray, f.g. dolomite, with sec. dolomite stringers. Slight increase of limonite and spots of Mn-oxides. Occassional vugs which look like coral remnants. Bedding: 45° to core axis.
1028' to 1038'	Highly bleached, med. gr. dolomite with crystalline calcite and quartz linings in stringers and vugs. Much Fe oxides and Mn-oxide dendrites. Much mud and brecciation towards bottom.
1038' to 1058' (Poor Recovery) (No Return circulation) from down here	Highly altered brecciated limestone. (formational change) Could be a fault zone?? Only one foot of core recovery. Much limonite and minor Mn-oxides - crystalline calcite and quartz in vugs and fissures.

	Copper	Zinc	Lead	Silver
Sample No. 1	15	210	60	-1
Sample No. 2	15	175	40	-1

1058' - 1062'	Altered, bleached, fine-med-grained limestone; much Fe-staining and minor Mn dendrites; fair core recovery; tiny calcite crystals on frac. planes.
1062' - 1064'	Soft, decomposed, highly argillized prophyry dike rock; abundant f.g. pyrite; (mostly cubic structure) fair chlorite throughout; occassional qtz. crystals.

	Copper	Zinc	Lead	Silver
Sample No. 4	40	+1000	180	-1

1064' - 1075'	Highly ozidized, fractured zone of light-gray, bleached limestone; much Fe-staining and Mn-dendrites; much mud and gouge.
1075' - 1078'	Slightly fresher, less bleached, crystalline limestone. (good recovery.)

All assays in parts per million

APPENDIX 4

REFERENCE LIST

1- Almond & Morris, 1951, Geochemical Techniques as Applied in Recent Investigations in the Tintic District, Utah; Economic Geol. Vol 46, No. 6 p608-625

2- Colorado Consolidated Mining Co. - Mine maps of Iron Blossom Mine.

3- Cook and Others, 1957, Geology of the East Tintic Mountains and Ore Deposits of the Tintic Mining Districts; Utah Geological Society Guide book No. 12.

4- Crane 1928, Report on Property of Crown Point Consolidated Mining Co., Tintic Mining District, Utah Co.

5- Lindgren & Loughlin, 1919, Geology and Ore Deposits of the Tintic Mining District, Utah, U.S. Geol. Survey Prof. Paper 107

6- Lovering & Others, 1960, Geologic and Alteration - Maps of the East Tintic District, Utah Minerals Investigation Map MF-230 U.S. Geol. Survey

7- Lovering 1949 - Rock Alteration as a Guide to Ore-East Tintic District, Utah; Monograph 1, Economic Geology

8- Lovering, Morris, Cook, Bush, 1960, The Cheif Oxide Burgin Area Discoveries, East Tintic District, Utah; a Case History; Economic Geology Vol. 55, No. 6

9- Morris & Lovering, 1961, Stratigraphy of East Tintic Mountains, Utah; U.S. Geol. Survey Prof. Paper 361

10- Morris, 1964, Geology of Eureka Quadrangle, Utah & Juab Counties, Utah U. S. Geol. Survey Bulletin 1142-K

11- McIntyre - Mine Maps of Mammoth Mine

Item # 4 Assessibility of Property -

Company personnel available to aid OME representative:

Mr. Glen L. Larsen
489 N. 3 W.
Provo, Utah
Phone 374-8541 Area Code 801

Mr. John L. Larsen
1111 West View
Riverton, Wyoming
Phone 856-2796 Area Code 307

The shipping and supply points involved are:

Both the U. P. Railroad and the D. & R. G. W. Railroad are within a 10 mile radius.

Five miles SE of Eureka, Utah. This can be reached via Knightsville road to Iron Blossom or Silver Pass road via Trixie Claims.

Call or write either of the above mentioned names for transportation and guidance to property.

Item # 5 Exploration Work

The shaft will be 5' by 5' two compartment in the clear.

The drift is 5' by 7' in the clear.

There will be a total of 1,300 feet of shaft, and 2,000 feet of drift.

We are prepared to start work immediately with shaft completion in 17 months. The drift completion will require an additional 11 months or a total of 28 months from the starting date of the project.

Item # 6 Experience

Mr. Glen Larsen
489 N. 3 West
Provo, Utah

Mr. Larsen has 30 years living in Tintic Mining District working as Supervisor for Mammoth Mine, International Smelting, Meumont Mining Co., Centenial Development, and operated leased mines. He has studied Geology quite extensively in district through special classes and self training.

Mr. Roger Banghart,
Geologist and Engineer

Mr. Banghart has been Kennocott Copper Geologist for 13 years, 2 years Field Geologist for Federal Resources, and Manager of Silver King Mines for years.

Estimate of Cost - Crown Point and East Crown Point Project $277,550.00

Surface Set Up

Headframe	$ 10,000.00	
Buildings	5,000.00	
Site Preparations	2,500.00	
Set Up Hoist	1,000.00	
Power Line	7,000.00	$ 25,500.00

Shaft Sinking

Equipment & Material		
4" Aluminum Pipe	$ .90	air per foot
2" Aluminum Pipe	.60	water per foot.
18" Vent Gas	2.00	per foot
Electricity	2.00	per foot
Blasting supplies	4.00	per foot
Hoist Rental	6.00	
Compressor Rental	10.00	
Mucking Machine	3.00	
Drill Bits & Steel	4.00	
Equipment repair	2.00	
Dump truck	3.00	
Water truck	3.00	
Timber	35.00	
	$ 75.50	per foot X 1,300 feet $ 98,150.00

60.00

$135.50 = $176,150.00

Shaft Labor

1 hoistman
1 topman
3 miners
1 carpenter
6 men @ $ 30.00

$180.00 for 3 feet or $ 60.00 per foot X 1,300 feet $ 78,000.00

176,150
98,150
78,000

Drifting - 2,000 feet

Equipment & Materials		
4" Aluminum pipe	$ .90 air	
2" Aluminum pipe	.60 water	
Rail, ties, & spikes	2.70	
Drill bits & steel	3.00	
Blasting supplies	3.00	
Mucking machine	2.00	
Motor	2.00	
Hoisting muck	1.00	
Drilling equipment	2.50	
Compressor rental	5.00	
Hoist rental	3.00	
	$ 25.70 X 2,000 feet	$ 51,400.00

Labor

1 topman -
1 hoistman -
2 miners - per foot?
4 men @ $ 12.25 X 2,000 feet $ 24,500.00

TOTAL ESTIMATED COST $277,550.00

25.70
12.25
$37.95 foot

40/60
3 1/4

Item # 7 Estimates of additional materials and supplies.

Pieces	Size	Description	Total Amount Required	Rate	Amount
520	8x8	#1 Mining Grade D.F.	38,827'	$ 125.00	$ 4,853.38
2340	8x8	#1 Mining Grade D.F.	74,880'	125.00	9,360.00
0400	2x12	#1 Mining Grade D.F.	124,800'	125.00	15,600.00
2600'	4x6	Select Structural 545 Guides	5,200'	170.00	884.00
1500		Mine ladder	1,500		900.00
6000		Smooth Steel Rod			2,280.00
600	5/8x6	lag screws	600	25.00	150.00
1300		40¢ common	1,300		189.80
7500		Mine Wedges			375.00
1500	3/4	Nuts			156.00
2500	3/4	Cut Washers			62.50
2500		Cast Washers			200.00
4180	12"	2"x12"	8,320		1,040.00
2080	12"	8"x8'	11,092		1,386.50
9360	14'	2"x2"	1,360		68.00
1400'		1/4" Cable			280.00
		Pipe Hgrs - Cement - I Beam			
		Power Cable			6,081.26
		Taxes			1,133.56
					$ 45,000.00

Corporation making application:

WESTERN STATES MINERALS, INC.
LLLL WEST VIEW
RIVERTON, WYOMING

Owned by:

Glen L. Larsen
John L. Larsen
Lloyd Larsen
Tim Watt
Leslie Larsen

Affiliated for finances with:

WESTERN STATES MINING & CONTRACTING, INC.
IIII WEST VIEW
RIVERTON, WYOMING

Owned by:

John Larsen - Sec - Treas.
Glen Larsen - President
Lloyd Larsen - Vice President
Leslie Larsen - Vice President

The Cash flow to support this project will come from Western States Mining and Contracting, Inc. (referred to as the Parent Company) , to support our 25% of project plus 90 day starting period.

Financial Statement of Parent Company attached hereto.

WESTERN STATES MINING & CONTRACTING, INC.
BALANCE SHEET
DECEMBER 31, 1966

ASSETS		
CURRENT ASSETS:		
Cash in Bank	$ (4,132.85)	
Accounts Receivable	37,394.51	
Prepaid Expenses	3,480.24	$ 36,741.90
FIXED ASSETS:		
Equipment	$ 42,735.00	
Less Reserve	9,498.46	33,236.54
		$ 69,978.44
LIABILITIES		
CURRENT LIABILITIES:		
Accounts Payable	$ 12,717.96	
Payroll Taxes Payable	2,673.62	
Note Payable - G.M.A.C.	532.00	$ 15,923.58
LONG TERM LIABILITIES:		
Note Payable - Colorado National	$ 9,932.41	
Note Payable - Tim Watt	6,000.00	
Note Payable - John Larsen	2,000.00	
Note Payable - Century White	1,090.00	
Note Payable - Western Nuclear	9,975.00	28,997.41
CAPITAL AND SURPLUS		
Capital Stock	$ 5,622.54	
Earned Surplus	19,434.91	25,057.45
		$ 69,978.44

WESTERN STATES MINING & CONTRACTING, INC.
STATEMENT OF PROFIT & LOSS
FOR TWELVE MONTHS
ENDED DECEMBER 31, 1966

INCOME:		
Contract Income		$218.910.77
EXPENSES:		
Wages	$ 64,592.09	
Officers Salaries	40,758.60	
Gas & Oil	24,198.32	
Repairs	19,125.10	
Utilities	2,816.56	
Office	172.08	
Advertising	156.15	
Insurance	1,365.70	
Taxes	7,574.70	
Travel	2,417.11	
Supplies	11,018.81	
Equipment Rent	8,953.38	
Sub Contracts	7,237.52	
Interest	991.83	
Accounting & Legal	1,869.40	(193,247.35)
Net Profit Before Depreciation		$ 25,663.42
Depreciation		6,228.51
Net Profit		$ 19,434.91

Western States Minerals, Inc.
1111 West View
Riverton, Wyoming

Kamas State Bank
Kamas, Utah

Attn: Mr. Moses Taylor

Dear Mr. Taylor;

Please accept this letter as a loan application in the amount of $277,550.00.

This money is needed to do exploration work on the East Crown Point and Crown Point Properties, Tintic District, Utah.

Our initial project would be to sink a 1,300 foot shaft and run a 2,000 foot drift in search of silver bearing minerals.

Attached are:

Geology report on properties.
Financial report - 1966.
Equipment owned for security of loan.

We would pay this loan with 5% gross sales of ore derived from this property. We would also pay the interest on this loan from current cash flow until the ore is being mined.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very truly yours,

WESTERN STATES MINERALS, INC.

John L. Larsen
President

encl - 3
JLL/lmc

KAMAS STATE BANK

Kamas, Utah.

May 18th, 1967

Mr John L. Larsen, Pres,
Western States Minerals, Inc
1111 West View
Riverton, Wyoming.

Dear Mr Larsen:

We have your application for a loan in the sum of $277,550.00 to do development work on the East Crown Point and Crown Point properties, Tintic Mining District, which has been considered by our loan committee, and in that we do not have funds to make this loan, we will be unable to take care of you.

We hope that you will be able to place your loan elswhere.

Respectfully

Moses C. Taylor

Moses C. Taylor, President.

Western States Minerals, Inc.
1111 West View
Riverton, Wyoming

First National Bank
Riverton, Wyoming

Attn: Mr. Gerald Heckart

Dear Gerry;

Please accept this letter as a loan application in the amount of $277,550.00.

This money is needed to do exploration work on the East Crown Point and Crown Point Properties, Tintic District, Utah.

Our initial project would be to sink a 1,300 foot shaft and run a 2,000 foot drift in search of silver bearing minerals.

Attached are:

Geology report on properties.
Financial report - 1966.
Equipment owned for security of loan.

We would pay this loan with 5% gross sales of ore derived from this property. We would also pay the interest on this loan from current cash flow until the ore is being mined.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very truly yours,

WESTERN STATES MINERALS, INC.

John L. Larsen
President

encl - 3
JLL/lmc

P. O. BOX 233
AREA CODE 307
PHONE 856-2211

The 1ST FIRST NATIONAL BANK of Riverton, Wyoming

G. L. HECKART
EXECUTIVE VICE PRESIDENT

May 24, 1967

Western States Minerals, Inc.
1111 Westview
Riverton, Wyoming 82501

Dear Sirs:

I regret it is not possible for this bank to accept your application for a loan in the amount of $277,550.00. The application is not of a type that we feel could be handled by the First National Bank of Riverton.

Very truly yours,

G. L. Heckart

G. L. Heckart
Executive Vice President

GLH/nh

Western States Minerals, Inc.
1111 West View
Riverton, Wyoming

May 24, 1967

American National Bank
Riverton, Wyoming

Attn: Mr. John Benesch

Dear Mr. Benesch;

Please accept this letter as a loan application in the amount of $277,550.00.

This money is needed to do exploration work on the East Crown Point and Crown Point Properties, Tintic District, Utah.

Our initial project would be to sink a 1,300 foot shaft and run a 2,000 foot drift in search of silver bearing minerals.

Attached are:

Geology report on properties
Financial report - 1966
Equipment owned for security of loan.

We would pay this loan with 5% gross sales of ore derived from this property. We would also pay the interest on this loan from current cash flow until the ore is being mined.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very truly yours,

WESTERN STATES MINERALS, INC.

John L. Larsen
President

encl - 3
JLL/lmc

American National Bank of Riverton
Box BA
RIVERTON, WYOMING

JOHN R. BENESCH
VICE PRESIDENT

May 26, 1967

Mr. John L. Larsen, President
Western States Minerals, Inc.
1111 Westview
Riverton, Wyoming

Dear Mr. Larsen:

Thank you for your inquiry concerning a loan in the amount of $277,550 for development of potential mining property in Utah.

First let me say thank you for the pleasant and satisfactory business relationship that we have had with you and your firm. We are happy to be privileged with the business that you do with us.

The members of our loan committee have studied your loan proposal and we do not feel that we can handle your application at this time due primarily to the size of the loan, which would exceed our loan limit considerably, and secondly because of the period of time which undoubtedly would be required for the repayment. //NG

Perhaps we will be able to serve your credit needs in a smaller amount which requires a shorter repayment schedule.

Sincerely,

John R. Benesch

John R. Benesch
Vice President

jer

Western States Minerals, Inc.
1111 West View
Riverton, Wyoming

First Security Bank
Moab, Utah

Attn: Kay Cloward

Dear Kay:

Please accept this letter as a loan application in the amount of $277,550.00.

This money is needed to do exploration work on the East Crown Point and Crown Point Properties, Tintic District, Utah.

Our initial project would be to sink a 1,300 foot shaft and run a 2,000 foot drift in search of silver bearing minerals.

Attached are:

Geology report on properties.
Financial report - 1966.
Equipment owned for security of loan.

We would pay this loan with 5% gross sales of ore derived from this property. We would also pay the interest on this loan from current cash flow until the ore is being mined.

Your prompt attention and sincere consideration of this loan would be appreciated.

Very truly yours,

WESTERN STATES MINERALS, INC.

John L. Larsen
President

encl 3
JLL/lmc

First Security Bank of Utah
NATIONAL ASSOCIATION

MOAB OFFICE

MOAB, UTAH

June 9, 1967

Mr. John L. Larsen, President
Western States Minerals, Inc.
1111 West View
Riverton, Wyoming

Dear Mr. Larsen:

In response to your recent loan application in the amount of $277,550.00, please be advised that the application has been presented to our Loan Review Committee and was declined. The reason for this being that they are not interested in making a loan which is to be used in a speculative manner as you indicated this would be. Also, they do not wish to make a loan using the type of equipment you have offered as security.

If you have any questions concerning this, please let me know.

Very truly yours,

Kay Cloward

Kay Cloward
Assistant Manager

KC/mh

MEMORANDUM
OF CALL

TO: Gailor Fisk

☒ YOU WERE CALLED BY— ☐ YOU WERE VISITED BY—

Mr. ~~DuFoyer~~ Durgan

OF (Organization)
U.S. Energy Corp, Riverton, Wyoming

☒ PLEASE CALL → PHONE NO. CODE/EXT 307-856-9271

☐ WILL CALL AGAIN ☐ IS WAITING TO SEE YOU

☐ RETURNED YOUR CALL ☐ WISHES AN APPOINTMENT

MESSAGE

U.S. Energy Corp. owns Western States Minerals which has an OME lease. Du Fryer is interested in that accrued interest. # - 307-778-2220

RECEIVED BY	DATE	TIME
Jw	10/14	4:18p

STANDARD FORM 63
REVISED AUGUST 1967
GSA FPMR (41 CFR) 101-11.6

GPO : 1969—o48—16—80341-1 332-389 63-108

10/14/74

Mr. Durgan called

I returned Mr. Durgan's call Oct. 15,

Wanted accrued interest for 1969, 1970, & 1971.

Bob Edwards gave me the following info which I relayed by phone to ~~Mr.~~ Durgan

1969 - $337.29
1970 $2,246.35
1971 $6,744.20
(Calendar year ending Dec. 31.)

Gail

OME 6.4.5

(For OME)

Western States Plans Silver-Gold Exploration

RIVERTON, Wyo.—Western States Mining has temporarily discontinued the Crown Point silver-lead exploration program it has been conducting in the Tintic Mining District of Utah. It is anticipated that some type of exploration program will begin in the near future, firm officials said.

The mine is being held on a ready basis with all equipment and pumping being maintained. Although Western States is encouraged by the results of its exploration to date, no commercial mineralization has been encountered. The firm sank a 1,305-foot shaft on the property from which 1,700 feet of drilling and 4,200 feet of underground drilling has been completed to date.

Western States Mining has three underground mining operations in the Gas Hills of Wyoming. The ore from these properties is being shipped to Utah International, Union Carbide and Western Nuclear.

The rim pit of Utah International is being pumped out and it is anticipated that underground mining will begin sometime in July.

Another three operations will go on stream sometime this summer, one for Union Carbide and two for Western Nuclear, it was announced.

Western States Mining plans to explore for silver-gold and molybdenum-copper ore bodies in the Ruby Mining District near Crested Butte, Colo., for Ruby Mining Co. This exploration program is planned to begin this summer. The properties consist of approximately 2,100 acres of unpatented lode mining claims. Western States holds unpatented uranium lode mining claims in the Powder River Basin, Great Divide Basin, and Wind River Basin of Wyoming and in Inyo County in California. Approximately 45% of the claims it has staked have been sold to other companies. In each sale Western States received an overriding royalty which has ranged from 2½ to 5% of the produced U3O8.

Certain of the properties, which were sold to others, have been returned to Western States Mining.

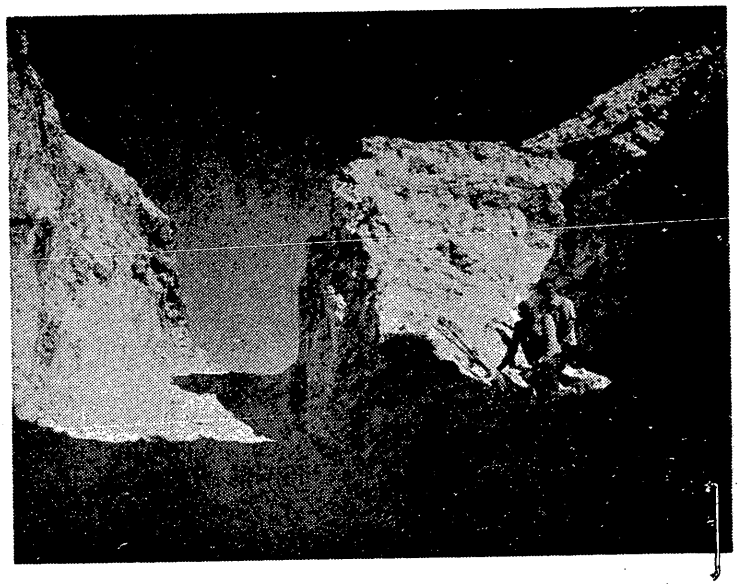
A diamond drill coring and sampling project was initiated and samples of the clay were shipped to various companies including Filtrol Corp. of Los Angeles. Test results received from these companies have been favorable,

On April 5, 1972, the company entered into an agreement with Filtrol Corp. of Los Angeles to sell 1,500 tons of halloysite to Filtrol for testing on its manufacturing plant at Salt Lake City, Utah. The 1,500 ton order of clay has been delivered. Also Filtrol ordered an additional 1,000 tons which have been delivered.

On June 1, 1972 the company agreed to ship a minimum of 1,000 tons per month to Filtrol. This arrangement is for a three-month period. Negotiations will continue for the committment of the entire deposit.

After diamond drill coring and sampling was initiated and samples shipped to various companies, including Filtrol, favorable test results were received from the companies. Further tests as to the amenability of the clay to various manufacturing processes are now being carried out.

Approximately 100,00 tons of the clay have been delineated to date and an exploration program is continuing. This exploration program will consist of a number of deep, +300 feet, diamond core holes.



Western States Halloysite deposit located in the Tintic Mining District, Utah.

DOCKET FILE

United States Department of the Interior

GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

June 1, 1972

AIRMAIL

Mr. Jack L. Larsen
Western States Minerals, Inc.
418 South 7th E.
Riverton, Wyoming 82501

Re: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

In reviewing your voucher and accompanying records for January 1972, we discovered that some of the drilling claimed in December 1971 and January 1972 under Stage III must be disallowed because it was not done entirely with NX-size coring equipment or equivalent wire line size as specified in Amendment No. 3 to the contract. The length of NX and BX core size drilled in holes 5 through 14 according to invoices 1, 2, and 3 from the drilling company is as follows:

Invoice No. 1 (Dec. Nov. 1971 voucher)

		Feet				
	Hole No.	NXWL	BXWL	Total	Disallow	Allow
	5	211	86	297	86	211
	6	293	-	293	-	293
	7	400	-	400	-	400
Subtotals		904	86	990	86	904

Invoice No. 2 (Jan. voucher)

	8	326	74	400	74	326
	9	63	305	368	305	63
	10	60	256	316	256	60
	11	4	287	291	287	4
Subtotals		453	922	1,375	922	453

Invoice No. 3 (Jan. 1972 voucher)

	12	81	280	361	280	81
	13	2	263	265	263	2
	14	343	-	343	-	343
Subtotals		426	543	969	543	426
			343			
Totals		1,783	1,551	3,334	1,551	1,783

These data show that the drilling allowable on the December 1971 voucher should have been 904 feet of NX drilling at a cost of $19,436.00. The actual claim and the correct drilling claim indicated below show the excesses which inadvertently were allowed and paid.

	December 1971		Cumulative thru Dec. 1971	
	Feet	Costs	Feet	Costs
Claimed and paid	1,510	$32,465	2,500	$53,750.00
Allowable	904	10,436	1,894	40,721.00
Excess claim and overpayment	606	$13,029	606	$13,029.00

The footage of NX-size core drilling claimable on the January 1972 voucher is sufficient to cover the excess claimed and paid on the December voucher and leaves a claimable balance of $5,869.50 as shown below:

	January 1972		Cumulative thru Jan. 1972	
	Feet	Costs	Feet	Costs
NX drilling Jan. 1972	879	$18,898.50	2,773	$59,619.50
Less Dec. excess	606	13,029.00	606	13,029.00
Balance, Jan. voucher	273	$ 5,869.50	2,167	$46,590.50

Accordingly, we are returning as unacceptable the three copies of your voucher for January 1972, dated May 15, 1972, and enclose four copies of a proposed, revised voucher for your consideration on which are shown the total NX drilling claimed for January, the excess for December, and the balance. Corrections concerning items for the consultant also are shown.

If this revised voucher is acceptable to you, please certify as directed, and forward the original and two copies to Mr. J. W. Hasler, Field Officer, OME Region III.

We have no copies of cancelled checks showing payments for the three invoices submitted by MacPherson Drilling Co., Inc. Please furnish these at your earliest convenience.

Should you wish to seek reimbursement for the disallowed BXWL drilling, we suggest that you obtain a bid price for this size core drilling and request an amendment to the contract.

We regret the delay in processing your voucher for January. In view of the error concerning core size, however, we could not have recovered the overpayment made for the December voucher with the January claim as submitted.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

Enclosures

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/gla 6-1-72

FORM 9-1648
MARCH 1968

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
OFFICE OF MINERALS EXPLORATION

OPERATOR'S MONTHLY VOUCHER

For Month of January, 1972
Stages I, II and III

Docket No. OME- 6646 (Silver)
Contract 14-08-0001 2285
Contract Amount $ 326,558.00
Gov't. Participation 50% $ 119,189.00

Operator's Name Western States Minerals, Inc.
Address 418 South 7th E.
Riverton, Wyoming 82501

FOR OPERATOR'S USE					FOR GOVERNMENT USE ONLY			
COST ITEMS (FROM EXHIBIT A)	THIS MONTH		TO DATE		THIS MONTH		TO DATE	
	UNITS	COSTS	UNITS	COSTS	UNITS	COSTS	UNITS	COSTS
Stage I		$		$		$		$
Shaft 7' x 14'	-----	-----	1300	176,150.00				
Stage II								
Crosscutting 5' x 7'	-----	-----	1370	51,991.50				
Drilling	-----	-----	1099	7,012.50				
Mobilization & Demobilization	-----	-----	unit	200.00				
Collar pipe	-----	-----	40	296.00				
Redrilling	-----	-----	25	337.50				
Reaming	-----	-----	31	372.00				
Standby time	-----	-----	12	162.00				
Lost Casing in hole (not left at Operator's		request)	175	525.00				
Outside Consultant	-----	-----	11	825.00				
Per diem -- Consultant --		-----	11	176.00				
Travel for consultant----		-----	12	103.96				
Stage III - Amendment 3								
Drilling								
Jan. 1972 (NX)	879	18,898.50	2773	59,619.50				
Less Dec. (BX)	606	13,029.00	606	13,029.00				
Balance claimed	273	5,869.50	2167	46,590.50				
Crosscutting	-	-	300	18,804.00				
Outside Consultant	1	100.00	11	1,100.00				
Per diem, Consultant	1	20.00	11	220.00				
Travel, Consultant	83	9.96	866	104.00				
Core boxes	10	10.00	200	200.00				
Assaying samples	39	195.00	175	875.00				
TOTALS		$ 6,204.46		$ 306,084.96		$		$

I certify that the above bill is correct and just and that payment therefor has not been received.

Date _____ *Payee _____

Per _____ Title _____

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

A willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction is a criminal offense. (U. S. Code, Title 18, Sec. 1001.)

(INSTRUCTIONS ON REVERSE)

Approved as noted, subject to field examination and audit,

Signature _____ OME Field Officer _____ Date

Approved for: $ _____
(SUBJECT TO AUDIT)

Signature _____

Date _____ Vou. No. _____
(SEE OTHER SIDE)

FOR OPERATOR'S USE	FOR GOVERNMENT USE
REMARKS	REMARKS

OPERATOR'S MONTHLY REPORT

The Operator, under an Office of Minerals Exploration contract, is required to report monthly to the Government. The report consists of two parts.

FIRST, the Operator's Monthly Voucher on Form 9-1648 listing the project costs incurred and claimed by the Operator is the voucher basis for payment of the Government's share of the cost.

SECOND, the Operator's Narrative Report is a concise description of the work performed, results accomplished, and any unusual situations encountered, illustrated and supported by engineering-geological maps or sketches, drill hole logs, assay reports, etc., as pertinent.

The Operator submits the original and three copies of each of the two sections of this report to the OME regional Field Officer at the end of each month during the life of the contract.

PREPARATION OF OPERATOR'S MONTHLY VOUCHER, FORM 9-1648

In the left hand column list the items for which costs were incurred during the month, and also the items for which costs were previously reported. For items previously reported, show only UNITS TO DATE and COSTS TO DATE. Items listed should conform to Exhibit A of the contract (Estimated Costs of the Work). The total of COSTS THIS MONTH followed by the Operator's signature constitutes a claim for payment of the Government's share of the costs. The Operator or his agent must sign the certification in the lower left corner.

Except for amounts claimed under "fixed unit costs" provisions of the contract, all costs claimed in this voucher must be supported by documentary evidence consisting of: (a) certified copies or transcripts of payrolls which list each employee, wage rate, period of employment, gross earnings, and net earnings; (b) original or certified copies of invoices, statements of accounts, or purchase orders which indicate items of materials or services, quantities, unit prices, total charges, and payment terms; and (c) certified memoranda of the Operator for such items as unemployment taxes, employee's liability insurance, and depreciation of Operator-owned equipment. The certification may be stated thus, "Certified True Copy", followed by the signature of the Operator or his agent. One copy of each document should accompany the original of this voucher.

The requirement for submitting documentary evidence of claimed costs may be waived by the OME regional Field Officer if he determines that it is impracticable for an Operator to submit this material. In any case of waiver of this requirement an "on-site" audit by an OME auditor is mandatory prior to payment of the final Operator's Monthly Vou

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 28

OFFICIAL COPY
O. M. E.
RECEIVED
MAY 19

INITIALS	CODE	
Cae	120	
	~~130~~	
	120	

May 17, 1972

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Gold-Silver-Copper)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Enclosed is an original and two copies of a revised Operator's Monthly Voucher submitted and signed by the Operator for January, 1972, that includes all costs incurred to date under Stages I, II and III of the subject contract. The items and costs claimed as shown on the January 1971 voucher are recommended for payment by the Field Officer, Region III. This voucher may also serve as the Operator's final voucher to accompany his final geologic and engineering report that was forwarded to you on April 21, 1972, as an acceptable report. It is recommended that the required steps for terminating the contract be instigated.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

Office of Minerals Exploration
Building 53 Room 28

OFFICIAL COPY
O. M. E.
RECEIVED
APR 3 1972
MINERALS EXPLORATION

March 31, 1972

Car 120 W
130
HK 120
Law Wates

Mr. John Larsen, President
Western States Minerals, Inc.
418 South 7th East
Riverton, Wyoming 82501

Re: OME-6646 (Gold-Copper-Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

I have received and reviewed the documentary evidence in support of claims for diamond core drilling and associated items completed on this contract to date, as requested by Mr. Kirkemo, Chief, Office of Minerals in a letter to you dated February 23, 1972.

We appreciate the time, expense, and effort required to obtain the data you sent us on March 24, 1972. Most of the documentary evidence for expenditures incurred under the terms of the contract are included, except for the following items which we need:

1. Please submit a statement for the purchase of 100 cardboard core boxes at $1.00 each, or $100.00, as claimed in the voucher for November, 1971 and for 90 cardboard core boxes purchased and used in December, 1971, at $1.00 each, or for $90.00.

The voucher for January 1972, prepared 3-24-72, shows a claim for 10 cardboard core boxes at $1.00 each, or $10.00, bringing the total number of cardboard core boxes used at 200, or a total of $200.00.

Please have your consulting geologist submit statements to you for his per diem and mileage for the months as claimed by you on the vouchers as follows:

MONTH	NO. OF DAYS CLAIMED	COSTS CLAIMED
January 1971	2	$32.00
February-March, 1971	3	$48.00
June 1971	3	$48.00
July 1971	2	$32.00
August 1971	1	$16.00
November 1971	6	$120.00
December 1971	4	$80.00
January 1972	1	$20.00
	22	$396.00

MONTH	CONSULTANT'S TRAVEL IN MILES	COSTS CLAIMED
January 1971	233	$28.00
February-March 1971	233	$27.96
June 1971	200	$24.00
July 1971	100	$12.00
August 1971	100	$12.00
November 1971	433	$51.96
December 1971	350	$42.80
January 1972	83	$10.00
	1,732	$208.72

I have received the assay data from Roger Banghart for September 20 and October 24, 1971, totalling 17 samples. I now can account for the total of 176 samples claimed by you on your December 1971 voucher, as shown on the attached letter of February 16, 1972 from Roger Banghart.

Enclosed also is a statement from Admiral Nuclear, dated February 17, 1972 to Western States Mining for 11.5 hours for 4 trips to Crown Point totalling $517.50, of which $76.13 was paid, leaving a balance due of $441.37. Would you please inform us for whom the travel applies?

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

cc: Glen Larsen
Chief, OME
OME-6646
OME chron
Mr. Hasler
Extra Copy for Field Use

Admiral Duncan

Date 2-17 1922

To 7 Letters Auto Painting

Address

City

11.5 hrs @ 45 cu			5175.50
(11 hrs - Cin. Pat)			
Credit - Less paid			
by WSM			76.12
Due			4411.27

2-17-72
Pd 2-14-3
Ck

Rec'd
BK 302

STATEMENT

CERTIFIED TRUE COPY

J. C. L. Lam

AMERICAN EXPLORATION & MINING CO.

February 16, 1972

U.S. Region 6
RECEIVED
FEB 24 1972
Denver, Colorado

Mr. J. W. Hasler
US Geological Survey
Office of Mineral Exploration
Room 28, Building 53
Denver Federal Center
Denver, Colorado 80225

Dear Bill:

Below are listed the assay samples which I have taken. Jack and Glen probably took others. These would be since September 1, 1971, on the last drilling and drifting program.

Date 1971-72	Samples	Cost	Lab
Sept. 13	9	$ 90.00	Phillips
Sept. 20	12	120.00	Phillips
Oct. 24	5	29.25	CMS
Nov. 14	15	87.75	CMS #2292
Nov. 27	4	26.00	CMS #2309
Dec. 2	41	239.85	CMS #2318
Dec. 20	36	210.60	CMS — #2330
Jan. 15	31	201.50	CMS #2351
Jan. 29	23	149.50	CMS — No. 2370
TOTALS	176	$1155.15	

Cost per sample $6.56

If you don't have copies of these determinations let me know and I'll send you a copy.

Between February 9, 1971 to August 17, 1971, 98 samples were taken which cost $980 or $10/sample.

Sincerely,

Roger

Roger C. Banghart

RCB:ijf

cc: Jack Larsen

Region III
MAR 22 1972
Denver, Colo.

AMERICAN EXPLORATION & MINING CO.

March 20, 1972

Mr. William Hasler
Field Officer, Region 3
Office of Mineral Exploration
Room 28, Building 53
Denver Federal Center
Denver, Colorado 80225

Dear Bill:

Enclosed are the two assay sheets you requested.

I've been pretty busy lately but as soon as possible I will get a final report out to you.

Sincerely,

Roger

Roger C. Banghart

RCB:ijf

Enclosure

Glen [illegible]

CMSI

CHEMICAL & MINERALOGICAL SERVICES 3435 SOUTH STATE STREET, SALT LAKE CITY, UTAH 84115 (801) 266-8228

ANALYTICAL REPORT FOR:

American Exploration & Mining Company	OUR NUMBER 2253
One California Bldg. Room 2500	DATE Oct 24, 1972
San Francisco, California 94111	CUSTOMER'S ORDER NO. Series B 820-Lorraine

Sample #	As ppm	Au ppm	Cu ppm	Pb ppm	Zn ppm	
15788	3.0 (.09g/T	.05	50	45	80	Pebble dike
15789	2.0	.08	180 .018%	65	50	2nd West drift
15790	3.7 (.11g/T	.05	25	35	60	Opohonga - 5th zone
15791	2.7	.05	30	35	60	Sioux Ajax
15792	~~3.0~~ 5	.05	12	35	55	

Ray Broadhead

ASSAY RESULTS

PHILLIPS PETROLEUM COMPANY

ELY, NEVADA

ASSAYED BY John Pierucci

HOLE NUMBER RM 5 X DISTRICT Larsen DATE Oct. 20-1971

SAMPLE INTERVAL	ASSAYS						PRODUCTS				
	Au	Ag	Pb	Zn	Cu		Ag	Pb	Zn	Cu	
B8829	TR	TR	.75	TR	.162						
B8830	TR	TR	TR	TR	.125						
B8831	TR	TR	TR	TR	.042						
B8832	TR	TR	TR	TR	.050						
B8833	TR	TR	TR	TR	.075						
B8834	TR	TR	TR	TR	.11						
B8835	TR	TR	.27	TR	.16						
B8836	TR	TR	TR	TR	.175						
B8837	TR	TR	TR	TR	.162						
B8838	TR	TR	.38	TR	.10						
B8839	TR	TR	TR	TR	.162						
B8840	TR	TR	TR	TR	.10						

Office of Minerals Exploration
Building 53 Room 28

March 27, 1972

Mr. John Larsen, President
Western States Minerals, Inc.
418 South 7th East
Riverton, Wyoming 82501

Subject: OME-6646 (Gold-Silver-Copper)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

I plan to inspect the balance of the diamond drill core obtained by the drilling from the 1280 level of the Larsen shaft on April 10, 1972, at Ely, Nevada. I will be in Utah and will contact Glen Larsen in Provo, Utah the evening of April 9th. Mr. Banghart notified me that the April 10th date will be suitable for him, and that he should be in Ely that day. I would appreciate having Glen accompany me to Ely if his health will permit him to do so.

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

cc: Glen Larsen
Roger Banghart
Chief, OME
OME-6646
OME chron
Mr. Hasler

Col 120 M
~~130~~
HK ~~120~~
~~Raw~~ weeks

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/23/72		120
		220
2/23	Cae	120M

AIRMAIL

Mr. John L. Larsen
President
Western States Minerals, Inc.
418 South 7th E.
Riverton, Wyoming 82501

FEB 23 1972

Re: OME-6646 (Gold-Copper-Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

We are unable to process your voucher for December 1971 until we receive documentary evidence in support of claims for diamond core drilling and associated items completed on this contract to date.

Under terms of the contract and of Amendments Nos. 2 and 3, diamond core drilling is an allowable item and claims are payable under the provisions of Actual Costs Category (1) Independent Contracts. The contract states under Article 5. Reports, accounts, audits.--(b) Monthly reports.--(3) in part as follows: "(...the original of the Operator's Monthly Voucher shall be supported by documentary evidence, such as certified copies or transcripts of payrolls and invoices, for all costs claimed under Article 6 (a) (1).)" Specific instructions for the preparation of the Operator's Monthly Voucher are shown on the back of the voucher form. Please note that documentary evidence is required except for items claimed under fixed unit costs provisions of the contract. One copy of each document should accompany the original of the voucher.

Claims for diamond drilling were made in your vouchers for February-March 1971, November 1971, and December 1971. Individual items for drilling operations were noted on the February-March voucher but no documentary evidence was submitted in support of the claims. Only the broad term "diamond drilling" was claimed in November and December. The fact that this drilling was done by the Operator with rented equipment does not waive the requirement to submit documentary evidence for costs claimed for each item listed under Category I Independent Contracts.

We understand that you have been advised by Mr. J. W. Hasler, Field Officer, OME Region III, of the necessity to supply the supporting documentary evidence for diamond drilling operations

and that this evidence is available in your office and can be furnished. Not only is receipt of this material by this office necessary to support your past vouchers and to release your current voucher, it will be necessary for the final audit of the contract.

Revised vouchers (three copies) should be furnished for November 1971 and December 1971 showing all items relating to diamond drilling and all applicable documentary evidence pertaining thereto. The revised voucher for November will be considered a correction of the voucher already paid, the total approved amount paid remaining unchanged.

We urge prompt attention to this matter. We regret that payment of your current voucher will be delayed until the required material is received.

Sincerely yours,

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Mineral Repources
OME docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/gla 2-23-72

IN REPLY REFER TO:

OFFICIAL COPY
O. M. E.
RECEIVED
FEB 18 1972
INITIALS
Cac 1207W
130
JK 120

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 28

February 16, 1972

Memorandum

To: Chief, Office of Minerals Exploration

Through: Assistant Chief, Office of Minerals Exploration

From: Field Officer, Region III, Office of Minerals Exploration

Subject: OME-6646 (Gold-Copper-Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Transmitted herewith are two true copies of page 7 of the Field Office's Copy of the subject contract, showing both the typewritten name of John L. Larsen, President, as well as John L. Larsen's signature as President, as per your telephone request today (2-16-72).

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

liquidated damages. Such liquidated damages shall be computed, with respect to each individual laborer or mechanic employed in violation of the clause set forth in subparagraph (a) of this paragraph, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (a) of this paragraph.

(c) Withholding for unpaid wages and liquidated damages.--The U. S. Geological Survey may withhold or cause to be withheld, from any moneys payable on account of work performed by the Operator or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Operator or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (b) of this paragraph.

ARTICLE 15. Copeland (Anti-Kickback) Act--Nonrebate of wages.--The regulations of the Secretary of Labor applicable to contractors and subcontractors (29 CFR, Part 3), made pursuant to the Copeland Act, as amended (40 U. S. C. 276c) and to aid in the enforcement of the Anti-Kickback Act (18 U. S. C. 874) are made a part of this contract by reference. The Operator will comply with these regulations and any amendments or modifications thereof and will be responsible for the submission of affidavits required of independent contractors thereunder. The foregoing shall apply except as the Secretary of Labor may specifically provide for reasonable limitations, variations, tolerances, and exemptions.

ARTICLE 16. Changes and added provision.--

Executed in quintuplicate the day and year first above written.

WESTERN STATES MINERALS, INC.
(Operator)

By John L. Larsen

Title President

THE UNITED STATES OF AMERICA

By William A. Baker
Acting Director, U. S. Geological Survey

I, Tim Watt (Name), certify that I am the

secretary of the corporation named as Operator herein; that

John L. Larsen (Name), who signed this contract on behalf of the Operator, was then

President (Title) 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.

Tim Watt

[CORPORATE SEAL]

liquidated damages. Such liquidated damages shall be computed, with respect to each individual laborer or mechanic employed in violation of the clause set forth in subparagraph (a) of this paragraph, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (a) of this paragraph.

(c) Withholding for unpaid wages and liquidated damages.--The U. S. Geological Survey may withhold or cause to be withheld, from any moneys payable on account of work performed by the Operator or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Operator or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (b) of this paragraph.

ARTICLE 15. Copeland (Anti-Kickback) Act--Nonrebate of wages.--The regulations of the Secretary of Labor applicable to contractors and subcontractors (29 CFR, Part 3), made pursuant to the Copeland Act, as amended (40 U. S. C. 276c) and to aid in the enforcement of the Anti-Kickback Act (18 U. S. C. 874) are made a part of this contract by reference. The Operator will comply with these regulations and any amendments or modifications thereof and will be responsible for the submission of affidavits required of independent contractors thereunder. The foregoing shall apply except as the Secretary of Labor may specifically provide for reasonable limitations, variations, tolerances, and exemptions.

ARTICLE 16. Changes and added provision.--

Executed in quintuplicate the day and year first above written.

WESTERN STATES MINERALS, INC.
(Operator)

By John L. Larsen

Title President

THE UNITED STATES OF AMERICA

By Arthur A. Baker
Acting Director, U. S. Geological Survey

I, Tim Watt (Name), certify that I am the secretary of the corporation named as Operator herein; that John L. Larsen (Name), who signed this contract on behalf of the Operator, was then President (Title) 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.

Tim Watt

[CORPORATE SEAL]

Office of Minerals Exploration
Building 53 Room 28

Cac 120 m
130
HK 120

February 16, 1972

Memorandum

To: Hal T. Morris

Through: Assistant Chief, Office of Minerals Exploration

From: Field Officer, Region III, Office of Minerals Exploration

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Enclosed is a copy of all the material I have received from Roger Banghart pertaining to Stage III exploration work of the subject contract, except for a copy of Roger's geologic map. I plotted diamond drill holes Nos. 5 through 14 on Jack's transit survey map, and will obtain an additional map from Roger, that will show the exact location of the collar of Hole No. 14 east of the Larsen shaft. Results of the drilling to date continued to show indications of mineralization, with better material above the 1380 level. Roger recommends a possible raise to further explore the pebble dike penetrated in drill hole No. 12. I will make a final inspection on the property, and study the balance of the drill holes in Ely, Nevada where they are presently stored sometime in March, as I must time my trip to Roger's work schedule, as well as to give Glen Larsen a chance to recover more fully from the surgery on his eye as a result of a detached retina. Any comments you wish to make after a review of this data will be greatly appreciated.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures cc: Chief, OME✓ OME-6646 OME chron Mr. Hasler Mr. Emerick

75 THE NATIONAL WESTERN MINING Conference

The MINING NEWS

THE VOICE OF THE MINING INDUSTRY FOR EVERY THIRTY YEARS

Vol. 83, No. 5 Denver, Colorado, Wednesday, February 2, 1972 $10 a year, 25¢ a copy

U.S.G.S. R3-10-74
OFFICE OF MINERALS
EXPLORATION - ROOM 4
DEPT. OF THE INTERIOR
WASHINGTON, D. C.

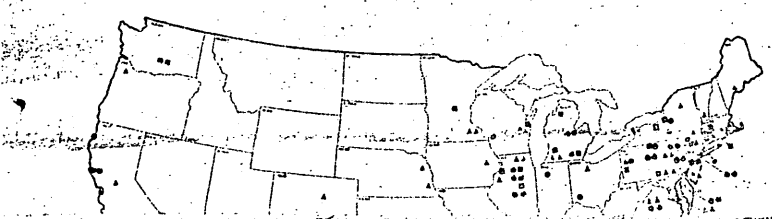
Status of Nuclear Power Plants

GRAND JUNCTION, Colo.—The U.S. Atomic Energy Commission office here recently issued a brief status report on the U.S. civilian nuclear power program for the year 1971:

During the year, the report said, electric utilities made known plans for 32 nuclear power generating units with a total capacity of 31,810,000 kilowatts to be located at 18 power stations. In this period, the utilities ordered 21 reactors (20 for units announced during the year and one for a unit previously announced) with a total capacity of about 20,810,000 kilowatts.

In 1970, utilities made known plans for 13 nuclear power generating units with a total capacity of 13,407,000 kilowatts to be located at nine power stations. Reactor suppliers were selected for 14 units with a total capacity of about 14,242,000 kilowatts.

NUCLEAR POWER REACTORS IN THE UNITED STATES



Western States Mining Reports Halloysite Discovery-Merger

RIVERTON, Wyo.—Western States Mining Inc. of Riverton, announced the discovery of a deposit of halloysite on their East Crown Point properties near Eureka, Utah.

Ken Webber, geologist and office manager for WSM, said field operations had begun November 15, 1971, to define and evaluate the deposit which was accidentally discovered while cutting road beds to leases adjacent to the East Crown Point claims.

Although the depositional pattern has not been established, the halloysite appears to vary from out-cropping on the surface to 117 feet in depth. It is estimated that the area of interest will extend over approximately 150 acres.

A diamond drill coring and sampling project was initiated this week to further evaluate the limits of the claim. Halloysite samples analyzed to date indicate a relatively pure iron free mineralization.

Halloysite, a clay mineral similar in chemical composition and physical properties to kaolinite, is used primarily in the petroleum industry as a catalyst.

Western States Mining I[illegible] and Century Nuclear, both [illegible] Riverton, recently combined their interests in a merger, with WSM being the surviving company.

Both company boards approved and finalized the articles of merger January 10, 1972. Stockholders were advised that eight shares of Century Nuclear stock would be traded for one share of Western States Mining Inc. stock. WSM has 1,834,594 shares outstanding.

John L. Larson, active in the management of both companies for many years, has been named president and director of the surviving company.

Asarco Raises Lead Price ½¢

NEW YORK—American Smelting & Refining Co. raised its price for lead one-half cent to 14.5 cents per pound.

Gold Prices Soar

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 28

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O. M. E.
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DEC 8 1971

INITIALS	CODE
	1200
JLa	130
HK	~~120~~

December 6, 1971

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Through: Assistant Chief, Office of Minerals Exploration

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Enclosed is the Government's copy and Budget and Finance's copy of Amendment No. 3 which has been signed and executed by Western States Minerals, Inc.

Field Officer's copy is being retained in this office.

J. William Hasler
J. William Hasler
Field Officer, Region III
Office of Minerals Exploration

Enclosures

DRAFT 10/22/71
HKirkemo/gla

RECEIVED

OCT 28 1971

MINERAL RESOURCES and
GENERAL LEGAL SERVICES

EXPLORATION CONTRACT
WESTERN STATES MINERALS, INC.
OME-6646

AMENDMENT NO. 3

It is agreed this _____ day of _____, 1971, between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and Western States Minerals, Inc., hereinafter called the "Operator," that Exploration Contract 2285 (OME-6646), dated July 10, 1969, as amended, is further amended effective September 1, 1971, as follows:

1. The date fixed by Article 1(a) of the contract for completion of the work is extended from thirty (30) to thirty-eight (38) months from the date of the contract, or until September 10, 1972.

Insert #1

2. Article 1(b) and Exhibit A of the contract are hereby amended by increasing the total allowable cost of the work from $238,230.00 to $326,558.00, and by increasing the total amount of the Government's contribution at 25% (Stage I) and 50% (Stages II and III) of the allowable cost from $75,025.00 to a total sum not in excess of $119,189.00.

3. Article 1(c) of the contract is hereby amended by ~~striking~~ deleting the existing paragraph in its entirety and substituting in lieu thereof the following:

"(c) Interest computation.--Simple interest at the rates specified in (i) and (~~II~~ ii) below shall accrue from the dates Federal funds are made available until the period specified for

payment of royalty expires, or until the amount of Federal funds contributed is fully repaid with interest:

(i) 8½ percent on the Government's contribution toward allowable cost for work performed under Stages I and II;

(ii) _____ percent on the Government's contribution toward the total allowable cost for work performed under Stage III."

4. The maximum period for royalty payments ~~as~~ provided in Article 7(b)(2) of the contract is extended from ten (10) to eleven (11) years from the date of the contract.

5. In Article 16, Changes and added provision of the contract ~~insert~~ the following paragraph is inserted:

"Special Agreement Concerning Royalty. Notwithstanding the certification provisions of Article 7(a) + (b), and with no further action required on the part of the Government, the Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, or its successor, shall pay to the Government a royalty under the terms prescribed in article 7(c) through 7(h) on any production, regardless of where it was produced, [~~which is~~] transported through any workings constructed, repaired or improved [~~to the cost of which the Government has contributed~~] with funds contributed in whole or in part by the Government, for the period described in Article 7(b)(2), as amended. [~~above~~] [~~and pursuant to the terms of Article 7(c) et seq.~~] However, in no event shall more than one royalty be due or paid under this contract on the same production."

How about this? in acc. with the provisions of art 7c thru 7h

Why not 7d

6. Exhibit A of the contract is hereby ~~further~~ amended as follows:

a. Under the heading "General Provisions," the sixth paragraph, page 2, is ~~revised to read as follows~~:

is hereby amended by deleting the existing paragraph and substituting in lieu thereof the following:

"No drilling or other underground work shall be done outside the exterior boundaries of the land outlined on Figure 1 (Revised October 8, 1971) entitled, 'Claim map and proposed exploration, Crown Point and East Crown Point Properties, Tintic Mining District, Utah and Juab Counties, Utah,' attached and made part hereof. Such boundaries shall be determined by the Operator using standard transit surveying methods at no cost to the Government. Surveyed boundaries shall be shown on maps accompanying each voucher submitted under Stage III."

b. The eighth paragraph, page 2, is hereby amended by deleting the existing paragraph and substituting in lieu thereof the following: is ~~revised to read as follows~~:

"All diamond drill holes drilled from underground locations in Stage II shall be completed with standard AX (nominal diameter 1-3/16") core size or equivalent wire line size equipment. All diamond drill holes drilled from underground locations in Stage III shall be completed with standard NX (nominal diameter 2-1/8") core size or equivalent wire line size equipment."

c. The fifteenth paragraph, Page 3, is hereby amended by deleting its (as above) ~~is revised to read as follows~~:

"The work shall be divided into three stages with Stage I consisting mainly of shaft sinking, and Stages II and III consisting of drifting, crosscutting, raising or sinking, and diamond drilling.

"All work performed through August 31, 1971, which is acceptable to the Government under provisions of the contract, shall be considered as Stages I and II. All work performed on or after (9-1-71) and acceptable to the Government under provisions of the contract ~~beginning September 1, 1971~~, shall be considered as Stage III."

d. Under the heading Description of the Work, page 3, a new section is added after the section, Stage II, to read as follows:

"Stage III

The work shall consist of extending the present south crosscut a distance of approximately 100 feet, but not beyond the exterior boundary of the property, in order to determine the location of the footwall of the Sioux-Ajax fault zone.

Two or more exploratory drill holes (NX core size) shall be drilled from sites to be selected by the Operator with the prior approval of the Government confirmed in writing.

Based on favorable or significant results obtained from the crosscut and the drill holes, additional exploratory holes may be drilled from selected and approved sites, and additional crosscutting or drifting may be undertaken to the east or west on or adjacent to the Sioux-Ajax fault zone.

The proposed extension of the south crosscut is shown on Figure 1 (revised).

e. Under the heading Estimated Costs of the Work ~~insert~~ on page 6 ~~on page 6~~ delete the existing section, entitled, Summary, in its entirety, including the footnote & insert the following in lieu thereof:

"Stage III

Fixed Unit Costs 1/ 2/

Drifting and crosscutting, including timbering and preparing drill sites, 300 feet @ $62.68/ft.	$18,804.00	
1 outside consultant, 11 days @ $100.00/day	1,100.00	
Per diem outside consultant, 11 days @ $20.00/day	220.00	
Transportation for consultant, 866 miles @ $0.12/mile	104.00	
Total Estimated Fixed Unit Costs, Stage III		$20,228.00

Actual Costs

Category (1) Independent Contracts		
Diamond core drilling		
NX core size		
3,100 feet @ $21.50/ft. 3/	$66,650.00	
		$66,650.00
Category (7) Miscellaneous		
None except:		
Cardboard core boxes, 200 @ $1.00/each	$ 200.00	

Assaying for gold, silver, and copper, 250 samples @ $5.00/sample	1,250.00	
		$1,450.00
Total Estimated Actual Costs Stage III		$68,100.00
Total Estimated Costs Stage III		$88,328.00
Government Participation @ 50%		$44,164.00

Summary

Total Estimated Cost of Stage I	$176,360.00
Government Participation @ 25%	$44,090.00
Total Estimated Cost of Stage II	$61,870.00
Government Participation @ 50%	$30,935.00
Total Estimated Cost of Stage III	$88,328.00
Government Participation @ 50%	$44,164.00
Total Estimated Cost of Project	$326,558.00
Government Participation	$119,189.00

1/ Covers all costs whatsoever, including equipment, materials, labor, technical services, taxes, and insurance.

2/ The Government retains no equity in any of the equipment or materials used.

3/ Covers all costs whatsoever, including mobilization and demobilization, collar pipe, lost casing, cement, drill mud, additives, cementing and redrilling, reaming and installing casing, and standby time.

Except as herein amended, Exploration Contract 2285 (OME-6646), dated July 10, 1969, shall remain in full force and effect.

Executed in quadruplicate the day and year first above written.

THE UNITED STATES OF AMERICA

?

By _____
Acting Director, U. S. Geological Survey

WESTERN STATES MINERALS, INC.

By _____

Title _____

I, _____, certify that I am the Secretary of Western States Minerals, Inc., named as Operator herein; that _____, who signed this amendment on behalf of the Operator, was the president of said corporation; that said amendment was duly signed for and on behalf of said corporation by authority of its governing body, and is within the scope of the corporate powers.

_____
Secretary

(Corporate Seal)

DRAFT
Mr. Tindal:hm 11-11-71

Insert #1

2. Article 1(b) of the contract is hereby amended by deleting the existing paragraph in its entirely and substituting in lieu thereof the following:

"(b) The total allowable cost of the work set forth in Exhibit A is $326,558.00. The Government will contribute 25 percent in Stage I and 50 percent in Stages II, and III of the allowable costs as they are incurred in a total sum not in excess of $119,189.00 in accordance with the provisions of Articles 3, 4, 5 and 6. 'Costs incurred' means costs that have been added or become due and payable or that the Government determines have become obligations."

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 28

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INITIALS

November 24, 1971

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Gla 130
HR ~~120~~

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Through: Assistant Chief, Office of Minerals Exploration

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Transmitted herewith is a print of a geologic map of the 1280-level of the Larsen Shaft, prepared by the Operator's Consulting geologist, Mr. Roger Banghart, showing exploration work completed to date under the subject contract, for your files. I am retaining another print of the map for Region III files.

J. William Hasler

J. William Hasler
Field Officer, Region III
Office of Minerals Exploration

Enclosure

Office of Minerals Exploration
Building 53 Room 28

November 23, 1971

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O. M. E.
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INITIALS	CODE
glo	
JK	

Mr. John Larsen
Western States Minerals, Inc.
418 S. 7th East
Riverton, Wyoming 82501

Re: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Enclosed are the original and three copies of Proposed Amendment No. 3 (five pages) and one map Figure 1, Revised October 8, 1971 to the subject contract signed for the Government.

If the proposed amendment is satisfactory to you, all four copies should be signed by an authorized representative of Western States Minerals, Inc., retain the "Operator's Copy," and return the "Government's Copy," "Budget and Finance Copy" to this Office.

If any part of the proposed amendment does not have your approval, the original and all copies are to be returned to this office together with the proposed changes for consideration.

Sincerely yours,

J. William Hasler

J. William Hasler
Field Officer, Region III
Office of Minerals Exploration

Enclosures

cc: Chief, OME
Mr. Hasler
OME chron
OME-6646

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
11/16/71	Kirkemo	120
11/17/71	Kirkegaard	
11/17	Albers	220
		120
		220
		120M

AIRMAIL

NOV 18 1971

Memorandum

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6646 (Gold-Copper-Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Juab and Utah Counties, Utah
Contract 2285

Enclosed are the original and three copies of proposed Amendment No. 3 (five pages) and one map (Figure 1 revised) to the subject contract, signed by the Acting Director. An extra copy of the amendment is also enclosed for field use.

If the proposed amendment is satisfactory to you and the Operator, all four copies should be signed by an authorized representative of the Operator, and distributed in the usual manner.

If any part of the proposed amendment does not have your approval or that of the Operator, the original and all copies are to be returned to this office together with the proposed changes for consideration.

Harold Kirkemo

Harold Kirkemo

Enclosures

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
Mr. Kirkemo
130

GLAult/a 11-16-71

ROUTING AND TRANSMITTAL SLIP

TO (Name, office symbol or location)	INITIALS / DATE	ACTION
Associate Solicitor--MR, Rm. 6654 Interior Building		CIRCULATE / COORDINATION
2 Mr. Kirkemo, Rm. 4460 Interior Bldg.	INITIALS / DATE	FILE / INFORMATION
3	INITIALS / DATE	NOTE AND RETURN / PER CONVERSATION
4	INITIALS / DATE	SEE ME / SIGNATURE

REMARKS

OME-6646, Contract 2285) Western States Minerals, Inc., Amendment No. 3, for approval and typing.

Please return map.

Do NOT use this form as a RECORD of approvals, concurrences, disapprovals, clearances, and similar actions.

FROM (Name, office symbol or location)	DATE
Chief, OME	10/26/71
	PHONE 5371

DRAFT 10/22/71
HKirkemo/gla

EXPLORATION CONTRACT
WESTERN STATES MINERALS, INC.
OME-6646

AMENDMENT NO. 3

It is agreed this _____ day of _____, 1971, between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and Western States Minerals, Inc., hereinafter called the "Operator," that Exploration Contract 2285 (OME-6646), dated July 10, 1969, as amended, is further amended effective September 1, 1971, as follows:

1. The date fixed by Article 1(a) of the contract for completion of the work is extended from thirty (30) to thirty-eight (38) months from the date of the contract, or until September 10, 1972.

2. Article 1(b) and Exhibit A of the contract are hereby amended by increasing the total allowable cost of the work from $238,230.00 to $326,558.00, and by increasing the total amount of the Government's contribution at 25% (Stage I) and 50% (Stages II and III) of the allowable cost from $75,025.00 to a total sum not in excess of $119,189.00.

3. Article 1(c) of the contract is hereby amended by striking the existing paragraph in its entirety and substituting in lieu thereof the following:

"(c) Interest computation.--Simple interest at the rate specified in (i) and (II) below shall accrue from the dates Federal funds are made available until the period specified for

payment of royalty expires, or until the amount of Federal funds contributed is fully repaid with interest:

(i) 8½ percent on the Government's contribution toward allowable cost for work performed under Stages I and II;

(ii) _____ percent on the Government's contribution toward the total allowable cost for work performed under Stage III."

4. The maximum period for royalty payments as provided in Article 7(b)(2) of the contract is extended from ten (10) to eleven (11) years from the date of the contract.

5. In Article 16. Changes and added provision of the contract insert the following paragraph:

"Special Agreement Concerning Royalty. Notwithstanding the certification provisions of Article 7, and with no further action required on the part of the Government, the Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, or its successor, shall pay to the Government a royalty on production, regardless of where it was produced, which is transported through any workings to the cost of which the Government has contributed, for the period described in Article 7(b)(2) above, and pursuant to the terms of Article 7(c) et seq. However, in no event shall more than one royalty be due or paid under this contract on the same production."

6. Exhibit A of the contract is hereby further amended as follows:

a. Under the heading "General Provisions," the sixth paragraph is revised to read as follows:

"No drilling or other underground work shall be [redacted] exterior [redacted] land [redacted] [redacted] [redacted] [redacted] and East Crown [redacted] Properties, Tintic Mining District, Utah and Juab Counties, [redacted] and made part hereof. Such boundaries shall be determined by the Operator using standard transit surveying methods at no cost to the Government. Surveyed boundaries shall be shown on maps accompanying each voucher submitted under Stage III."

b. The eighth paragraph is revised to read as follows:

"All diamond drill [redacted] filled from underground locations in Stage II shall be completed with standard AX (nominal diameter 1-3/16") core size or equivalent wire line size equipment. All diamond drill holes drilled from underground locations in Stage III shall be completed with standard NX (nominal diameter 2-1/8") core size or equivalent wire line size equipment."

c. The fifteenth paragraph is revised to read as follows:

"The work shall be divided into three stages with Stage I consisting mainly of shaft sinking, and Stages II and III consisting [redacted] ting, crosscutting, raising or sinking [redacted] illing.

"All work performed through August 31, 1971, which is acceptable to the Government under provisions of the contract, shall be considered as Stages I and II. All work performed and acceptable to the Government under provisions of the contract beginning September 1, 1971, shall be considered as Stage III."

d. Under the heading Description of the Work, a new section is added to read as follows:

"Stage III

The work shall consist of extending the ~~present~~ south crosscut a distance of approximately 100 feet, but not beyond the exterior boundary of the property, in order to determine the location of the footwall of the Sioux-Ajax fault zone.

Two or more exploratory drill holes (NX core size) shall be drilled from sites to be selected by the Operator with the prior approval of the Government confirmed in writing.

Based on favorable or significant results obtained from the crosscut and the drill holes, additional exploratory holes may be drilled from selected and approved sites, and additional crosscutting or drifting may be undertaken to the east or west on or adjacent to the Sioux-Ajax fault zone.

The proposed extension of the south crosscut is shown on Figure 1 (revised).

USGS opening para

~~The United States has relied primarily upon private enterprise to develop the mineral resources of the Nation rather than upon governmental activity in this field. The purpose of the U. General Mining Law of 1872 was to encourage and reward individual exploration by . . .~~

because the chances of making a significant discovery on this project are much better than

e. Under the heading Estimated Costs of the Work insert the following:

"Stage III

Fixed Unit Costs 1/ 2/

Drifting and crosscutting, including timbering and preparing drill sites, 300 feet @ $62.68/ft.	$18,804.00	
1 outside consultant, 11 days @ $100.00/day	1,100.00	
Per diem outside consultant, 11 days @ $20.00/day	220.00	
Transportation for consultant, 866 miles @ $0.12/mile	104.00	
Total Estimated Fixed Unit Costs, Stage III		$20,228.00

Actual Costs

Category (1) Independent Contracts		
Diamond core drilling NX core size 3,100 feet @ $21.50/ft. 3/	$66,650.00	
		$66,650.00
Category (7) Miscellaneous		
None except:		
Cardboard core boxes, 200 @ $1.00/each	$ 200.00	

Assaying for gold, silver, and copper, 250 samples @ $5.00/sample	1,250.00	
		$1,450.00
Total Estimated Actual Costs Stage III		$68,100.00
Total Estimated Costs Stage III		$88,328.00
Government Participation @ 50%		$44,164.00

Summary

Total Estimated Cost of Stage I	$176,360.00
Government Participation @ 25%	$44,090.00
Total Estimated Cost of Stage II	$61,870.00
Government Participation @ 50%	$30,935.00
Total Estimated Cost of Stage III	$88,328.00
Government Participation @ 50%	$44,164.00
Total Estimated Cost of Project	$326,558.00
Government Participation	← $119,189.00

1/ Covers all costs whatsoever, including equipment, materials, labor, technical services, taxes, and insurance.

2/ The Government retains no equity in any of the equipment or materials used.

3/ Covers all costs whatsoever, including mobilization and demobilization, collar pipe, lost casing, cement, drill mud, additives, cementing and redrilling, reaming and installing casing, and standby time.

Except as herein amended, Exploration Contract 2285 (OMB-6646), dated July 10, 1969, shall remain in full force and effect.

Executed in quadruplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By_____
Acting Director, U. S. Geological Survey

WESTERN STATES MINERALS, INC.

By_____

Title_____

I, _____, certify that I am the Secretary of Western States Minerals, Inc., named as Operator herein; that _____, who signed this amendment on behalf of the Operator, was the president of said corporation; that said amendment was duly signed for and on behalf of said corporation by authority of its governing body, and is within the scope of the corporate powers.

_____
Secretary

(Corporate Seal)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 28

OFFICIAL COPY
OCT 18 1971

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October 15, 1971

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Through: Assistant Chief, Office of Minerals Exploration

Subject: OME-6646 (Gold-Copper-Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Juab and Utah Counties, Utah
Contract 2285

Justification for Amendment No. 3

The Operator, in a letter dated October 4, 1971 requested an amendment to the subject contract to allow for additional funds totalling an estimated $88,328.00 to continue exploration of the Sioux-Ajax fault zone off the 1280-foot level of the Larsen shaft. Government participation at 50 percent would total an estimated $44,164.00.

Funds allotted for Stages I and II of the subject contract have been exhausted, sinking a 14' x 7' shaft 1,300 feet deep (Larsen shaft), diamond drilling 1,099 feet of Bx size hole, and driving 1,370 feet of 5' x 7' crosscuts and/or drifts. All of this work was designed to explore for new and undiscovered ore bodies that may occur in north- south-trending ore channels, northeast-trending mineralized fissures, and any other intervening structures associated with the Sioux-Ajax fault zone, and to penetrate more than 1,000 feet of volcanic rocks overlying the favorable ore bearing beds of the Bluebell dolomite of Ordovician Silurian-Devonian age. The Bluebell dolomite has been the host rocks from which some $110,000,000[1/] worth of ore has been produced from the main and the East Tintic district.

1/ Cook, Douglas R., 1957, Ore Deposits of the Main Tintic Mining District, Utah: Utah Geological Society Guidebook to the Geology of Utah No. 12, Figure 6, p. 65.

A 420 foot diamond drill hole (No. 1-West) west from the Larsen shaft penetrated three brecciated, altered, vuggy dolomite zones that contained significant amounts of iron oxide, black jasperoid, and calcite stringers that assayed from a trace to 0.37 percent zinc and from 80 to as much as 750 ppm copper.

A diamond drill hole nearly due south from the Larsen shaft penetrated 385 feet of Bluebell dolomite that has several altered zones containing iron oxide, barite stringers, and some porphyry near the end of the hole. These zones as sampled, assayed from a trace to as much as 0.06 ounces Ag, a trace to 0.40 percent Pb, and copper ranging from 80 to 560 ppm. This drill hole penetrated some porphyry at the end of the hole.

A 165 foot diamond drill hole eastward from the Larsen shaft penetrated two fissure zones containing brecciated Bluebell dolomite, iron oxide, and jasperoid material at 30 and 60 feet, but then intersected monzonite porphyry near the end of the hole. However, the Bluebell dolomite was highly altered and contained abundant brecciated, iron-stained, and jasperoid material for the first 60 feet. This material contained traces of gold and silver, a trace to as much as 0.28 percent lead, a trace to 0.11 percent zinc and from 100 to 520 ppm copper.

A vertical hole drilled for stratigraphic purposes near the 1280 level station of the Larsen shaft, penetrated 234 feet of Bluebell dolomite, indicating that the 1280 level was well within the confines of the ore bearing Bluebell dolomite.

The diamond drilling results plus the southward dipping overlying volcanics indicated that exploration of the Bluebell dolomite into the Sioux-Ajax fault zone should be westerly, then southward. The westward exploration would test the three prominent mineralized structures penetrated in drill hole No. 1 - West. Consequently, a southwesterly trending pebble dike was followed for 140 feet, then a crosscut was driven eastward to explore for the southern extension of the three mineralized zones penetrated in Drill hole No.1 - West. A wide zone of brecciated, sanded, and oxidized light gray dolomite was cut along the east crosscut from about 115 feet to nearly 120 feet, and several southwesterly trending small pebble dikes were cut between 225 feet and 245 feet. Additional pebble dikes, and breccia zones were intersected westward at distances of 433 feet and 465. Black dolomite beds were cut in the face of the drift that contained abundant pyrite and some lead. The altered dolomites, iron oxide, jasperoid, breccia zones, and pebble dikes all assayed significant amounts of silver and copper ranging from 0.011 to 0.38 ounces silver; 30 to 690 ppm copper, with a number of the copper samples ranging from 430 to 690 ppm.

The prominent mineralized southwest trending pebble dike cutting the dolomite, that assayed 0.38 oz. Ag and contained as much as 510 ppm copper, looked promising enough to drift southward on toward the Sioux-Ajax fault. Consequently, this pebble dike was followed southwesterly for some 315 feet, where it was lost. The crosscut was then turned nearly due south to intersect the Sioux-Ajax fault zone. The dolomite became more highly altered and brecciated, and numerous east-west and southwesterly striking veins and mineralized pods containing jasperoid, manganese oxide, sanded dolomite, and dolomite veinlets became increasingly abundant southward in the crosscut. These veins and pods were sampled and found to contain increasing amounts of lead and copper. The majority of the pods and mineralized vugs were in the bottom of the crosscut. Brecciation and mineralized material increased southward, and the hanging wall side of the Sioux-Ajax fault zone was intersected approximately 665 feet south of the Larsen shaft, thus placing the fault about 100 feet farther south than was originally projected in the application. The crosscut was continued south towards the foot wall of the Sioux-Ajax fault for about 60 feet. There was somewhat less mineralized material in the face but the Bluebell dolomite is still quite highly brecciated and altered. There was no indication that the footwall of the Sioux-Ajax fault had yet been intersected and it is advisable that the crosscut be continued far enough south to intersect the footwall of fault zone.

Values of lead and copper increased southward in the last 300 feet of the crosscut from a trace to 0.28 percent lead and 50 ppm to 700 ppm copper north of the fault zone to a range of 0.12 to 0.59 percent lead and from 70 to 4,000 ppm copper. The copper values, averaging about 1,230 ppm, are strong evidence of the nearness to possible ore bodies of commercial grade and size.

The increased geochemical anomalies for the last 300 feet of crosscut southward, in the fissured and altered area within the Sioux-Ajax fault zone, suggests that additional exploration work below the 1280 level should be done for at least 200-400 feet. Mr. Hal Morris, U.S.G.S. is of the opinion that a good portion of the Sioux-Ajax fault has been penetrated as evidenced by the extreme brecciation, alteration, fissuring and increased amount of mineralized material. It is the consensus of several geologists currently most familiar with the geology and ore deposits in the East Tintic district that the mineralized occurrences in the south drift, especially within the fault zone, are leakages from an underlying ore shoot. In addition to the fact that the iron-stained fissure zones contain assayable quantities of lead, copper and silver, they agree that the pervasiveness of the brecciation, the dolomitization, and the pyritization are quite impressive. All of these factors contribute to the excellent possibility of a nearby ore body.

It is recommended that additional government funds be made available and that the subject contract be amended to allow for at least 300 feet of drifting and/or crosscutting south, and possibly east and west, to more adequately explore the full extent of the Sioux-Ajax fault zone, and to diamond drill an estimated 3100 feet of Nx core size holes below the 1280 level to explore for possible ore bodies that may underlie the mineralized fissure zones within the Sioux-Ajax fault zone, as specified in the attached proposed Amendment No. 3.

Enclosed are copies of new drilling bids as well as other documentary material substantiating the justification for the expenditure of additional funds.

J. William Hasler
Field Officer, Region III
Office of Minerals Exploration

Enclosures

Longyear

E. J. LONGYEAR COMPANY
General Offices: 925 Delaware Street S. E.
Minneapolis, Minnesota 55414, USA
Mailing Address: Box 1368, Minneapolis, Minnesota 55440, USA
Telephone (612) 331-1331

REPLY TO:
P. O. Box 15218
865 West 2600 South
Salt Lake City, Utah 84115
Phone 486-9318

October 5, 1971

OME Region III
RECEIVED
OCT - 8 1971
Denver, Colorado

Western States Mining
418 South 7th East
Riverton, Wyoming 82501

Attention: Mr. Jack Larsen

Gentlemen:

In response to your recent request, and based on information received by our Mr. Victor Mayer during his inspection of the property to be drilled, we are pleased to submit below for your consideration, our proposal for your contemplated underground core drilling program to be carried out near Eureka, Utah.

1. We understand that the work as now planned will consist of a minimum of 2,000 feet of drilling in vertical and angle holes. The angle holes will not be less than 45 degrees as measured from the horizontal. Formation is to consist of Bluebell limestone and some Jasperite.

2. For this work we propose to furnish one Longyear Wolverine model underground diamond core drill, together with the necessary accessory equipment required to complete the work as now planned. We propose tooperate the drill two 8 hour shifts per day, six days per week.

3. We will carry Comprehensive General Liability and Automobile Insurance covering personal injury and property damage and also statutory Workmen's Compensation Insurance. Certificates showing these coverages will be furnished upon request.

4. We understand that you will provide at no expense to the Longyear Company, the following items for the underground drilling:

a) Compressed air and water in sufficient volume and at a sufficient pressure to permit the drilling operations to be carried out in an efficient and workmanlike manner;

b) Proper lighting and ventilation as necessary at the drill stations;

c) Facilities for moving equipment and supplies from the collar of the shaft to the first drill hole location, and from one drill hole location to another, and return to the collar of the shaft upon completion of the work;

d) Drill stations of sufficient size to permit the efficient handling of drill rods in 10 foot lengths.

5. Based on the conditions as outlined above, we are pleased to quote as follows:

a) Mobilization of personnel and drilling equipment - $400.00 Lump Sum per drill

b) Diamond core drilling -

	NQWL	BQWL
0 - 250 ft. in depth	$14.50/ft.	$13.50/ft.
250 - 500 ft. in depth	15.50/ft.	14.50/ft.

c) Reaming for casing, if and when required -

All sizes — $ 3.50/ft., plus cost of casing lost or left in holes, invoiced to you at 100% List Price, f.o.b. jobsite.

d) Casing operations, drilling out cement, cementing, installing collar pipes, water testing, and any other drill hole stabilizing operations - $18.50/hr., plus cost of materials used, invoiced at our cost, f.o.b. jobsite, plus 10% handling charge.

e) Delays for your convenience, or for which you are responsible - $17.50/hr.

f) Drill hole surveying - $17.50/hr.

g) Moving, rigging up and rigging down - $17.50/hr. with two man crew

h) Core boxes, cardboard construction, if furnished by us - $ 1.25/box

i) Cement, drill mud and drill mud additives to be invoiced to you at our cost, f.o.b. jobsite, plus 10% handling charge.

6. Drill cores will be turned over to your representative at the drill stations in core boxes furnished by you.

7. Invoices covering the work performed will be prepared as promptly as possible after the first and fifteenth day of each month, and payment shall be due within twenty days from receipt of invoice.

8. This proposal is subject to the condition that you secure written approval of your arrangement for payment for the work to be performed before it is commenced. Written approval can only be given by a corporate officer by separate letter. Also, such approval can be withheld in his sole discretion.

9. We appreciate the opportunity to quote on this project and hope that you will find our proposal acceptable.

Sincerely yours,

LONGYEAR COMPANY

D. F. Crotty

David F. Crotty, Manager
Rocky Mountain Zone

DFC:e

cc: CDD Files

Mr. Glen Larsen
489 North 300 West
Provo, Utah 84601

ACCEPTED:

WESTERN STATES MINING

By:_____

Date:_____

DIAMOND CORE DRILLING
DIAMOND DRILLING EQUIPMENT
GROUTING
MINING
QUARRYING
FOUNDATION TESTING
TUNNEL DRIVING
SHAFT SINKING
MINE PLANT DESIGN
AND FABRICATION

Boyles Bros.
DRILLING COMPANY

CONTRACTORS-ENGINEERS-GEOLOGISTS
General Offices and Plant
1624 Pioneer Road P. O. Box 58 Phone (801) 487-3671
SALT LAKE CITY, UTAH 84110
Cable: BOYLESCO

BRANCH OFFICES
ARIZONA (PHOENIX)
CALIFORNIA (AUBURN)
COLORADO (GOLDEN)
NEVADA (SPARKS)
TENNESSEE (MURFREESBORO)
WASHINGTON (SPOKANE)
CHILE (SANTIAGO)
CABLE: BOYLESBROS
MEXICO, D.F.
PERU (LIMA)
CABLE: BOYLESCOP

October 4, 1971

Region III
OCT - 8 1971
Denver, Colorado

JACK POWERS
Manager
Utah District

Western States Mining Company
418 South 7 East
Riverton, Wyoming 82501

Gentlemen:

We are pleased to quote the following covering underground drilling at your mine near Eureka, Utah.

1. Mobilization and Demobilization L.S. $ 350.00

2. Core Drilling

	BX or NX
0 - 250 ft.	$ 14.35
250 - 500 ft.	16.40
500 - 750 ft.	18.45

3. Diamond Costs
Should the diamond cost exceed $ 1.50 per foot on any bit during the drilling program, the Owner will pay that cost in excess of this amount. Contractor will provide suppliers' cut-out report as verification of diamond costs.

4. Reaming, if necessary, will be performed at $ 4.25 per foot.

5. Cementing, and cement admixtures will be charged at $ 18.00 per hour plus cost of materials F.O.B. job site.

6. Standby time asked for or caused by owner shall be charged at $ 15.00 per hour.

7. Casing time; including washing or reaming casing to bottom of hole, time spent in setting or pulling casing, shall be charged at $ 18.00 per hour.
(a) Casing lost or left in hole at owners request, will be charged at list price less 10%.

8. Set up and tear down per hole other than first hole will be charged at $ 15.00 per hour.

9. Drilling mud and mud additives will be charged at list price F.O.B. job site.

There will be no travel time charged, however, we will expect you to provide transportation onto your mine access roads for our crews.

We have equipment and competent drillers to move on this project, should this quote meet with your approval.

Sincerely yours,

Jack D. Powers

JDP/jc
cc: Mr. Glenn Larsen
489 North 300 West
Provo, Utah

WESTERN
STATES MINING INCORPORATED
418 S 7 E RIVERTON WYOMING

OME Region III
RECEIVED
OCT - 5 1971
Denver, Colorado

TELEPHONE 856 9271

October 4, 1971

Mr. William J. Hasler
Field Officer, Region III
Office of Minerals Exploration
Department of Interior
Federal Center Room 28
Denver, Colorado 80220

Reference: OME 6646
Contract 2285
Crown Point and East Crown Point Claims
Utah County, Utah

Dear Bill:

Due to the significant silver-lead-copper mineralization found in the last 300 feet of the south drift, and due to the expenditure of all the funds allocated by the government under the present contract, this report and supporting map request additional funds to further explore this property on the 1280 level and lower horizons.

To adequately explore these mineralized areas it is proposed that a maximum amount of diamond drilling be undertaken to explore beneath the 1280 level. Diamond drilling would be the most economical way to prospect the area below the 1280' level. Additional drifts will be needed to get to other favorable drilling locations and to explore favorable structures presently encountered.

This report recommends that the diamond drill costs be increased to $21.50/ft. so that the proper drilling procedures and equipment can be utilized. The previous diamond drilling on this contract showed that to obtain better core recovery, larger drilling tools and drilling muds would be needed to increase core recovery. Drilling muds, cementing, standby time, and casing are extras and not included in the contractors footage rates. Also having a hoistman on duty, the compressed air, water, and electricity are not included in the contractors footage rate but have to be borne by the drilling program. Comparing with existing underground contracts @ $21.50 cost is thought to be adequate to cover NC and NX wireline drilling.

Enclosed is a detailed cost of the proposed work at Crown Point.

Using rental rates on the major items, plus just cost of operation on others we come up with the following cost estimates.

Costs have increased very substantially over the past few years, and are reflected in these figures.

We would propose to continue our Crown Point exploration program on a 50-50 basis using these figures as a cost basis.

The entire cost of the program to date has been $424,823.00 with the government portion being $75,025.00 This $75,025.00 amounts to less than 25% of the over-all cost. The overrun was due partially to increasing cost and the water encountered in the shaft.

We would certainly hope that the government will go along on the basis of the increased cost as we are very dilligently pursuing an early discovery on this project and hopefully our faithful endeavors have proved this to be true in the past.

If additional participation is granted, we would like to request an extension of time for six (6) months so as work will be completed on or before July 10, 1972.

We would also like an additional change in the contract so as to allow underground work to go within 25' of boundary lines.

We are currently negotiating with Anaconda Mining Co. to acquire four (4) adjoining claims to the south, belonging to Tintic Central Mining Co. If we are able to lease them, we would include them under our O.M.E. contract. Dad met with Clark Wilson in Salt Lake City and he has agreed verbally to give us a prospecting permit on the four (4) claims. The permit would be for one (1) year and convert to a 5 year automatic renewal lease if commercial minerals are encountered. Would this allow us to include these claims? If not, what changes would we have to make to get them included?

Would certainly appreciate your earliest attention to these matters as we would like to complete this work before winter gets to bad.

Sincerely,

John L. Larsen

JLL/sml
Enclosures

Actual Cost 5' x 7' Drift

Expendable Items

Powder & Primers	6.00	per foot
Drill Steel	2.00	" "
2" Air Line	.86	" "
1" Water Line	.25	" "
20# Rail	3.00	" "
4 x 6 Rail ties	.25	" "
Spikes, Splicers & Bolts	.25	" "
18" Vent Bag	1.50	" "
4 Conductor Power Cable (Fans #6)	1.50	" "
2 Conductor Power Cables (Blasting)	.50	" "
Hand tools & Misc. Supplies	2.00	" "
Total	$18.11	

Rental Tools by Month

Hoist	450.00	per month
Compressor (850 CFM)	550.00	" "
Manche Motor & Battery	250.00	" "
Mine Cars (18 cu. yd.)	50.00	" "
Fans (7½ h.p. Joy)	100.00	" "
Rock Drill (Cleveland H10AL0	125.00	" "
Mucking Machine (Eimco 12B)	200.00	" "
Pumps	450.00	" "
Cage & Skip	160.00	" "
Electricity	450.00	" "
4 x 4 Pickup Chev.	150.00	" "
4 x 4 Jeep Station Wagon	150.00	" "
10 Wheel Dump Truck	200.00	" "
HD-5 Loader	300.00	" "
TD-18 Tractor	250.00	" "
	$3,835.00	
Based on 300' per month advance	12.80	per foot

Labor

		Per day @ 6'	per day
Hoistmen		35.00	
2 Miners		70.00	
1 Supervisor	Per day	50.00	
6' per day at		155.00	= 25.83 per foot

Total

Direct Supplies	18.11	per foot
Equipment Rental	12.80	per foot
Labor	25.83	Per foot
10% Repairs & Contingencies	5.94	per foot

Total estimated drifting cost per foot for 5'x7' drift $62.68

Additional Cost for Diamond Drilling
Not accounted for in contracts bid

	Per Month
Hoist	450.00
Compressor	550.00
Fans	100.00
Pumps	450.00
Cage & Skip	160.00
Electricity	450.00
4 Wheel Drive Pickup	150.00
4 Wheel Drive Jeep	150.00
	$2,460.00
1 Topman on Cage	735.00
1 Hoistman	735.00
1 Supervisor	1500.00
	$2,970.00

Outside Consultant

4 days at $100.00	400.00
4 days per diem at $20.00	80.00
	$ 480.00
Equipment figured on rental basis	2460.00
Labor	2970.00
Outside Consultant	480.00
10% for contingencies	591.00
	$6,501.00

Based on 1,000 ft. per month	6.50	per foot
Contractor bid price for drilling NX core only average for 300' holes	15.00	per foot (See Note 1)
Total Dia. Drilling cost per ft.	$ 21.50	

(Note 1) This price does not include drill mud, standby time, move in and out time, and other small incidentals.

Estimated Cost of Work

Fixed unit costs 5' x 7' drift

300' at 62.68/ft.	18,804.00
1 Outside Consultant 2 days @ $100.00	200.00
Per diem outside consultant 2 days @ $20.00	40.00
Transportation for consultant 233 miles @ .12 (rounded	28.00
	$19,072.00
Total Estimated Fixed unit cost drift	$19,072.00
Government Participation @ 50%	9,536.00

Fixed unit cost Diamond Drilling

3100' of NX core at $21.50 per foot	66,650.00
1 Outside Consultant 9 days @ $100.00	900.00
9 days per diem @ $20.00	180.00
633 miles @ .12/mile (rounded)	76.00
Total Estimated Fixed unit cost Diamond Drilling	$67,806.00
Government Participation @ 50%	33,903.00

Miscellaneous

200 core boxes @ $1.00	200.00
250 Assays @ $5.00	1250.00
Total Misc.	1450.00

Total Estimated Actual Cost for Extension

5' x 7' Drift	19,072.00
3100' NX Diamond Drill	67,806.00
Miscellaneous	1,450.00
TOTAL	$88,328.00
Government Participation @ 50%	$44,164.00

SEP 27 1971

Eureka, Utah
Sept. 23, 1971

Dear Bill -

On Wednesday, ~~September~~, I went underground to see the new developments at the Foundy shaft. Glen Larsen met me at the Burgin mine, and at Glen's request, Paul Mogensen accompanied us. While we were underground we were also joined by Sam Smith and Leo Perry, so our expedition almost turned into a field excursion.

After seeing the new exposures, and discussing the geology with Glen and with the Kennecott geologists, I have formed the following impressions:

1) There is about a 70% chance that the east-trending fractures near the end of the south crosscut are the main slip-planes of the Sioux-Ajax fault.

2) However, since a 30% chance remains that the main footwall fracture has not been cut, I would recommend that the OME rules be bent a little, and permission and financial support given to drive the south crosscut another 50 or 60 feet to see if the brecciation diminishes or increases. A confirmed discovery of the main Sioux-Ajax is probably the most important contribution that the Government could make to the East Tintic district right now.

3) I am greatly impressed with the geochemical anomaly in the fissured and altered area in the south cross-cut. I strongly recommend that this area be tested by one or more vertical holes (200-400 feet in depth) with

Government participation, since the chances are good to excellent that these leaches overlie an ore shoot.

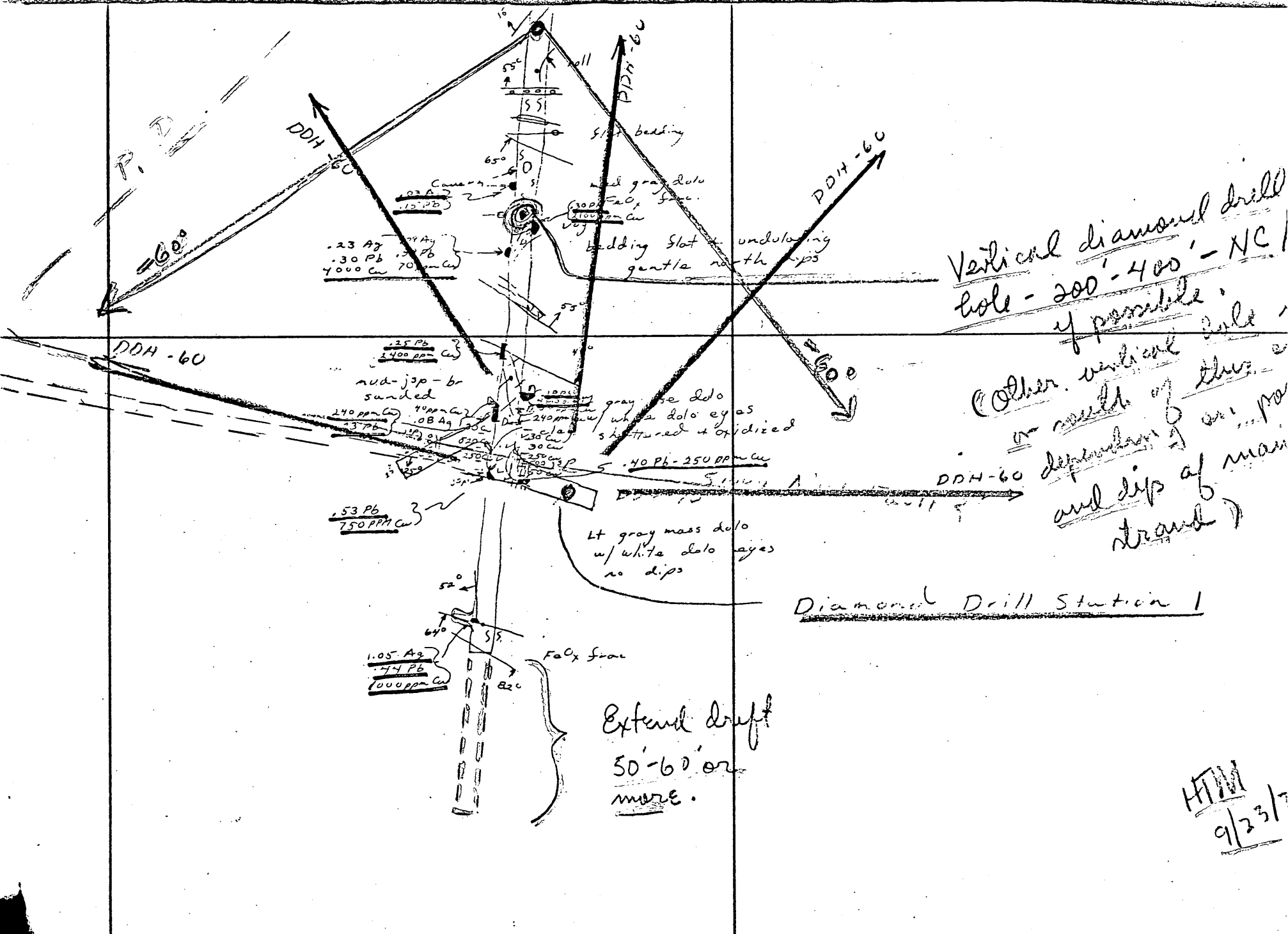
4) If this test, or tests, is/are successful, I would then recommend 2 -60° holes - drilled <u>Lowend</u>, not away from - the inferred Sioux-Ajax fault. One of these down holes should test the intersection of the southwest-trending pebble-dike and the fault.

5) It is possible, I suppose that the geochemical anomaly could be tested by a winze, but at this stage of the game, diamond drilling is cheaper, faster, and can cover a broader area. It was not a mistake to have converted the proposed diamond drilling to cross-cutting as we did earlier, but now that the best prospects appear to be below the 1280-foot level, reinstatement of the drilling footage is recommended.

In summary: it seems likely that the south cross cut has penetrated all or most of the Sioux-Ajax fault zone. The pervasiveness of the brecciation is impressive. The dolomitization and pyritization of these breccias are also impressive. Paramount over these factors are the numerous iron-stained fissure zones that contain assayable quantities of lead, copper, and silver, suggesting that an ore body may underlie them in the fault zone.

All in all, I strongly recommend further Government participation in the venture - If we don't, Kennecott will.

All the best,
Hal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bedding
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.23 Ag
.30 Pb
4000 Cu
bedding slat undulating
gentle north dips
.25 Pb
2400 ppm Cu
mud-jasp-br
sanded
240 ppm Cu
.13 Pb
.08 Ag
gray fine dolo
.40 Pb - 250 ppm Cu
.53 Pb
750 PPM Cu
Lt gray mass dolo
w/ white dolo eyes
no dips
1.05 Ag
.74 Pb
1000 ppm Cu
FeOx frac
Extend drift
50'-60' or
more.
Vertical diamond drill
hole - 200'-400' - NC
if possible.
(Other vertical hole
or results of other
and dips of main
drand)
Diamond Drill Station 1
HTM
9/23/

WESTERN
STATES MINING INCORPORATED
418 S 7 E RIVERTON WYOMING

RECEIVED
SEP 17 1971
Denver, Colorado

TELEPHONE 856 9271

September 16, 1971

William J. Hasler
Field Officer, Region III
Office of Minerals Exploration
Department of Interior
Federal Center 53 Rm. 200
Denver, Colorado 80220

Reference: OME 6646
Contract 2285
Crown Point and East Crown Point Claims
Utah County, Utah

Enclosure: Map 1"=50' showing existing workings, diamond drill holes, and assays

Due to the significant silver-lead-copper mineralization found in the last 300 feet of the south drift, and due to the expenditure of all the funds allocated by the government under the present contract, this report and supporting map request additional funds to further explore this property on the 1280 level and lower horizons.

To adequately explore these mineralized areas it is proposed that a maximum amount of diamond drilling be undertaken to explore beneath the 1280 level. Diamond drilling would be the most economical way to prospect the area below the 1280' level. Additional drifts will be needed to get to other favorable drilling locations and to explore favorable structures presently encountered.

This report recommends that the diamond drill costs be increased to $20/ft. so that the proper drilling procedures and equipment can be utilized. The previous diamond drilling on this contract showed that to obtain better core recovery, larger drilling tools and drilling muds would be needed to increase core recovery. Drilling muds, cementing, standby time, and casing are extras and not included in the contractors footage rates. Also having a hoistman on duty, the compressed air, water, and electricity are not included in the contractors footage rate but have to be borne by the drilling program. Comparing with existing

underground contracts @ $20/ft. cost is thought to be adequate to cover NC and NX wireline drilling.

As shown on the map the following exploration program is recommended with expenditures shown:

Diamond Drill Station 1

Vertical hole	300'	
-60° North	300'	
-60° NE	300'	
-60° NW	300'	
-60° West	300'	
-60° East	300'	
	1800'	@ $20/ft. = $36,000

Drifting

300 feet west to drill station 2
300' @ $40/ft. $12,000

Diamond Drill Station 2

Flat hole south	300'		
Down holes	1000'		
	1300'	@ $20/ft.	$26,000
			$74,000

The 50% participation by the government will amount to $37,000.

The various geologist that have visted the project regularly seem to all agree that we could be skimming the top of the ore deposit, and all have suggested diamond drilling under the level. Another question that several of them have been asked is, could we have this much mineralization without having commercial ore bodies? The normal answer has been, I don't see how with the anomilies as high grade as they have been.

All of these people are professionals that are very familiar with the Tintic Mining District and the occurance of ore bodies there. They include Roger Banghart (formerly with Bear Creek), Hal Morris (USGS), Sam Smith (presently with Kennecott), Paul Mogenson (presently with Kennecott, Chief Geologist), and Max Evans (formerly with Chief Consolidated). Their comments have been very encouraging to us as this program has progressed.

We would appreciate a speedy decision concerning these maters as winter is approaching and we would like to complete as much work as possible during good weather conditions.

Thank you,

John L. Larsen

John L. Larsen
President
Western States Minerals, Inc.

JLL/jb

AMERICAN EXPLORATION & MINING CO.

September 10, 1971

Mr. John L. Larsen
Western States Mining and Contracting, Inc.
418 South 7th East
Riverton, Wyoming 82501

Reference: OME 6646
Contract 2285
Crown Point and East Point Claims
Utah County, Utah

Enclosure: Map 1"=40' showing existing workings, diamond drill holes, and assays

Due to the significant silver-lead-copper mineralization found in the last 300 feet of the south drift, and due to the expenditure of all the funds allocated by the government under the present contract, this report and supporting map requests additional funds to explore this property on the 1280 level and lower horizons.

To adequately explore these mineralized areas it is proposed that a maximum amount of diamond drilling be undertaken to explore beneath the 1280 level. Additional drifts will be needed to get to favorable drilling locations, and to explore favorable structures.

This report recommends that the diamond drill costs be increased to $20/ft. so that the proper drilling procedures and equipment can be utilized. The previous diamond drilling on this contract showed that to obtain better core recovery, larger drilling tools and drilling muds would be needed to increase core recovery. Drilling muds, cementing, standby time, and casing are extras and not included in the contractors footage rates. Also having a hoistman on duty, the compressed air, water, and electricity are not included in the contractors footage rate but have to be borne by the

40-45'

7.6 pb) Int'l + Anaconda - seal.

A subsidiary of placer development limited
687 LYONS AVENUE • P. O. BOX 769 • ELY, NEVADA 89301 • (702) 289-3929

drilling program. Comparing with existing underground contracts @ $20/ft. cost is thought to be adequate to cover NC and NX wireline drilling.

As shown on the map the following exploration program is recommended with expenditures shown:

Diamond Drill Station 1

Vertical hole	300'
-60° North	300'
-60° NE	300'
-60° NW	300'
-60° West	300'
-60° East	300'
	1800' @ $20/ft. = $36,000

#2150

Drifting

300 feet west to drill station 2
300' @ $40/ft. $12,000

65.00

Diamond Drill Station 2

Flat hole south	300'
Down holes	1000'
	1300' @ $20/ft. = $26,000
	$74,000

The 50% participation by the government will amount to $37,000.

Roger C. Banghart

Roger C. Banghart

RCB:ijf

cc: J. W. Hasler (2)

DRAFT

Exploration Contract

Western States Minerals, Inc.

OME-6646

Amendment No. 3

It is agreed this _____ day of _____, 1971, between the United States of America, acting through the Department of the Interior, U.S. Geological Survey, hereinafter called the "Government", and Western States Minerals, Inc., hereinafter called the "Operator", that Exploration Contract 2285 (OME-6646), dated July 10, 1969, as amended, is further amended effective the date of the contract as follows:

1. The date fixed by Article 1(a) of the contract for completion of the work is extended from thirty (30) to forty two (42) months from the date of the contract, or until January 10, 1973.

2. The maximum period for royalty payments as provided in Article 7(b) of the contract and for the lien to secure payment thereof is extended from ten (10) to eleven (11) years from the date of the contract.

3. The estimated total cost of the work as set forth in Article 1(b) and in Exhibit A is increased from $238,230.00 to $326,558.00, and the total amount of Government participation at 25 percent (Stage I) and 50 percent (Stage II) is increased from $75,025.00 to not in excess of $119,189.00.

4. Simple interest at the rate of 8 1/2 percent shall accrue on the Government's contribution of 25 percent (Stage I) and 50 percent (Stage II) toward the accepted total cost not exceeding $75,025.00 (subject to audit), incurred on Stages I and II of the contract. Simple interest at the rate of _____ percent shall accrue on Federal funds contributed toward Stage III of the contract from the date such funds are made available for Stage III work under the contract. Interest on Federal Funds made available for Stages I, II, and III shall accrue until the period specified in the contract for the payment of royalty expires, or until the total amount of Federal funds contributed has been fully repaid, whichever occurs first.

5. In Article 16 of the contract insert the following paragraph under Changes and added provision:

See revised draft

"Special Agreement Concerning Royalty. Notwithstanding the certification provisions of Article 7, and with no further action required on the part of the Government, the Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, or its successor, shall pay to the Government a royalty on production, regardless of where it was produced, which is transported through any workings to the cost of which the Government has contributed, for the period described in Article 7(b)(2) above, and pursuant to the terms of Article 7(c) et seq. However, in no event shall more than one royalty be due or paid under this contract on the same production."

6. In Exhibit A under the heading General Provisions:

a. The sixth paragraph is revised to read as follows:

"No drilling or underground work shall be done within 10 feet of the exterior boundaries of the land outlined on Figure 1 (revised)."

b. The eighth paragraph is revised to read as follows:

"All diamond drill holes drilled from underground locations in Stage II shall be completed with standard Ax (nominal diameter 1-3/16") core size or equivalent wire line size equipment. All diamond holes drilled from underground locations in Stage III shall be completed standard Nx (nominal diameter 2-1/8") core size or equivalent wire line size equipment."

1 3/16" - O.K.

c. The fifteenth paragraph is revised to read as follows:

"The work shall be divided into three stages with Stage I consisting mainly of shaft sinking, and Stages II and III consisting of drifting, crosscutting, and diamond drilling."

d. The sixteenth or last paragraph is revised to read as follows:

"Contract funds not expended to complete work on items in one stage may be applied to work on items in a following stage with the prior written approval of the Government."

7. In Exhibit A under the heading Description of the Work a new section, Stage III, is added to read as follows:

"The work shall consist initially of drilling three exploratory holes from drill sites to be selected by the Operator, with the approval of the Government confirmed in writing. Two of the holes are to be drilled from one station in the south drift on the hanging wall side of the Sioux-Ajax fault zone in a southeast-southwest fan pattern at an angle of minus 60°; a third hole is to be drilled vertically in the south drift from a selected drill station 50 to 60 feet south of the first drill station."

"The present south drift is to be extended south a distance of approximately 100 feet, or to a point not to exceed 10 feet within the exterior boundary of the property outlined on Figure 1 (revised), to determine the location of the footwall side of the Sioux-Ajax fault zone."

"Based on favorable or significant results obtained from the three drill holes and the drift extension, additional exploratory holes may be drilled from selected and approved drill stations and additional drifting or crosscutting to the east or west on the Sioux-Ajax fault zone may be undertaken. Total diamond drill footage shall not exceed 3,100 feet and the total drifting or crosscutting footage shall not exceed 300 feet."

"The approximate locations and bearings of the three initial drill holes and the south drift extension are shown in plan view on Figure 1 (revised)."

8. In Exhibit A under the heading Estimated Costs of the Work a new section Stage III is added to read as follows:

Fixed Unit Costs[1/] [2/]

Drifting and crosscutting, including timbering and preparation of drill sites 300 feet @ $62.68/ft.	$18,804.00	
1 Outside consultant 11 days @ $100.00/day	1,100.00	
Per diem outside consultant 11 days @ $20.00/day	220.00	
Transportation for consultant 866 miles @ $0.12/mile (rounded)	104.00	
Total Estimated Fixed Unit Costs Stage III		$20,228.00

Actual Costs

Category (1) Independent Contracts

Diamond core drilling NX core size 3,100 feet @ $21.50/ft.[3/]	$66,650.00	
		$66,650.00

Category (7) Miscellaneous

None except:

Cardboard core boxes 200 @ $1.00/each	200.00	
Assaying for gold, silver, and copper 250 ~~assays~~ samples @ $5.00/assay	1,250.00	
		$1,450.00

Total Estimated Actual Costs Stage III	$68,100.00
Total Estimated Costs Stage III	$88,328.00
Government Participation @ 50%	$44,164.00

Summary

Total Estimated Cost of Stage I	$176,360.00
Government Participation @ 25%	$44,090.00
Total Estimated Cost of Stage II	$61,870.00
Government Participation @ 50%	$30,935.00
Total Estimated Cost of Stage III	$88,328.00
Government Participation @ 50%	$44,164.00
Total Estimated Cost of Project	$326,558.00
Government Participation	$119,189.00

3/ Covers all costs whatsoever, including mobilization and demobilization, collar pipe, lost casing, cement, drill mud, additives, cementing and redrilling, reaming and installing casing, and standby time.

Except as herein amended, Exploration Contract 2285 (OME-6646), dated July 10, 1969, shall remain in full force and effect.

Executed in quadruplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By_____

Acting Director [Chief, Office of Minerals Exploration]
U. S. Geological Survey

WESTERN STATES MINERALS, INC.

By_____

Title_____

I, _____, certify that I am the Secretary of Western States Minerals, Inc., named as Operator herein; that _____, who signed this amendment on behalf of the Operator, was the president of said corporation; that said amendment was duly signed for and on behalf of said corporation by authority of its governing body, and is within the scope of the corporate powers.

_____

Secretary

(Corporate Seal)

U.S. GEOLOGICAL SURVEY
OFFICE OF MINERALS EXPLORATION

OME-6646
WESTERN STATES MINERALS, INC.

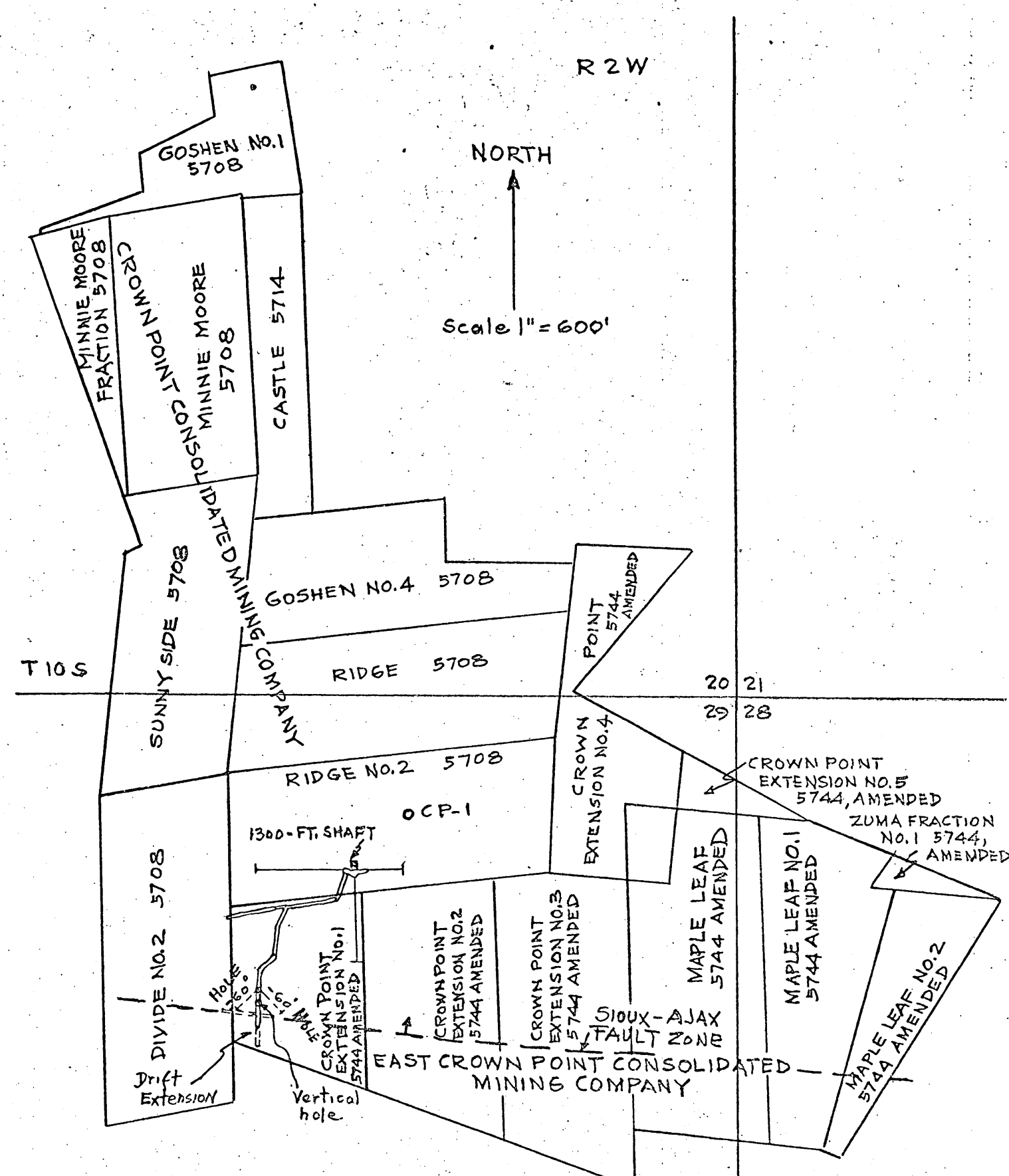


FIGURE 1.- CLAIM MAP AND PROPOSED EXPLORATION, CROWN POINT AND EAST CROWN POINT PROPERTIES, TINTIC MINING DISTRICT, UTAH AND JUAB COUNTIES, UTAH
(REVISED) 10-8-71

COPY
O. M. E.
RECEIVED
OCT 18 1971

INITIALS	CODE
CAC	20
gla	30
	20

Office of Minerals Exploration
Building 53 Room 28

October 15, 1971

Mr. John Larsen, President
Western States Minerals, Inc.
418 South 7th East
Riverton, Wyoming 82501

Re: OMX-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Contract 2285

Dear Mr. Larsen:

Enclosed is a copy of a letter from Hal Morris dated September 23, 1971, concerning his observations after a field inspection of the 1280 level, of the Larsen shaft along with his recommendations. We have carefully considered the recommendations made by both Roger Bangbart and Hal Morris and are recommending a Stage III exploratory program detailed as follows:

The Stage III work shall consist initially of drilling three exploratory holes from drill sites to be selected by the Operator, with the approval of the Government confirmed in writing. Two of the holes are to be drilled from one station in the south drift on the hanging wall side of the Sioux-Ajax fault zone in a southeast-southwest fan pattern at an angle of minus 60°; a third hole is to be drilled vertically in the south drift from a selected drill station 50 to 60 feet south of the first drill station.

The present south drift is to be extended south a distance of approximately 100 feet, or to a point not to exceed 10 feet within the exterior boundary of the property to determine the location of the footwall side of the Sioux-Ajax fault zone.

Based on favorable or significant results obtained from the three drill holes and the drift extension, additional exploratory holes may be drilled from selected and approved drill stations and additional drifting or crosscutting to the east or west on the Sioux-Ajax fault zone may be undertaken.

Total diamond drill footage shall not exceed 3,100 feet and the total drifting or crosscutting footage shall not exceed 300 feet. The estimated total amount requested is $88,328.00. Government participation at 50% will be $44,164.00.

The approximate locations and bearings of the three initial drill holes and the south drift extension are shown in green on the map attached to Hal's letter. We hope this proposed program meets with your approval. Copies of the two new diamond drill bids will accompany our recommendations, as well as all other correspondence and data you have submitted to us.

Sincerely,

J. William Hasler
Field Officer, Region III
Office of Minerals Exploration

Enclosure

cc: R. Banghart
G. Larsen
H. Morris
Chief, OME
Mr. Hasler
OME chron
OME-6646

SEP 27 1971

Eureka, Utah
Sept. 23, 1971

Dear Bill -

On Wednesday, ~~September~~, I went underground to see the new developments at the Foundy shaft. Glen Larsen met me at the Burgin mine, and at Glen's request, Paul Mogensen accompanied us. While we were underground we were also joined by Sam Smith and Leo Perry, so our expedition almost turned into a field excursion.

After seeing the new exposures and discussing the geology with Glen and with the Kennecott geologists, I have formed the following impressions:

1) There is about a 70% chance that the east-trending fractures near the end of the south crosscut are the main slip-planes of the Sioux-Ajax fault.

2) However, since a 30% chance remains that the main footwall fracture has not been cut, I would recommend that the OME rules be bent a little, and permission and financial support given to drive the south crosscut another 50 or 60 feet to see if the brecciation diminishes or increases. A confirmed discovery of the main Sioux-Ajax is probably the most important contribution that the Government could make to the East Tintic district right now.

3) I am greatly impressed with the geochemical anomaly in the fissured and altered area in the south cross-cut. I strongly recommend that this area be tested by one or more vertical holes (200-400 feet in depth) with

Government participation, since the chances are good to excellent that these leaches overlie an ore shoot.

4) If this test, or tests, is/are successful, I would then recommend 2 -60° holes - drilled <u>toward</u>, not away from - the inferred Sioux-Ajax fault. One of these down holes should test the intersection of the southwest-trending pebble-dike and the fault.

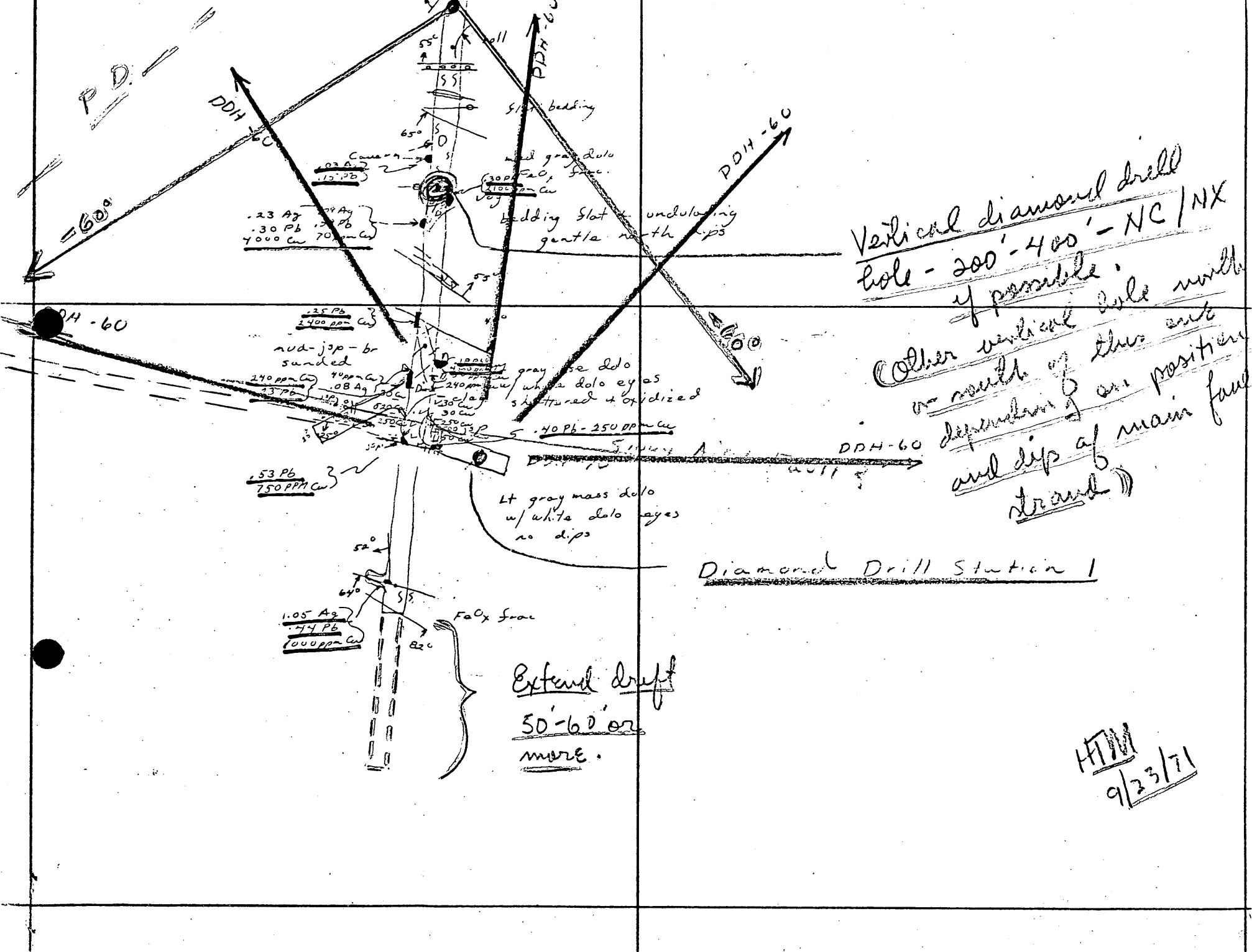
5) It is possible, I suppose that the geochemical anomaly could be tested by a winze, but at this stage of the game, diamond drilling is cheaper, faster, and can cover a broader area. It was not a mistake to have converted the proposed diamond drilling to cross-cutting as we did earlier, but now that the best prospects appear to be below the 1280-foot level, reinstatement of the drilling footage is recommended.

In summary: it seems likely that the south cross cut has penetrated all or most of the Sioux-Ajax fault zone. The pervasiveness of the brecciation is impressive. The dolomitization and pyritization of these breccias are also impressive. Paramount over these factors are the numerous iron-stained fissure zones that contain assayable quantities of lead, copper, and silver, suggesting that an ore body may underlie them in the fault zone.

All in all, I strongly recommend further Government participation in the venture - If we don't, Kennecott will.

All the best,

Hal.


P.D.
DDH-60
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55°
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64°
82°
Slight bedding
Caverns
.03 Ag
.15 Pb
.23 Ag
.30 Pb
4000 Cu
.30 Pb
FeOx frac.
Bedding Slight undulating
gentle north dips
.35 Pb
2400 ppm Cu
mud-jasp-br
sanded
240 ppm Cu
.13 Pb
.08 Ag
.53 Pb
750 PPM Cu
gray fine dolo
white dolo eyes
shattered + oxidized
.40 Pb - 250 DPM Cu
Lt gray mass dolo
w/ white dolo eyes
no dips
1.05 Ag
.74 Pb
1000 ppm Cu
FeOx frac
Vertical diamond drill
hole - 200'-400' - NC/NX
if possible.
(Other vertical hole north
or south of this one
depending on position
and dip of main fault
strand))
Diamond Drill Station 1
Extend drift
50'-60' or
more.
HTW
9/23/71

Form 7
(63)

OFFICIAL FILE COPY

Date	Surname	Code

OCT 4 1971

Lloyd R. Myers
Certified Public Accountant
7280 Irving Street
Suite 11
Westminister, Colorado 80030

Re: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Myers:

This is in reply to your letter of September 29, 1971, requesting the status of the account on the subject contract as of September 30, 1971. The data are as follows:

Government participation paid	$74,985.79
Accrued interest	5,137.65
Total	$80,123.44

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

Copy to:

Western States Minerals, Inc.
111 Westview Drive
Riverton, Wyoming 82501

cc: Director's reading file
Mineral Resources
OME reading file
Region III
Mr. Kirkemo

HKirkemo/cac 10/4/71

7280 IRVING STREET · SUITE II
WESTMINSTER, COLORADO 80030
TELEPHONE 303-428-9565

LLOYD R. MYERS

Certified Public Accountant

OFFICIAL COPY
O. K. R.
RECEIVED
OCT 4 1971
INITIALS | CODE
CAC | 20 MW
| ~~130~~
HK | ~~120~~

September 29, 1971

Harold Krikemo
Chief, Office of Minerals Exploration
U.S. Geological Survey
Interior Building, Room 4461
Washington, D. C. 20242

Re: Western States Minerals, Inc.
Riverton, Wyoming
Exploration Contract No. 2285
Dated: July 10, 1969

Dear Sir:

In connection with the annual audit of the books and records of Western States Minerals, Inc. would you please confirm the balance of Exploration Contract No. 2285 as of September 30, 1971, and the accrued interest thereon.

Sincerely,

Lloyd R. Myers

Lloyd R. Myers

WESTERN
STATES MINING INCORPORATED
418 S 7 E RIVERTON WYOMING

RECEIVED
SEP 17 1971
Denver, Colorado

TELEPHONE 856 9271

September 16, 1971

MAPS - 2 IN MAP FOLDER
DATE STAMPED 10/1/71

William J. Hasler
Field Officer, Region III
Office of Minerals Exploration
Department of Interior
Federal Center 53 Rm. 200
Denver, Colorado 80220

Reference: OME 6646
Contract 2285
Crown Point and East Crown Point Claims
Utah County, Utah

Enclosure: Map 1"=50' showing existing workings, diamond drill holes, and assays

Due to the significant silver-lead-copper mineralization found in the last 300 feet of the south drift, and due to the expenditure of all the funds allocated by the government under the present contract, this report and supporting map request additional funds to further explore this property on the 1280 level and lower horizons.

To adequately explore these mineralized areas it is proposed that a maximum amount of diamond drilling be undertaken to explore beneath the 1280 level. Diamond drilling would be the most economical way to prospect the area below the 1280' level. Additional drifts will be needed to get to other favorable drilling locations and to explore favorable structures presently encountered.

This report recommends that the diamond drill costs be increased to $20/ft. so that the proper drilling procedures and equipment can be utilized. The previous diamond drilling on this contract showed that to obtain better core recovery, larger drilling tools and drilling muds would be needed to increase core recovery. Drilling muds, cementing, standby time, and casing are extras and not included in the contractors footage rates. Also having a hoistman on duty, the compressed air, water, and electricity are not included in the contractors footage rate but have to be borne by the drilling program. Comparing with existing

underground contracts @ $20/ft. cost is thought to be adequate to cover NC and NX wireline drilling.

As shown on the map the following exploration program is recommended with expenditures shown:

Diamond Drill Station 1

Vertical hole	300'	
-60° North	300'	
-60° NE	300'	
-60° NW	300'	
-60° West	300'	
-60° East	300'	
	1800'	@ $20/ft. = $36,000

Drifting

300 feet west to drill station 2
300' @ $40/ft. $12,000

Diamond Drill Station 2

Flat hole south	300'		
Down holes	1000'		
	1300'	@ $20/ft.	$26,000
			$74,000

The 50% participation by the government will amount to $37,000.

The various geologist that have visted the project regularly seem to all agree that we could be skimming the top of the ore deposit, and all have suggested diamond drilling under the level. Another question that several of them have been asked is, could we have this much mineralization without having commercial ore bodies? The normal answer has been, I don't see how with the anomilies as high grade as they have been.

All of these people are professionals that are very familiar with the Tintic Mining District and the occurance of ore bodies there. They include Roger Banghart (formerly with Bear Creek), Hal Morris (USGS), Sam Smith (presently with Kennecott), Paul Mogenson (presently with Kennecott, Chief Geologist), and Max Evans (formerly with Chief Consolidated). Their comments have been very encouraging to us as this program has progressed.

We would appreciate a speedy decision concerning these maters as winter is approaching and we would like to complete as much work as possible during good weather conditions.

Thank you,

John L. Larsen

John L. Larsen
President
Western States Minerals, Inc.

JLL/jb

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration
Building 53 Room 28

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O. M. E.
RECEIVED
OCT 4 1971

INITIALS	CODE
Cal	120
JL	130
HK	120

October 1, 1971

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Through: Assistant Chief, Office of Minerals Exploration

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Enclosed is a copy of a letter from Hal Morris, dated September 23, 1971 and mailed from Eureka, Utah, concerning recommendation for additional exploration in the Sioux Ajax fault zone in the Bluebell dolomite off the 1280 level of the Larsen shaft.

Our recommendation will follow at an early date.

J. William Hasler
J. William Hasler
Field Officer, Region III
Office of Minerals Exploration

Enclosure

SEP 27 1971

Eureka, Utah
Sept. 23, 1971

Dear Bill -

On Wednesday, ~~September~~, I went underground to see the new developments at the Foundy shaft. Glen Larsen met me at the Burgin mine, and at Glen's request, Paul Mogensen accompanied us. While we were underground we were also joined by Sam Smith and Leo Perry, so our expedition almost turned into a field excursion.

After seeing the new exposures and discussing the geology with Glen and with the Kennecott geologists, I have formed the following impressions:

1) There is about a 70% chance that the east-trending fractures near the end of the south crosscut are the main slip-planes of the Sioux-Ajax fault.

2) However, since a 30% chance remains that the main footwall fracture has not been cut, I would recommend that the OME rules be bent a little, and permission and financial support given - to drive the south crosscut another 50 or 60 feet to see if the brecciation diminishes or increases. A confirmed discovery of the main Sioux-Ajax is probably the most important contribution that the Government could make to the East Tintic district right now.

3) I am greatly impressed with the geochemical anomaly in the fissured and altered area in the south cross-cut. I strongly recommend that this area be tested by one or more vertical holes (200-400 feet in depth) with

Government participation, since the chances are good to excellent that these leaches overlie an ore shoot.

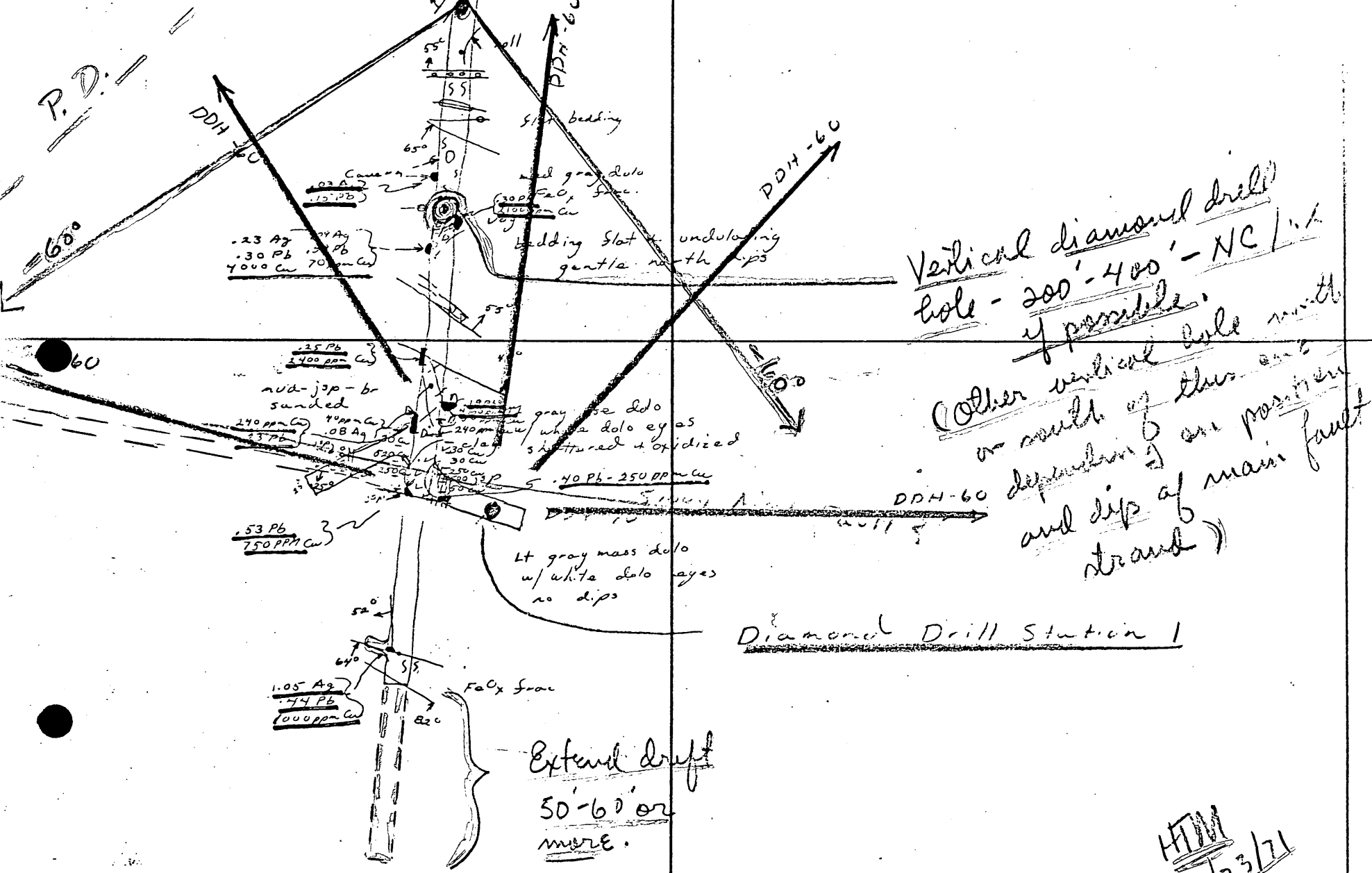
4) If this test, or tests, is/are successful, I would then recommend 2 -60° holes - drilled <u>lowend</u>, not away from - the inferred Sioux-Ajax fault. One of these down holes should test the intersection of the southwest-trending pebble dike and the fault.

5) It is possible, I suppose that the geochemical anomaly could be tested by a winze, but at this stage of the game, diamond drilling is cheaper, faster, and can cover a broader area. It was not a mistake to have converted the proposed diamond drilling to cross-cutting as we did earlier, but now that the best prospects appear to be below the 1280-foot level, reinstatement of the drilling footage is recommended.

In summary: it seems likely that the south-cross cut has penetrated all or most of the Sioux-Ajax fault zone. The pervasiveness of the brecciation is impressive. The dolomitization and pyritization of these breccias are also impressive. Paramount over these factors are the numerous iron-stained fissure zones that contain assayable quantities of lead, copper, and silver, suggesting that an ore body may underlie them in the fault zone.

All in all, I strongly recommend further Government participation in the venture - If we don't, Kennecott will.

All the best,
HAC


P. D.
DDH-60
DDH-60
DDH-60
DDH-60
DDH-60
55°
65°
.03 Ag
.15 Pb
.23 Ag
.30 Pb
7000 Cu
70 ppm Cu
.30 Pb
100 ppm Cu
bedding flat & undulating
gentle north dips
.25 Pb
400 ppm Cu
mud-jasp-br
sanded
240 ppm Cu
.13 Pb
40 ppm Cu
.08 Ag
30 Cu
240 ppm Cu
30 Cu
.40 Pb - 250 ppm Cu
.53 Pb
750 PPM Cu
Lt gray mass dolo
w/ white dolo eyes
no dips
52°
64°
1.05 Ag
.74 Pb
1000 ppm Cu
FeOx frac
Vertical diamond drill hole - 200'-400' - NC
if possible.
(Other vertical hole north or south of this one depending on position and dip of main fault strand)
Diamond Drill Station 1
Extend drift
50'-60' or
more.
HTM
9/23/71

AMERICAN EXPLORATION & MINING CO.

September 10, 1971

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U. M. E.
SEP 16 1971
INITIALS CODE
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120

Mr. John L. Larsen
Western States Mining and Contracting, Inc.
418 South 7th East
Riverton, Wyoming 82501

Reference: OME 6646
Contract 2285
Crown Point and East Point Claims
Utah County, Utah

Enclosure: Map 1"=40' showing existing workings, diamond drill holes, and assays

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A subsidiary of placer development limited
667 LYONS AVENUE • P. O. BOX 769 • ELY, NEVADA 89301 • (702) 289-3929

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-60° East	300'	
	1800' @ $20/ft. =	$36,000

Drifting

300 feet west to drill station 2
300' @ $40/ft. $12,000

Diamond Drill Station 2

Flat hole south	300'	
Down holes	1000'	
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		$74,000

The 50% participation by the government will amount to $37,000.

Roger C. Banghart

Roger C. Banghart

RCB:ijf

cc: J. W. Hasler (2)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration
Building 53 Room 28

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O. M. E.
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August 3, 1971

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Through: Assistant Chief, Office of Minerals Exploration

Subject: OME-6646 (Ag-Cu-Au)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

An interim inspection of the 1300 level off the Larsen shaft was made on June 24, 1971 by the Field Officer, Region III, accompanied by Mr. Glen Larsen, representing the Operator. The Operator had driven the "B" crosscut in a westerly direction an additional 248 feet, and a total distance of 515 feet from the end of the "A" crosscut southwesterly from the Larsen shaft.

The last 248 feet was driven in essentially unaltered blue-gray dolomite that contains moderate to abundant pyrite. The dolomite at the face (515') is black and shaly, and contains abundant pyrite, calcite stringers and pods, and is considerably brecciated. There was a large pod of abundantly oxidized dolomite containing jasperoid, breccia, and manganese oxide in the lower southeast corner of the face. The consulting geologist is of the opinion that the fine grained black dolomite is the so-called "Black Panther" marker bed that lies some 130 feet above the base of the Bluebell Dolomite. Hal Morris of the Geological Survey believes that the workings on the 1300 Level of the Larsen shaft are nearer the middle of the Bluebell Dolomite rather than being in the lower part of it. However, the entire Bluebell dolomite is a very good host rock for ore deposits throughout the East Tintic mining district.

The Operator was advised by the examining geologist, as well as by his consulting geologist, to proceed southerly to the Sioux Ajax fault zone from a point 230 feet from the "A" crosscut along a strong north-south striking pebble dike that was intersected. A sample taken from the pebble dike at the point of turning assayed as much as 0.38 oz. Ag. At last reporting the southerly crosscut had been driven more than 100 feet, but had not yet reached the Sioux Ajax fault zone.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

COPY
O. M. E.
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ala	30
HK	~~20~~

July 19, 1971

Memorandum

To: Chief, Office of Minerals Exploration

Through: Assistant Chief, Office of Minerals Exploration

From: Field Officer, Region III, Office of Minerals Exploration

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Transmitted herewith are the Government's and Budget and Finance's copies of Amendment No. 2 to the subject contract executed by the applicant and the Government.

The Field Office's copy is being retained in the Region III file.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

Office of Minerals Exploration
Building 53 Room 200

July 1, 1971

Cal 120 MJ
~~130~~
HK ~~120~~

Mr. John Larsen
Western States Minerals, Inc.
418 S. 7th E.
Riverton, Wyoming 82501

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Properties
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

Enclosed are the original and three copies of proposed Amendment No. 2 (four pages) and one map (Figure 1, revised May, 1971) to the subject contract signed for the Government.

If the proposed amendment is satisfactory to you, all four copies should be signed by an authorized representative of Western States Minerals, Inc., retain the "Operator's Copy", and return the "Government's Copy", "Budget and Finance's Copy" and "Field Office's Copy" to this office.

If any part of the proposed amendment does not have your approval, the original and all copies are to be returned to this office together with the proposed changes for consideration.

Sincerely yours,

Wilbur L. Emerick

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures
bcc: Chief, OME
OME-6646
OME chron
Mr. Hasler
Mr. Emerick

Mr. Emerick/mc/7/1/71

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
6/29/71	Kirkemo	120
6/29	Kilgaard	
		220
		120
		220
6/21	CAC	120M

AIRMAIL

JUN 2 9 1971

Memorandum

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Enclosed are the original and three copies of proposed Amendment No. 2 (four pages) and one map (Figure 1) to the subject contract, signed for the Government. An extra copy of the amendment is also enclosed for field use.

If the proposed amendment is satisfactory to you and the Operator, all four copies should be signed by an authorized representative of the Operator and distributed in the usual manner.

If any part of the proposed amendment does not have your approval or that of the Operator, the original and all copies are to be returned to this office together with the proposed changes for consideration.

Harold Kirkemo
gla

Harold Kirkemo

Enclosures

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
Mr. Kirkemo
130

GLAult/a 6-29-71

120 HK

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120M

DRAFT 6/10/71
HKirkemo/gla

To Legal 6/11/71

EXPLORATION CONTRACT
WESTERN STATES MINERALS, INC.

OMR-6646

AMENDMENT NO. 2

It is agreed this _____ day of _____, 1971, between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and Western States Minerals, Inc., hereinafter called the "Operator," that Exploration Contract 2285 (OMR-6646), dated July 10, 1969, as amended by Amendment No. 1, is further amended effective the date of the contract as follows:

1. In Exhibit A:

(a) The second paragraph is revised to read as follows:

"The work shall be performed by sinking a vertical shaft from the surface, diamond core drilling from underground sites, and driving crosscuts, drifts, raises, and winzes."

(b) Under the heading Description of the Work, the first paragraph is revised to read as follows:

"The work shall consist of sinking a vertical shaft 1,300 feet, establishing a station near the 1,300-foot level, and crosscutting, diamond core drilling, drifting, and raising or sinking."

(c) Under the heading Description of the Work, Stage II, the entire section is revised to read as follows:

"Drive a crosscut south from the station on the 1,300-foot level for a distance sufficient to establish an exploratory drill

station at its face and to permit crosscuts to be driven east and west from it for exploratory drill sites at their faces.

"From the three drill sites, drill horizontal holes to determine the location of the Sioux-Ajax fault, possible north-south-trending ore channels, northeast-trending mineralized fissures, and any other intervening geologic structures at the 1,300-foot level. From a site at the bottom of the 1,300-foot shaft, drill a vertical hole to determine stratigraphic position with the Bluebell Dolomite Formation. Total diamond drill footage shall not exceed 1,100 feet.

"Based on favorable or significant results obtained from the diamond core drilling, explore north-south-trending mineralized fissures by crosscutting and drifting in a southerly or southwesterly direction to the Sioux-Ajax fault, then drifting east and west along the Sioux-Ajax fault zone. Raises or winzes may be driven as warranted. Total footage of the drifts, crosscuts, raises, or winzes shall not exceed 1,370 feet.

"The approximate locations and plan of the work described are shown in Figure 1 (Revised May 1971) entitled, 'Claim map and proposed exploration, Crown Point and East Crown Point Properties, Tintic Mining District, Utah and Juab Counties, Utah'," attached and made part hereof."

(d) Under the heading "Estimated Costs of the Work, Stage II," the entire section is revised to read as follows:

"Fixed Unit Costs 1/ 2/

Crosscutting, drifting, raising and sinking, including timbering and preparing drill sites,		
1,370 feet @ $37.95/ft. (rounded)	$51,985.00	
1 Outside Consultant,		
9 days @ $75.00/day	675.00	
Per diem, Outside Consultant,		
9 days @ $16.00/day	144.00	
Transportation for consultant,		
633 miles @ $0.12/mile (rounded)	76.00	
Total Estimated Fixed Unit Costs, Stage II		$52,880.00

Actual Costs

Category (1) Independent Contracts

Drilling

Mobilization and demobilization of drill	$ 200.00
Collar pipe -- NX or NC,	
40 feet @ $7.40/ft.	296.00
Diamond core drilling,	
1,100 feet (rounded)	7,012.50

	NX	BX	AX
0 - 250 ft.	$6.60	$6.30	$6.00
250 - 500 ft.	$6.90	$6.60	$6.30
500 - 750 ft.	$7.20	$6.90	$6.60

Actual Costs -- Continued

Lost casing in completed holes,		
175 feet	525.00	
NX @ $3.00/ft.		
BX @ $2.00/ft.		
Cementing and redrilling,		
25 hours @ $13.50/hr.	337.50	
Reaming and installing casing,		
31 hours @ $12.00/hr.	372.00	
Standby time,		
12 hours @ $13.50/hr.	162.00	
		$ 8,905.00
Category (7) Miscellaneous		
None except:		
Cardboard core boxes,		
85 @ $1.00 each	$ 85.00	
		85.00
Total Estimated Actual Costs, Stage II		$ 8,990.00
Total Estimated Costs, Stage II		$61,870.00
Government Participation @ 50%		$30,935.00

Except as herein amended, Exploration Contract 2285 (OME-6646), dated July 10, 1969, shall remain in full force and effect.

This amendment should not be construed to increase the estimated total cost of the contract, the aggregate amount which the Government may be required to contribute, the amount of any item designated as maximum, nor the fixed unit cost of any item of work.

Executed in quadruplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By_____
Chief, Office of Minerals Exploration
U. S. Geological Survey

Western States Minerals, Inc.

By_____

Title_____

I, _____, certify that I am the Secretary of the Western States Minerals, Inc., named as Operator herein; that _____, who signed this amendment on behalf of the Operator, was then president of said corporation; that said amendment was duly signed for and on behalf of said corporation by authority of its governing body, and is within the scope of the corporate powers.

_____
Secretary

(Corporate Seal)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

Cae 120m
130
HK 120

June 11, 1971

Memorandum

To: Chief, Office of Minerals Exploration

Through: Assistant Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Ag-Cu-Au)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

An interim inspection of the 1300 level workings of the Larsen shaft was made on May 24 and 25, 1971. The inspecting geologist was accompanied by Mr. Glen Larsen, the Operator, Hal T. Morris, Geologist, U. S. Geological Survey, Mr. Paul Mogensen and Mr. Sam Smith, Geologists, Tintic Division, Kennecott Copper Corporation.

The Operator had driven southwesterly along a pebble dike for a distance of 153 feet, then crosscutted westerly for 267 feet, for the purpose of intersecting the mineralized fissures that were penetrated by Drill Hole No. 1 West. If a promising mineralized fissure is intersected in the crosscut, a drift will follow southward along it to its intersection with the Sioux Ajax fault zone. Continued crosscutting and/or drifting will be done along the Sioux Ajax fault zone where encouraging mineralized and/or altered zones warrant exploration in search for new and undiscovered ore bodies on the Crown Point and East Crown Point claims. The pebble dike and Bluebell dolomite are considerably oxidized and altered, and contain zones of abundant iron oxide, manganese oxide and some calcite stringers. Both the footwall and hangingwall of the Bluebell dolomite are extremely brecciated and shattered along the pebble dike.

The westerly crosscut intersected a strong, well mineralized, fissure zone including a massive breccia zone containing abundant fresh angular fragments of gray, to dark gray-yellowish-gray dolomite, cemented with dark brown iron and manganese oxides. The highly oxidized portions of the dolomite are considerably sanded, becoming very porous and granular. A sample of this material was taken and will be submitted for assay shortly. The face of the crosscut, or Drift "B", is presently in dark blue, dense, fine- to medium-grained massive dolomite, with abundant pyritic alteration along fractures and joint planes. Considerable amounts of euhedral pyrite occur in the groundmass as well.

Hal Morris and I studied the drill core from Drill Hole No. 1 West and the Vertical Drill Hole No. 4. It was noted that the consolidated, more dense, less altered and less fractured dolomite cored very well but the oxidized, highly altered, sanded dolomite in the fissure zones cored very poorly. The few fragments of core obtained from the fissure zones had been sent for assay thus making accurate observations and determinations difficult, other than to know the drill hole penetrated a fissure zone. The poor core recovery indicates highly fractured, altered, sheared, oxidized and otherwise mineralized ground. The detailed description of the core from Drill Hole No. 1 West is included in my memorandum report to you dated April 1, 1971.

Roger Banghart had mapped the workings on May 21, 1971, and indicated that the mineralized zones were striking more southwesterly and that the westward crosscut should be driven for at least 450 feet. If the larger fissure is not penetrated by that time, it is recommended to proceed south along either a pebble dike that was penetrated at a distance of 230 feet from the end of drift "A". This dike material was sampled by Mr. Banghart and assayed 0.38 oz. Ag, or southward along the breccia zone intersected at a distance of 83 feet westward along drift "B".

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

May 25, 1971

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Rates 1 30

Memorandum

To: Chief, Office of Minerals Exploration

From: W. L. Emerick, Office of Minerals Exploration

Subject: Amendment No. 2
OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

A rough draft of the proposed Amendment No. 2 on the cited contract and a revised Figure 1 are enclosed for your use.

Under Actual Costs, Stage II, I have shown the amounts claimed on the last voucher (February-March 1971) for diamond drilling. The exception is the $85.00 shown on the draft for core boxes. The operator did not claim anything for core boxes but I arbitrarily allotted $85.00 for them and put the rest of the core box money with the money from other items available for transfer to drifting and crosscutting.

The total available from the diamond drilling items for transfer to drifting and crosscutting amounts to $33,010.00. This sum has been added to the item "Crosscutting and drifting, including timbering and preparing drill sites," under Fixed Unit Costs, Stage II, making a total of $51,985.00, or approximately a total footage of 1,370 feet. The draft shows the available amounts used in obtaining the $33,010.00.

Larsen's letter to Hasler, dated May 19, 1971, pretty well explains the reason for preferring drifting over core drilling in the district.

Bill

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

May 24, 1971

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III, Office of Minerals Exploration

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

The Operator, in a letter dated May 19, 1971, which was received in this office May 21, 1971 requested an amendment to the subject contract to transfer a balance of $33,010.00 in diamond drilling costs to crosscutting and/or drifting to explore southward into the Sioux Ajax fault zone in search of new and undiscovered ore bodies.

Diamond drilling completed to date has been costly and difficult. Core recovery in critical areas has been poor and only geologists entirely familiar with the area are able to adequately analyze the material and guide the exploration program. It is therefore advisable to convert the balance of the diamond drilling to crosscutting and/or drifting. I recommend that the contract be so amended.

W. L. Emerick
for J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures: Mr. Larsen's letter to Mr. Hasler dated May 19, 1971
Sketch map on above-captioned subject
Mr. Emerick's draft of Amendment No. 2 to OME-6646

WESTERN
STATES MINING INCORPORATED
418 S 7 E RIVERTON WYOMING

RECEIVED
MAY 21 1971
Denver, Colorado

TELEPHONE 856 9271

May 19, 1971

Mr. J. William Hasler
Field Officer Region III
U.S. Geological Survey
Office of Minerals Exploration
Bldg. 53, Room 200
Denver, Colorado 80225

Re: OME 6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Hasler:

This letter is a request to amend the subject to allow for changes in the procedure of crosscutting, drifting and Diamond drilling as provided under Stage II of the subject contract, Exhibit A, Description of the Work, paragraphs 1 and 2. The amendment should be changed to read as follows:

Starting from the shaft station on the 1285' level, drift south 24 feet, east 20 feet, and west 30 feet to set up diamond drill stations and diamond drill from each face 420 feet west, 166 feet east, 385 feet south and a 228 foot vertical hole. The east-west holes to test north-south fissure, the south hole to locate the Sioux Ajax fault, the vertical hole to give a more exact correlation of our position in the Bluebell dolomite. This would be a total of 1099' of diamond drilling.

420
166
385
228-?
1199

Drift east to intersect fissure cut by diamond drilling. Southwest from the west heading 150 feet then west 440 feet to cut the fissures in a parallel position to the west diamond drill hole. Pick the strongest fissure in east-west drift and drift south approximately 250 feet to Sioux Ajax fault. Then to drift east and west in the Sioux Ajax zone for a distance of approximately 429 feet.

The reason for changing these procedures as outlined in contract are as follows:

The diamond drill core recovery in the fissure zones was very poor in the first 4 holes drilled. Core recovery in the Tintic district has been poor in the past and has been used mostly for geological information in oxidized zones but has been quite successful in sulfide ore zones for blocking out ore bodies when in close proximity to ore bodies.

Drifting is now necessary to adequately sample and prospect fissures cut with initial drilling. Drifting insures a complete look and sampling program when completed. So with this in mind we would like to convert the balance of the drilling monies to drifting. This balance would run approximately 900' of drift.

In consulting with Roger Banghart both on the property and in telephone conversation, he recommended that all the diamond drilling monies be converted to drifting (because of poor core recovery), but that the drift south be drivin on the strongest fissure exposed in the cross-cut.

The work thus far accomplished is very encouraging and we feel that the drifting is certainly justified. The fissures cut in the diamond drilling need to be explored in parallel cross-cutting and the strongest one should be followed to the Sioux Ajax to explore that area.

As shown on the enclosed maps, a 440' west cross-cut drift is recommended. A drift south approximately 250' south to locate the fault then 429' of cross-cutting in the fault to more fully explore its potential is recommended.

It is hoped that with the completion of this work a commercial ore values will be encountered to pay for additional cost of development and exploration.

This amendment shall not be construed to increase the estimated total cost of the contract, the aggregate amount which the Government may be required to contribute, the amount of any item designated as maximum, nor the fixed unit cost of any item of work.

Sincerely,

John L. Larsen

JLL/smh

Enclosures: 6 sketch maps 1285 foot level showing completed work to date along with proposed exploration.

cc: Glen Larsen
Roger Banghart
Clayton Roundy
Cecil Fitch, Jr.

RECEIVED
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HK 120

AMERICAN EXPLORATION & MINING CO.

May 10, 1971

RECEIVED
MAY 11 1971
Denver, Colorado

TO: Jack Larsen, Western States Mining, Inc.

FROM: Roger C. Banghart

SUBJECT: Roundy Shaft, Contract 2285
Request For Ammendment.

OME6646

Western ~~Minerals~~ States

In response to your letter of April 23, 1971, and after consulting with Glen Larsen at the property on April 27, 1971, it is recommended that all remaining diamond drill footage be converted to drifting and crosscutting. This conversion to drifting and crosscutting should be made flexible so as to permit sinking and/or raising to adequately explore mineralized areas.

The examination on April 27th showed that 100 feet of drifting had been completed in a east direction from the shaft and in a west direction from the shaft. Also 150 feet of drifting had been completed southwesterly along the pebble dike as proposed in the report of March 29, 1971. The southwesterly drift (A) was being turned to a S 85° W direction (B) for the recommended 440 feet of crosscutting.

As a guide to formulating this change in contract, as of April 27, 1971, a total of 250 feet of drifting and crosscutting have been completed and 1105 feet of diamond drilling have been completed.

This change in contract will permit adequate drifting to the south into the Sioux Ajax fault zone when crosscut "B" is completed.

Sincerely,

Roger C. Banghart

Roger C. Banghart

RCB:ijf

cc: Bill Hasler
Glen Larsen

COPY

A subsidiary of placer development limited
687 LYONS AVENUE • P. O. BOX 769 • ELY, NEVADA 89301 • (702) 289-3929

Office of Minerals Exploration
Building 53 Room 200

MAY 1(
INITIALS
HK

May 7, 1971

Mr. John Larsen, President
Western States Minerals, Inc.
418 S. 7th East
Riverton, Wyoming 82501

Re: OME-6646 (Silver, Copper, Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear John;

I have reviewed your Operator's Monthly Vouchers for the months of February and March, 1971, claiming costs of drifting and/or cross-cutting and diamond drilling with related costs, as well as consultant's fees, per diem and transportation. Neither of your vouchers carried the total amount spent to date under the subject contract, nor was there a map showing the location and amounts of crosscutting and drilling accompanying the report, even though Mr. Banghart's geologic report includes a map showing the work completed during February and March. I have ot received the extra copies of Roger's map I requested from you some time ago. May I please receive a couple of them, so that Washington will have at least one copy?

I have taken the liberty to revise your voucher so that the costs from Stage I and Stage II are itemized as I tried to inform you via telephone the other day, and am returning them to you for revision.

The drilling under Category (1) Independent Contracts is on an Actual Cost basis, and unless the work was not contracted each item should be accompanied by a statement from the contractor. If the work was done by you using rented equipment, please so state, as this may require another amendment to the contract.

Please include a sketch map along with the usual narrative report.

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

cc: Chief, OME ✓
OME-6646
OME chron
Mr. Hasler

JWHasler/mc/5/7/71

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 Room 200

May 7, 1971

MAY 10 1971

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver, Copper, Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah

Transmitted herewith are the "Government's Copy" and "Budget and Finance's Copy" of Amendment No. 1 on the above-stated contract, signed for the Government and by the Operator. Also transmitted is a copy of a letter pertaining to the contract.

The Operator has retained the "Operator's Copy" of the amendment, and the "Field Office Copy" and "Extra Copy for Field Use" have been retained for the OME Region III field office files.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Branch of Pacific Mineral Resources
345 Middlefield Road
Menlo Park, California 94025

JCH
5/3/71

April 30, 1971

Mr. J. William Hasler
Office of Minerals Exploration
U.S. Geological Survey
Denver Federal Center
Denver, Colorado 80225

OME 6646
Western States

Dear Bill:

Thank you for the copies of Roger Banghart's report of March 29, 1971, and Tom Lovering's preliminary report on the Minturn quadrangle. Both of them will be useful to me.

I will be going over to Utah on May 3rd for 5 or 6 weeks of fieldwork. Soon after I arrive in the East Tintic district, I plan to visit the Larsen operation and satisfy my curiosity about the sedimentary unit at the 1280-foot level and the structure that is currently being followed. If anything unusual turns up, I will give you a call.

Sincerely yours,

Hal

Hal T. Morris

17

gla 1 30
~~HAK 1 20~~

BRENMAN, SOBOL & BAUM
ATTORNEYS AND COUNSELORS AT LAW
1321 BANNOCK STREET
P. O. BOX 4415
DENVER, COLORADO 80204

LEO T. ZUCKERMAN
MARTIN ZEROBNICK
MELVIN ROSSMAN
JAY E. LUTZ
RICHARD M. KRANZLER
ARTHUR L. FINE
EDMUND L. EPSTEIN
ALBERT BRENMAN
NATHAN LEE BAUM
ELLIS J. SOBOL

STEPHEN N. BERKOWITZ
ROBERT S. MITCHELL
RAYMOND L. FRIEDLOB

CIVIC CENTER PROFESSIONAL BUILDING
TELEPHONE (303) 292-5150

April 28, 1971

Mr. J. William Hassler
Office of Minerals Exploration
United States Geological Survey
Building 53, Room 200
Denver, Colorado 80225

Dear Mr. Hassler:

Here are copies of amendments to the contract pursuant to instructions from Jack Larsen of Western States Minerals, Inc. I hope everything is satisfactory.

Very truly yours

BRENMAN, SOBOL & BAUM

Albert Brenman

Albert Brenman

AB/jj

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 Room 200

OFFICIAL COPY
O. M. E.
RECEIVED
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INITIALS CODE

April 20, 1971

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Juab and Utah Counties, Utah
Contract 2285

Enclosed is a report on the subject property by Roger C. Banghart dated March 29, 1971 proposing crosscutting from the Larsen 1300-level to further explore for the Sioux Ajax fault zone, as substantiated by diamond drilling to the east, west and south.

Mr. Banghart sent only one map with the report, and I have requested some additional copies for our use, one of which will be sent to you upon its arrival here. You and I, Kirk, reviewed the map during your visit here in the first part of April.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

AMERICAN EXPLORATION & MINING CO.

March 29, 1971

C O P Y

TO: Jack Larsen

FROM: Roger C. Banghart

SUBJECT: Proposed Drifting Program 1280 Level, Roundy Shaft. OME 6646.

ENCLOSURE: (1) Geologic Plan Map, 1280 Level, Roundy Shaft, 1"=20'.
(2) Assays - 1280 Level Roundy Shaft, East drift along DDH 3.

The enclosed 20 scale map shows the three flat diamond drill holes drilled from the bottom of the Roundy Shaft. Assay intervals and geology are also shown.

The purpose of this drilling was to determine the existence of favorable ore bearing structures away from the shaft station. Using this data an exploration program of drifting and crosscutting is recommended.

It was determined that to the east, the area available to exploration was limited due to the volcanics being encountered at 125 feet. However, a slusher drift (Drift C) was extended along DDH 3 to explore the jasperoid zone drilled between 18 and 26 feet. The north-south striking, 1 foot wide jasperoid zone assayed .36% Pb, .03 oz/T Ag, and 260 ppm Cu. The northwest striking argillized dike in the face assayed .79% Pb in a 2 foot sample. A N 20° E - 6" wide pebble dike was encountered in the first round shot along the drill hole and assayed .21 oz/T Ag.

As shown on the map, DDH 1 to the west encountered six significant mineralized structures through a distance of 410 feet. These structures contained values in copper and zinc.

DDH 2 to the south encountered significant values in copper, zinc, lead, and silver and was terminated at 386 feet in a mineralized dike and sedimentary breccia. DDH 2 would be approaching the Sioux Ajax fault.

A vertical drill hole DDH 4 was drilled down from the station for a distance of 145 feet. The dips in the core shows the beds to dip a maximum of 15° and the dips in the station indicated a gentle roll to the Bluebell beds. Pisolite beds occur from 26 feet to 129 feet below the level and sponge coral occurs at 75 feet in the hole. It appears there is approximately 350 feet of Bluebell dolomite in the vicinity of the shaft. The 1280 level is probably 50 feet above the top of the Fishaven dolomite. The Fishaven is an excellent host for replacement ore bodies in this district.

It should be noted that the core recovery in the mineralized zones was very poor.

RECOMMENDATIONS

It is proposed that the mineralized structures encountered in DDH 1 be explored closer to the Sioux Ajax fault.

It is further proposed that the most significant structure encountered in this crosscutting be drifted upon to the south through the Sioux Ajax fault zone.

The program to be followed is shown on the enclosed map and is sufficently flexible so as to allow for variations in newly discovered geological features and structures.

Drift "A" will explore southwesterly along the pebble dike for approximately 150 feet. Depending on what significant geologic features are encountered in drift "A", drift "B" will crosscut in a westerly direction for approximately 440 feet, exploring and sampling all structures encountered.

Upon completion of drift "B" the most significant structure encountered will be drifted upon to the south into and through the Sioux Ajax fault.

Not through the fault if it is part mineral.
Kirkpatrick

Roger C. Banghart

Roger C. Banghart

RCB:ijf

Enclosure
cc:William Hasler
Glen Larsen

PHILLIPS ASSAY LAB

March 23, 1971

Sample No.	Au	Ag	Pb	Zn	Cu	
B-17715	Tr	Tr	.79	Tr	.009	2' Hor Face Dike, east drift.
B-17716	Tr	Tr	.36	Tr	.026	1' Jsp w/clay-face of east drift.
B-17717	Tr	.03	.21	Tr	.007	2' Jsp left wall, east drift.
B-17718	Tr	.21	Tr	Tr	.005	6" pebble dike - 1st round, east drift.

1280 Level Roundy Shaft

East drift along DDH 3

Office of Minerals Exploration
Building 53 Room 200

April 16, 1971

Mr. John Larsen, President
Western States Minerals, Inc.
418 S. 7th E.
Riverton, Wyoming 82501

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

Enclosed are the original and three copies of proposed Amendment No. 1 (two pages), and one map, Figure 1 (revised), to the subject contract, signed for the Government.

If the proposed amendment is satisfactory to you, all four copies should be signed by a duly authorized representative of Western States Minerals, Inc., retain the "Operator's Copy" and return the "Government's Copy", "Budget and Finance's Copy" and the "Field Office's Copy" to this office.

If any part of the amendment does not have your approval, the original and all copies are to be returned to this office together with the proposed changes for consideration.

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

cc: Glen Larsen
Chief, OME
OME-6646
OME chron
Mr. Hasler

E Form 7
/63)

OFFICIAL FILE COPY

Date	Surname	Code
4/13/71	Emerick	120
4/13/71	Kirkemo	
4/13	Kilgood	
4/13	Case	130
		220
		120M

AIRMAIL

Memorandum

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Enclosed are the original and three copies of proposed Amendment No. 1 (two pages), and one map, Figure 1 (revised), to the subject contract, signed for the Government. An extra copy of the amendment is also enclosed for field use.

If the proposed amendment is satisfactory to you and the Operator, all four copies should be signed by a duly authorized representative of the Operator and distributed in the usual manner.

If any part of the proposed amendment does not have your approval or that of the Operator, the original and all copies are to be returned to this office together with the proposed changes for consideration.

Harold Kirkemo gla

Harold Kirkemo

Enclosures

cc: Director's Reading File
Mineral Resources File
OME Docket
OME Reading File
Mr. Kirkemo
130

BSLong/1 4/13/71

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 Room 200

April 5, 1971

OFFICIAL COPY
O. M. E.
RECEIVED
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INITIALS | CODE
glc | 120
glc | 20
RK | 20
WE | 120

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point
Utah and Juab Counties, Utah
Contract 22~~92~~65

An interim inspection was made on the subject property March 19 and 20th, 1971. The Field Officer was accompanied by Messrs. Glen Larsen, John Larsen, representing the Operator, and Mr. Roger Banghart, Consulting Geologist.

Some crosscutting and considerable diamond drilling had been completed from the 1300 level of the Larsen Shaft since my last inspection. There was 16' of crosscut driven southward, 28' westward, and 42' eastward from the 1300-level to open up enough ground to ascertain the most feasible method of exploring for the Sioux Ajax fault zone within the mineralized Bluebell dolomite of Ordovician Age.

Drilling was proposed to test the zone to the south, east and west, and vertically as well. Drill Hole No. 1 - West, was drilled to a total depth of 410.0' at an approximate +5 degrees. The hole was within the Bluebell dolomite all the way, and intersected three well-mineralized jasperoid fissure zones at intervals of 14.5' - 19.0', 184.0' - 194.5' and 225.0' - 242.0'. Core recovery in the mineralized zone was not good and in most instances was less than 20 percent, due to the vuggy, fractured, nature of the dolomite as well as in the fissure zones. Each fissure zone contained significant quantities of brecciated iron-stained dolomite and black jasperoid with MnO, typical of the Bluebell dolomite in other areas in the East Tintic district where ore bodies have been discovered. Drill hole No. 2 - south, was bottomed at 386' after having twisted off the rods and

drilling became too costly and core recovery became too low. This ground contained largely vuggy iron-stained brecciated Bluebell dolomite, that included abundant jasperoid, calcite stringers and calcite scalenohedrons, in vugs. Altered porphyry was penetrated at 63.0' - 69.0' and between 355.0' and 365.0'. The last 21.0' contained mixed brecciated limestone, porphyry, black dense jasperoid and manganese oxide. Only 20% core recovery was obtained in the bottom 21.0' of drill hole. The brecciated, mineralized nature of the rocks may indicate dolomite and black jasperoid with MnO, typical of the Bluebell dolomite in other areas in the East Tintic district where ore bodies have been discovered. The brecciated, mineralized nature of the rocks may indicate that the Sioux Ajax fault zone is nearer the Larsen shaft than was first anticipated and that there may be an increasing amount of porphyry southward in the fault zone.

Drill Hole 3 - East, was drilled to a total depth of 164 feet, and penetrated fractured iron-stained Bluebell dolomite, a massive pyrite zone between 18.0' - 24.0', that contained black and brown jasperoid, clay and limonite was intersected. Deeper in the hole there were increased amounts of porphyry, flow-banded volcanics that may be dipping southeastward from the Larsen shaft area, this zone was between 124.0' - 142.0'.

A fourth hole was drilled 145.0' vertically below the 1300 level to ascertain the possible thickness of the Bluebell dolomite and to obtain some stratigraphic control that may be critical to the project. Logging of the hole indicated that the underlying Fish Haven dolomite lies between 50.0' - 76.0' below the 1300-level as indicated by the occurrence of pisolitic beds and some sponge corals that are diagnostic of the Fish Haven dolomite. These data, if correct, give us a total thickness of Bluebell dolomite of approximately 300.0'± between 1,066.0' and 1,367.0', inclusive of the porphyry sills and/or dikes, penetrated by the Larsen shaft within the Bluebell dolomite, below the rubble zone.

Because of the difficulties in obtaining adequate core recovery in critically mineralized zones within the Bluebell dolomite it was recommended that a crosscut be driven southward for approximately 150.0' along the pebble dike that was intersected in the West crosscut, between 11.0' and 12.0' west of the shaft.

The reasoning behind the drifting along the pebble dike is that in some mines in the East Tintic, as in the Tintic Standard mine, the larger pebble-dike fissure veins were mined for their gold-silver-copper content where they attain sufficient grade and width to constitute ore.

"Of special interest in the East Tintic district are tabular bodies of intrusion breccia -- locally termed "pebble dikes" -- that contain abrasion-rounded fragments of quartzite together with less abundant disc-shaped pieces of shale and limestone in a matrix of pulverized rock. These breccias, which occupy the same north-north-easterly-trending fissure that also localize dikes of monzonite porphyry and veins of ore, are believed to have been emplaced explosively by rapidly expanding gases, perhaps chiefly steam, that were generated when invading monzonite bodies encountered zones of underground water. Some pebble dikes may also have been explaced by upwelling viscous monzonite magmas and by gases suddenly expelled from them."1/

1/ Shepard, W. M., Morris, H. T., and D. R. Cook, 1969, Geology and Ore Deposits of East Tintic Mining District, Utah, Utah Geological and Mineralogical Society Bull. 82, p. 219.

A crosscut westward should be driven for possibly 400 feet to intersect each of the three jasperoid fissure zones penetrated in diamond drill hole No. 1 - West, then explore further southward into the Sioux Adjax fault zone along one of the most promising fissure zones. The mineralized nature of the Bluebell dolomite to the west is presently the most promising area from which to explore the Sioux Ajax fault zone, and also encounter less porphyry, at least as is indicated from drilling and drifting eastward and drilling southward from the Larsen shaft. The east crosscut from the shaft was driven for 42.0' and penetrated a black, dense, massive pyritized porphyry at about 40.0'. The No. 3 - East drill hole showed only FeOx dolomite to 124.0'. The tables below described the mineralized zones and shows resultant sampling, mostly from fragmentary core.

OME-6646 (SILVER)

LARSEN SHAFT DRILLING

1300 LEVEL

HOLE NO. 1 WEST +5° T.D. 420.0'

SAMPLE INTERVAL	Au (oz.)	Ag (oz.)	Pb%	Zn%	Cu%	REMARKS
14.5 - 19.0'	Tr	Tr	Tr	0.32	.026	Vein material, dolomite Bx, FeOx, Mn and Calcite.
19.0' - 21.5'	Tr	Tr	Tr	0.24	.052	Dolomite Bx, minor black jasperoid, massive FeOx, limonite.
185.0' - 195.0'	Tr	Tr	Tr	0.41	.078	Vein material, vuggy black jasperoid and calcite scalenohedrons.
195.0' - 200.0'	Tr	Tr	Tr	0.37	.078	FeOx, sanded dolomite
200.0' - 202.6'	Tr	Tr	Tr	0.20	.075	FeOx, mud, jasperoid fragments.
209.0' - 210.0'	Tr	Tr	Tr	0.20	.052	Fractured dolomite, massive yellow mud.
220.0' - 240.0'	Tr	Tr	Tr	0.11	.049	4.0' in 20 Rec. = 20%. Vein material fragments vuggy, oxidized jasper plus few malachite specs.
Jack Larsen Fragments	Tr	0.05	0.4	0.30	.490	
274.0' - 296.0'	Tr	Tr	Tr	0.13	.009	Thoroughly oxidized dolomite, Mn streaks.
296.0' - 297.0'	Tr	Tr	Tr	0.10	.026	Vuggy jasperoid and calcite healed Bx.

OME-6646 (SILVER)

LARSEN SHAFT DRILLING

1300 LEVEL

HOLE NO. 1 WEST +5° T. D. 420.0'

(Continued)

SAMPLE INTERVAL	Au (oz.)	Ag (oz.)	Pb%	Zn%	Cu%	REMARKS
29[illegible].0' - 318.0'	Tr	Tr	Tr	Tr	.013	Vuggy jasperoid and calcite healed Bx.
368.0' - 375.0'	Tr	Tr	Tr	Tr	.010	FeOx, dolomite, black jasperoid fragments veinlets dolomite.
382.0' - 387.0'	Tr	Tr	Tr	Tr	.013	Same as interval 368.0' - 375.0'.
			Ave.	0.18	.074	

OME-6646 (SILVER)

LARSEN SHAFT DRILLING

1300 LEVEL

HOLE NO. 2 SOUTH +5° T.D. 386.0'

SAMPLE INTERVAL	Au (oz.)	Ag (oz.)	Pb%	Zn	Cu%	REMARKS
63.0' - 69.0'	Tr	.06	.36	Tr	.013	Porphyry argillized dike with black jasperoid.
Hasler sample porphyry dike 1300 level, west	.001	.05	.40	----	.010	
79.0' - 91.0'	Tr	.05	.098	Tr	.013	Massive pyrite, vuggy FeOx dolomite Bx.
138.0' -144.0'	Tr	Tr	Tr	Tr	.013	FeOx dolomite Bx.
155.0' - 160.0'	Tr	Tr	Tr	.21	.029	Vuggy Bx dolomite calcite scalenohedrons in vugs.
174.0' - 177.0'	Tr	Tr	Tr	Tr	.026	Vuggy FeOx dolomite.
177.0' - 186.0'	Tr	Tr	Tr	Tr	.026	Vuggy FeOx dolomite.
195.0' - 203.0'	Tr	Tr	Tr	.14	.008	Vuggy FeOx dolomite.
203.0' - 213.0'	Tr	Tr	Tr	Tr	.026	Vuggy FeOx dolomite, barite, and scalenohedrons.
254.0' - 265.5'	Tr	Tr	Tr	Tr	.028	Vuggy FeOx speckled dolomite with calcite in vugs. Barite at 256.0' and clay.
266.0' - 290.0'	Tr	Tr	Tr	Tr	.010	Vuggy FeOx dolomite speckled with calcite in vugs.
355.0' - 365.0'	Tr	Tr	Tr	Tr	.017	Thoroughly FeOx porphyry dike.

OME-6646 (SILVER)

LARSEN SHAFT DRILLING

1300 LEVEL

HOLE NO. 2 SOUTH +5° T. D. 386.0'

(Continued)

SAMPLE INTERVAL	Au(oz.)	Ag (oz.)	Pb%	Zn%	Cu%	REMARKS
65.0' - 386.0'	Tr	Tr	Tr	Tr	.056	Mixed BxLs, porphyry, black dense jasperoid, Mn Oxide. Recovered 4.0' core in 21 ft. drilling approximately 20% core recovery
				Ave.	.021	

OME-6646 (SILVER)

LARSEN SHAFT DRILLING

1300 LEVEL

HOLE No. 3 EAST +5° T. D. 164.0'

SAMPLE INTERVAL	Au (oz.)	Ag (oz.)	Pb%	Zn%	Cu%	REMARKS
11.0' - 18.0'	Tr	Tr	Tr	Tr	.024	Fractured dolomite, FeOx vuggy with MnO & calcite.
18.0' - 24.0'	Tr	Tr	.18	Tr	.075	Fissure zone, massive pyrite, black and brown jasperoid, clay and limonite.
24.0' - 30.0'	Tr	Tr	Tr	Tr	.010	Fractured FeOx dolomite.
40.0' - 47.0'	Tr	Tr	Tr	Tr	.014	Cavernous dolomite, fractured purple scalenohedrons of calcite.
47.0' - 55.0'	Tr	Tr	Tr	Tr	.052	Same as interval 40.0' - 47.0'.
56.0' - 63.0'	Tr	Tr	Tr	Tr	.007	Leached vuggy, brown stained dolomite.
108.0' - 117.0'	Tr	Tr	Tr	Tr	.035	Fractured, leached dolomite yellow and brown stringers.
124.0' - 142.0'	Tr	Tr	Tr	Tr	.024	Porphyry, volcanics, flow banded possibly from volcanics dipping south from Larsen shaft.--??
				Ave	.030	
142.0' - 164.0'						

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

Office of Minerals Exploration

IN REPLY REFER TO:

March 3, 1971

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RECEIVED
MAR 5 1971
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JW | 30
bal | 20 N
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WE | 20 E

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 22~~92~~85

Enclosed is a request from the Operator to amend the subject contract to allow for a change in procedure of exploration work dictated by current geologic structure encountered at the bottom of the Larsen shaft in the Bluebell dolomite.

The reasons for the changes are included in the request, as well as in my interim inspection report of February 24, 1971, and a copy of Mr. Roger Banghart's report to the Operator dated February 16, 1971.

I recommend the contract be so amended, as it will allow for a more carefully conducted and hopefully more successful exploration program.

Enclosure

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

PRESIDENT - GLEN LARSEN
SECRETARY AND
TREASURER - JOHN L. LARSEN

VICE PRESIDENT - LESLIE W. LARSEN
VICE PRESIDENT - LLOYD LARSEN

WESTERN STATES MINING AND CONTRACTING, INC.
CUSTOM MINING AND MINING CONTRACTORS
418 S. 7th E.
RIVERTON, WYOMING

TELEPHONE: 856-2796

March 1, 1971

Mr. J. William Hasler, Field Officer Region III
U.S. Geological Survey
Office of Minerals Exploration
Bldg. 53, Room 200
Denver Federal Center
Denver, Colorado 80225

Re: OME 6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Hasler:

This letter is a request to amend the subject to allow for changes in the procedure of crosscutting, drifting and Diamond drilling as provided under Stage II of the subject contract, Exhibit A, Description of the Work, paragraphs 1 and 2. The amendment should be changed to read as follows:

"Starting from the shaft station on the 1300 Level, crosscut south, east, and west an undetermined distance in the Bluebell dolomite to determine the extent of mineralization, and its dip and strike, then diamond drill from each of the faces an estimated 500 feet east, west and south into the Sioux Ajax fault zone as well as to test for possible north-south trending ore channels as they approach to Sioux Ajax fault zone, as well as to intersect north-east trending fissures that are characteristic of fissure and replacement ore bodies in the Bluebell dolomite in the East Tintic district. Drilling to the south will also determine whether or not a monzonite plug may lie south of the Larsen shaft and might cut off the Sioux Ajax fault zone. Porphyry sills, pebble dikes, jasperoid and manganese oxide zones may be explored by the drilling, then additional crosscutting and/or drifting may be done to more adequately and economically to explore for new and undiscovered silver-copper-gold ore bodies in the Bluebell dolomite; some work northward may be indicated as drilling progresses.

"From the proposed crosscuts and drifts on the 1300 foot level at sites to be selected by the Operator and with the approval of the Government confirmed in writing, drill additional holes east and west, north or south inclined above and below and at the 1300 foot level, if drilling is indicated at that point in time, not to exceed a total of 4,000 feet."

The reason for changing these procedures as outlined on the contract are as follows:

On February 13, 1971, an examination was made of the Larsen shaft and the 1300 station. The purpose of this examination was to determine the best possible manner for further exploring the Crown Point fissure zone and its confluence with the Sioux-Ajax fault. Aiding in this examination were William Hasler, Jack Larsen, Glen Larsen, Max Larsen, Sam Smith and Max Evans.

Examining the ground below the volcanics from 1085 feet to the 1300 station, it is apparent that the Bluebell formation has been hydrothermally altered. The Bluebell is fractured, sanded, oxidized and contains calcite veinlets. A large cavern was present in the southeast corner of the station. A N 12° E striking, one foot wide pebble dike is present 15 feet west of the shaft. A N 50° W steeply dipping argillized porphyry dike is present 25 feet west of the shaft which contains jasperoid and pryrite. Lead, zinc and silver values are present in anomalous amounts throughout the Bluebell formation in these workings.

The work thus far accomplished is very encouraging and further exploring is justified. The east-west extent of the Crown Point fissure zone needs to be explored and the location of the Sioux-Ajax fault needs to be known before further drifting or sinking can be recommended.

As shown on the enclosed maps three initial 500 foot flat diamond drill holes are recommended. From the 1300 station a 500 foot hole diamond drilled to the east and a 500 foot hole to the west would help define and explore the Crown Point fissure zone. A 500 foot hole south would help position the Sioux-Ajax fault zone.

Upon completion of these three holes a further evaluation will be made in order to determine if further drilling is necessary before drifting can begin. It is possible that further shaft sinking may be required.

This amendment shall not be construed to increase the estimated total cost of the contract, the aggregate amount which the Government may be required to contribute, the amount of any item designated as maximum, nor the fixed unit cost of any item of work.

Sincerely,

John L. Larsen

JLL/smh
Enclosed: 2 Sketch Maps 1"=20', 1300 foot station Larsen shaft.
Revised Engineering Map 1"=300' showing proposed drilling program and Crown Point Fissure zone.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration
Building 53 Room 200

February 24, 1971

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME 6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Control 2285

An interim inspection of the Larsen shaft was made February 13, 1971 by the Field Officer, Region III in company with Messrs. Glen, John and Max Larsen representing the Operator and Mr. Roger Banghart, their consulting geologist. Others present during the inspection were Mr. Clayton Roundy, President of Crown Point Consolidated Mining Co., owners of the claims listed in Annex I, Exhibit A of the subject contract, and Mr. Sam Smith, Geologist, Kennecott Corporation, Tintic Division, and Mr. Max T. Evans, formerly geologist for the Chief Consolidated Mining Company, who has spent many years in the Tintic Mining District.

Mr. Banghart has mapped the Larsen shaft especially through the rubble zone, and the workings at the bottom of the shaft. The Larsen shaft has been completed to a depth of 1300 feet, and penetrated some 1,066 feet of Tertiary volcanics, then about 20 feet of mineralized and oxidized Bluebell dolomite containing abundant jasperoid pebbles, then an altered monzonite porphyry was penetrated for some 100 feet, followed by 114 feet of altered highly oxidized, brecciated Bluebell dolomite containing abundant jasperoid pebbles that contain some massive pyrite and some with manganese oxide. Within the Bluebell dolomite are pods and lenses of altered dike material. The station was silled out at 1280 feet leaving some 21 feet for the sump and loading pocket arrangements.

Some 45-1/2 feet of crosscutting east and west was done prior to the interim inspection to obtain as much exposure of the Bluebell dolomite as was possible to permit a geologic appraisal of the area at the bottom of the Larsen shaft. The beds strike from S 63° East to nearly East-West and dip from 10°-20° south, then strike southwesterly and dip South 5-15° with some warping. The most westerly face is 23 feet from the shaft and contains a mineralized porphyry dike striking North 40-50° West. The dike contains abundant jasperoid pebbles, with iron oxide, massive pyrite and some manganese oxide. A 12 inch steeply dipping pebble dike strikes N 10° E 10° some 7 feet back from the face. In the east

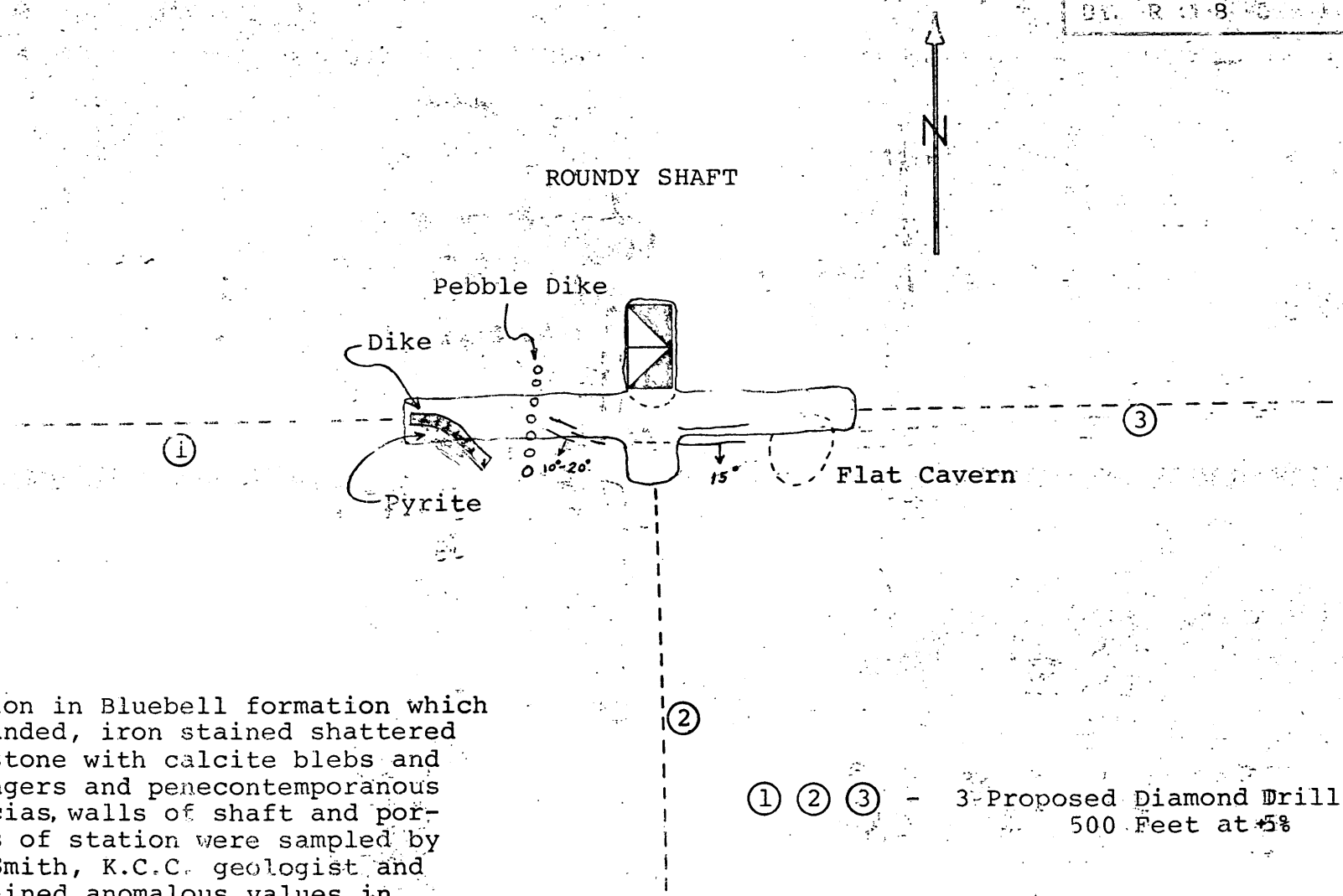
face, some 17 feet from the shaft the Bluebell dolomite was highly brecciated, sanded and considerably oxidized, and contained a cavity some 18 inches in diameter lined with spectacular rhombohedrons and scalenohedrens of calcite.

The consulting geologist, Mr. Banghart, recommends that the operator cut diamond drill stations and drill three diamond drill holes, 500 feet each at a + 5 degree, east, west, and south, before proceeding to drive crosscuts and or drifts in to the Sioux Ajax fault zone itself. A drill hole 500 feet south would test the extent of the Bluebell dolomite and also ascertain whether or not a massive porphyry plug might obliterate the Sioux Ajax fault zone near its projection with the Larsen 1300 level, which should be 400-500 feet south of the Larsen shaft, or whether or not the overlying volcanic dips southward steeply enough to cut out the Sioux Ajax fault south of the shaft. The Bluebell dolomite has been penetrated for a total of 134 feet less the 100 feet monzonite dike or sill that lies between 1,086 and 1,186 feet in the shaft. The 500 foot eastward drill hole will explore for any strong north-south-trending ore channels or northeast trending veins. The channel system of breccia zones, and pebble dikes containing ore stage mineralization that consists of galena, jasperoid and manganese oxide, which is similar to the mineralized material just observed and described in the Bluebell dolomite at the bottom of the Larsen shaft, and as has been evident for some 234 feet.

west drill hole?

Grab samples from the Larsen shaft at depths between 1,232 feet and 1,252 feet taken by Sam Smith, Geologist, Kennecott Corporation, showed the following assay results:

Depth	Pb %	Zn %	Ag Oz/T	Au Oz/T	Cu%
1,232	0.8	Tr.	0.7	0.010	.002
1,245	0.6	Tr.	0.6	0.009	.002
1,248	0.6	0.1	0.4	0.044	.002
1,252	0.4	0.4	0.5	Tr	.018



Station in Bluebell formation which is sanded, iron stained shattered limestone with calcite blebs and stringers and penecontemporanous breccias, walls of shaft and portions of station were sampled by Sam Smith, K.C.C. geologist and contained anomalous values in silver, lead, and zinc.

1 2 3 - 3 Proposed Diamond Drill Holes
500 Feet at +5%

MAP ACCOMPANYING FIELD OFFICER'S INTERIM INSPECTION REPORT
February 24, 1971

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
3/1	COC	220
		120 M

1971

Lloyd R. Myers
Certified Public Accountant
7280 Irving Street
Suite 11
Westminister, Colorado 80030

Re: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Myers:

In reply to your letter of February 22, 1971 requesting information on the balances as of December 31, 1970 on the subject contract, the following data are submitted:

Balance of principal	$34,044.42
Accrued interest	2,000.58

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

Copy to:

Western States Minerals, Inc.
111 Westview Drive
Riverton, Wyoming 82501

cc: Director's Reading File
Minerals Resouces File
OME Docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/bsl 2/26/71

7280 IRVING STREET · SUITE II
WESTMINSTER, COLORADO 80030
TELEPHONE 303-428-9565

LLOYD R. MYERS

Certified Public Accountant

February 22, 1971

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O. M. E.
RECEIVED
FEB 26 1971

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	130
bal	120
	120

Harold Kirkemo
Chief, Office of Minerals Exploration
U. S. Geological Survey
Interior Building, Room 4461
Washington, D. C. 20242

Re: Western States Minerals, Inc.
Riverton, Wyoming
Exploration Contract No. 2285
Dated: July 10, 1969

Dear Sir:

In connection with the annual audit of the books and records of Western States Minerals, Inc. would you please confirm the balance of Exploration Contract No. 2285 as of December 31, 1970, as $34,044.41 plus accrued interest at 8½% of $2,019.53

Sincerely yours,

Lloyd R. Myers

LRM:wem

$34,044.42
$2,000.58

12/31/70

34.044.42 - amt disb.

Catherine C.

Western States Minerals, Inc.

KENNECOTT COPPER CORPORATION

TINTIC DIVISION

BOX 250

EUREKA, UTAH 84628

DONALD O. RAUSCH
GENERAL MANAGER

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O. M. E.
FEB 16 1971
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WE 1200
OME 6646

RECEIVED
FEB 4 X 1971
Denver, Colorado

January 29, 1971

I. William Hosler
U.S. Geological Survey
Office of Minerals Exploration
Room 200 Bldg. 53
Denver Federal Center 80225

Dear Bill:

Since your visit, I have been up to Larsen's Shaft several times. As of tuesday, January 26, 1971, they were to a depth of 1,260 feet. Assays of grab samples taken from the different levels are tabulated below:

Depth	Pb%	Zn%	Ag Oz/T	Au Oz/T	Cu%
1,232	0.8	Tr	0.7	.010	.002
1,245	0.6	Tr	0.6	.009	.002
1,248	0.6	0.1	0.4	.044	.002
1,252	0.4	0.4	0.5	Tr	.018

They have made several sets since I was there last and I believe they have started to cut for the station.

The shaft has penetrated a good 15 foot section of limestone and is now back in an altered rock, probably another dike. Some of the samples I took were from this dike.

Sincerely,

Samuel M. Smith

Samuel M. Smith
Geologist

SMS:ph

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Office of Minerals Exploration
Building 53 Room 200

January 29, 1971

Mr. Glen Larsen
Western States Minerals, Inc.
489 North 3rd West
Provo, Utah 84601

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

During a telephone conversation with yourson Les in Riverton, Wyoming on January 26, 1971 he informed me that the Larsen shaft had reached the 1,300 foot depth on Monday the 25th and that you were getting ready to cut the shaft station. Les indicated that there was considerable mineralized material at the bottom, and that the shaft was still in the Bluebell dolomite, and that samples taken assayed about 0.90 oz. Au and 5 - 8 oz. silver per ton.

I am certain you have a copy of OME contract 2285 in Provo; however, I am taking the liberty to send you a xeroxed copy of a portion of the contract work to remind you of pertinent information that must be obtained during the course of the contract work under Stage II, especially during the exploratory drifting and crosscutting. Please pay special attention to the following, under General Provisions: paragraph 2, 3, 6, 12, 13, 14, and under Description of the Work, Stage II: paragraph 1.

During my last inspection on January 8 and 9th, 1971 you stated that you would inform me of the date Roger Banghart would be in the area to map the geology in the shaft so that I can schedule an inspection trip to coincide with his trip to the property. I requested through Les that we be furnished with copies of assay data from your assayer, with a sketch map showing location of the sample and a description of it.

Sincerely yours,

J. William Hasler

J. William Hasler, Field Officer, Region III
Office of Minerals Exploration

cc: Mr. Jack Larsen
Chief, OME
OME-6646
OME chron
Mr. Hasler chron

EXPLORATION CONTRACT
WESTERN STATES MINERALS, INC.
ONE-6646

EXHIBIT A

The purpose of this project is to explore for silver-copper-gold replacement ore bodies in channels, breccia zones, or dikes north of the Sioux-Ajax fault zone in the Bluebell Dolomite Formation of Devonian age and other formations of Paleozoic age.

The work shall be performed by shaft sinking, drifting, and diamond core drilling from underground stations.

General Provisions

The vertical shaft shall be not less than 14 feet by 7 feet outside timber and shall have two compartments using standard 8" x 8" timber sets on 6-foot centers. Each compartment
1 shall be not less than 5' x 5' in cross section in the clear of timber. Ladders throughout and landings at vertical intervals of not more than 20 feet shall be installed in the manway compartment.

Drifts and crosscuts shall be not less than 5' x 7' in cross section in the clear of timber and shall be timbered as
2 necessary using standard 8" x 8" sets.

Mine rails in the drifts and crosscuts shall not be less than 12-pound size, air lines not less than 2 inches in diameter, and water lines not less than 1 inch in diameter. The shaft and
3 drifts shall be ventilated, using not less than 12-inch diameter ventilation tubing.

The Operator shall provide such equipment, materials, supervision, labor, and technical services, including sampling and
4 assaying, as may be required to complete the work in a satisfactory manner.

The Operator at its own cost and expense shall construct a headframe and install a power line and hoisting, ventilation, and
5 pumping equipment necessary to sink and to operate a vertical shaft extending from the surface to a depth of approximately 1,300 feet and workings therefrom.

6 No drilling or underground work shall be done within 100 feet of the exterior boundaries of the land outlined on Figure 1.

The location, direction, and extent of each work item shall be subject to prior Government approval. The Government will 7 not participate in the costs incurred for incomplete drill holes or for casing left in holes at the request of the Operator.

All diamond drill holes drilled from underground locations 8 shall be completed with standard AX (nominal diameter 1-1/8") core size or equivalent wire line size equipment.

Significantly mineralized core shall be split and one split assayed for silver and gold. Where indicated by the mineralization, 9 the core may be assayed also for copper. No sample shall represent a core length greater than five feet. The remaining core shall be stored in proper sequence with the unmineralized core.

Facilities shall be provided for recovering drill sludges. 10 Sludge samples shall be retained when drilling in significantly mineralized rock.

Diamond drill core shall be stored in boxes identified as to hole number with markers in the core sections indicating the depth represented. Sludge samples shall be stored in suitable containers 11 properly identified as to source and location. The stored core and sludge samples shall be retained for Government inspection and possible use. With prior Government approval, the Operator may dispose of the core and sludge samples.

All significantly mineralized areas intersected by underground workings shall be sampled by cutting channels normal to the trend of mineralization at intervals of not more than 5 feet and in addition a 12 representative bulk sample shall be taken of each round broken in such areas.

True copies of assay certificates for all samples shall be submitted with the Operator's monthly report which shall include also a map or sketch showing the work completed during the reporting period. The map or sketch should show the general geologic conditions of the 13 area traversed and the location and assay value of the samples taken from drill core and underground workings. Copies of the logs of completed drill holes shall likewise be submitted with the Operator's monthly report.

Mine installations and operating practices shall conform to mine safety regulations of the State of Utah.

The work shall be divided into two stages with Stage I consisting mainly of shaft sinking, and Stage II consisting of crosscutting, drifting, and diamond drilling.

Contract funds not expended to complete work on items in Stage I may be applied to work on items in Stage II with the prior written approval of the Government.

Description of the Work

The work shall consist of sinking a vertical shaft 1,300 feet, crosscutting and drifting about 500 feet on a level established near the 1,300-foot level, and diamond core drilling about ten holes totalling approximately 4,000 feet from underground sites on the 1,300-foot level.

Stage I

From a site 250 feet west and 200 feet south of drill hole CP I, shown in Section 29 on Figure 1, sink a vertical shaft about 1,300 feet to provide access for underground workings to be driven in the Bluebell Dolomite Formation at an elevation about 5,300 feet above sea level.

A shaft station, rock storage pocket, and sump shall be excavated to service workings to be driven on the 1,300-foot level.

Stage II

Starting from the shaft station on the 1,300-foot level, crosscut south not more than 500 feet to locate the Sioux-Ajax fault. Any remaining footage shall be used to drift east and/or west from the crosscut to intersect possible north-trending ore channels north of the Sioux-Ajax fault.

From the proposed crosscut and drifts on the 1,300-foot level at sites to be selected by the Operator and with the approval of the Government confirmed in writing, drill about ten diamond core drill holes in an east-west fan pattern to explore north-south ore channels above, below, and at the level of the 1,300-foot drift.

The approximate locations of the work described are shown in plan view on Figure 1.

Estimated Costs of the Work

Stage I

Fixed Unit Costs 1/ 2/

Shaft sinking, including timbering and excavating for station, loading pocket, and sump,		
1,300 feet @ $135.50/ft.	$176,150.00	
1 - Outside consultant,		
2 days @ $75.00/day	150.00	
Per diem outside consultant,		
2 days @ $16.00/day	32.00	
Transportation for consultant,		
233 miles @ $0.12/mile (rounded)	28.00	
Total Estimated Fixed Unit Costs Stage I		$176,360.00
Government Participation @ 25%		$ 44,090.00

Stage II

Fixed Unit Costs 1/2/

Crosscutting and drifting, including timbering and preparing drill sites,		
500 feet @ $37.95/ft.	$ 18,975.00	
1 Outside consultant,		
9 days @ $75.00/day	675.00	
Per diem outside consultant,		
9 days @ $16.00/day	144.00	
Transportation for consultant,		
633 miles @ $0.12/mile (rounded)	76.00	
Total Estimated Fixed Unit Costs, Stage II		$ 19,870.00

Actual Costs

Category (1) Independent Contracts

Drilling

Mobilization and demobilization of drill	$ 200.00	
Collar pipe - NX or NC,		
100 feet @ $7.40/ft.	740.00	
Diamond core drilling,		
4,000 feet	35,590.00	

	NX	BX	AX
0-250 ft.	$6.60	$6.30	$6.00
250-500 ft.	6.90	6.60	6.30
500-750 ft.	7.20	6.90	6.60

Lost casing in completed holes -		
400 feet	1,200.00	
NX @ $3.00/ft.		
BX @ $2.00/ft.		
Cement, drill mud, additives and hole plugging agents	2,000.00	
Cementing and redrilling,		
50 hours @ $13.50/hr.	675.00	
Reaming and installing casing,		
50 hours @ $12.00/hr.	600.00	
Standby time,		
50 hours @ $13.50/hr.	675.00	
		$41,680.00

Category (7) Miscellaneous

None except:

Cardboard core boxes,

320 @ $1.00 each 320.00

Total Estimated Actual Costs, Stage II $42,000.00

Total Estimated Costs, Stage II $61,870.00

Government Participation @ 50% $30,935.00

S U M M A R Y

Total Estimated Cost of Stage I $176,360.00

Government Participation @ 25% . . . . . $ 44,090.00

Total Estimated Cost of Stage II . . . . . $ 61,870.00

Government Participation @ 50% . . . . . $ 30,935.00

Total Estimated Cost of Project $238,230.00

Government Participation . . . . . $ 75,025.00

1/ Covers all costs whatsoever, including equipment, materials, labor, technical services, taxes, and insurance.

2/ The Government retains no equity in any of the equipment or materials used.

Branch of Pacific Mineral Resources
345 Middlefield Road
Menlo Park, California 94025

Gift
DEC 14 1970

December 11, 1970

ORIGINAL COPY
DEC 21 '70
130
1120
1120
1205

Mr. John L. Larsen
Western States Mining and
Contracting Company
418 South 7th East
Riverton, Wyoming 82501

OME6646

Dear Jack:

Thank you for sending me the samples of altered carbonate rocks from the Roundy shaft. I have kept one of the best specimens and sent the others over to Bill Hasler for examination, assay, and chemical study.

The samples all appear to be vuggy jasperoid--silicified dolomite in this case. They all contain encouraging amounts of jarosite and clay, and probably will assay in lead, zinc, silver, and possibly gold. I would be surprised if this material is rich enough to ship, but it looks like a most encouraging indication of the possible presence of ore in the general area. We will know more about this when the assay results are available.

Even if this material contains a fair amount of silver and gold I would suggest that you continue toward your original objectives. Low-grade jasperoid is fairly common at the base of the lava in other parts of the Tintic and East Tintic districts, but little of this jasperoid has been worth the effort to mine and ship it. The place to look for ore is deeper in the Bluebell adjacent to the fault and fissures that were your original targets.

Everything still looks highly promising, so please keep me informed as you go along.

Best of luck,

Sincerely yours,

Bal T. Morris

cc: J. William Hasler

cc: Dir. RF
ACG RF
J. Wm. Hasler
Morris
MP RF
BTMorris/bls 12/11/70

OME 6646

Samples of altered and mineralized (?) dolomite at base of lava in Loundy (Larsen) shaft, East Tintic District, Utah.

Epp 1,066 ft

Office of Minerals Exploration
Building 53 Room 200

December 8, 1970

RECEIVED
DEC 14 1970

~~130~~
SLA 120 MW
HR 120
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Memorandum

To: The File

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Mr. John Larsen President, called on December 3, 1970 to inform the Office of Minerals Exploration that the contact between the overlying volcanic rocks with the underlying Bluebell dolomite was penetrated in the Larsen Shaft at a depth of 1,066 feet, on Friday, November 27, 1970. The depth of the shaft as of December 3 was approximately 90 feet below the collar.

1,090?

According to Mr. Larsen, the sediments are highly oxidized and contain abundant jasperoid-like material. Mr. Sam Smith, geologist, Kennecott Copper Corporation, Tintic Division, has been down the shaft, and observed the contact between the volcanics and the sediments. A picked sample of jasperoid material from within the sediments reportedly assayed 0.8% Pb, 2.0oz. Ag, 0.10 oz. Au and a trace of copper. The assay was run by the Kennecott Copper Corporation assayer at their Tintic Division laboratories. Mr. Larsen indicated that the contact zone was some 12-13 feet thick and contained considerable gougy material, clay, quartz, jasperoid fragments, some calcite, barite and other material.

Mr. John Larsen called again on December 4, 1970 to inform me that he had visited the Larsen shaft at Eureka, Utah on December 3rd and that the shaft had been sunk to a depth of 1,090 feet, and that there was considerable oxidized limestone, abundant clay and gougy material with quartz and jasperoid fragments some of which appear to be mineralized. He also informed me that he would send me specimens of the material he had collected from the shaft at that depth.

Normally, there is little or no mineralized material immediately below the rubble zone at the base of the lava flows throughout the district, however, in the Larsen shaft there has been some pyritization with some chalcopyrite, galena, and molybdenite, with some quartz and dolomite as much as 400 feet above the volcanic-sedimentary contact, which is most encouraging, especially to find mineralized material immediately below the rubble zone in the Bluebell dolomite. I shall plan to make an interim inspection at the Larsen shaft early in January, 1971 and confer with the Kennecott geologists as they are keeping an eye on the progress of the Larsen shaft in connection with their work in the neighboring Trixie area, that lies on the footwall side of the Sioux Ajax fault zone. Mr. Larsen also indicated the material he had obtained from the shaft was largely vein quartz, and not so much jasperoid in his estimation. Max Larsen, a brother, who is aiding in supervising the sinking of the shaft states he had seen calcite, barite, and quartz in the oxidized and highly stained limestone material.

I informed Hal Morris, Geologist, U. S. Geological Survey of Menlo Park, California on December 3rd that the contact between the volcanics and the Bluebell dolomite had been intersected in the Larsen shaft at a depth of 1,066 feet on Friday, November 27, 1970, as reported to me by telephone from Mr. Jack Larsen, President, Western States Minerals, Inc. on December 3, 1970. Later, on the afternoon of December 3rd, Hal called from Menlo Park and informed me that Mr. Paul Mogensen, Chief Geologist, Tintic Division, Kennecott Copper Corporation, had called him and informed him that the Larsen shaft had intersected the volcanic-sedimentary contact. Mogensen stated that there was some fifteen feet (15') of altered, heavily oxidized Bluebell dolomite at the base of the lava flow, and that the material some of which, when sampled, assayed .8% Pb, 0.2%Zn and 0.10 oz. Ag, a somewhat different quote than the one given by Mr. Larsen.

The oxidized material undoubtedly could be coming from an old erosion surface upon which the volcanics were deposited. If the limestones were part of an old karst cartography, there could have been some mineralization take place in the voids and vugs within the limestone. The old erosion surface would have had some clay and mud developed upon it as a part of the old soil mantle which would have been at least partly oxidized and weathered or bleached.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

cc: Chief, OME
OME-6646
OME chron
Mr. Hasler
Extra Copy for Field Use

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

November 30, 1970

OFFICIAL COPY
O. M. E.
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DEC 4 1970
INITIALS CODE

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claim
Utah and Juab Counties, Utah
Contract 2285

In my memorandum of November 23, 1970 concerning an interim inspection of the subject property, the numbers "16" feet in the third paragraph should read "6" feet.

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

November 23, 1970

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

An interim inspection was made at the Larsen Shaft on the subject property, November 13, 1970 by the Field Officer, Region III. He was accompanied by Mr. Glen Larsen and Mr. Jack Larsen.

The Larsen shaft had been sunk to a depth of 1,010 feet, and was still in gray to dark gray altered latite porphyry breccia containing considerable disseminated pyrite possibly some chalcopyrite and is extensively silicified. Much of the volcanic country rock in the bottom of the shaft contains abundant iron oxide stain due to oxidation of the pyrite.

6 see memo 11/30

The shaft at the 1,010 foot level is some ~~16~~ feet above the reported and observed occurrence of galena in drill hole CP-1 at 1,016 feet. The contact between the rubble zone and the underlying sdeimentary rocks in drill hole CP-1 is between 880 - 896 feet. The CP-1 drill log describes abundant iron-staining in the latite near the base of the rubble zone with accompanying blebs and pods of jasperoid material and abundant pyrite. The country rock in the Larsen shaft at 1,010 feet is similar to that described in the drill hole, although no limestone breccia was observed in the shaft at that depth. Indications are that the shaft is approaching the contact between the rubble zone and the underlying sediments.

Phoned Hasler 11/30/70 & asked about this confusion

AJR

It has been pointed out in previous publications that the pre-volcanic erosion surface in the district could well have been a very irregular one, as is reflected by varying thicknesses of the volcanic rock at various places within the East Tintic district. This may be indicated in the Larsen shaft as the volcanic-sedimentary contact in the CP-1 drill hole along geologic cross section A-A' is at 890 feet. Cross-section B-B' shows it to be at approximately 930 feet whereas in Banghart's cross section D-D' he shows the rubble zone to be at a depth of approximately 1,174 feet in drill hole CP-2, which was projected from a point 800 feet east of the cross section D-D'. Based on the various projections, plus the fact that the Larsen shaft lies some 250 feet west of drill hole CP-1, the underlying sedimentary rocks may not be penetrated until the shaft is at a depth of some 1,150 feet or perhaps as deep as 1200, indicating that the Larsen shaft may have been located in a topographic low, insofar as the volcanic-sedimentary contact is concerned.

Mentioned to Hasler.

During the first part of November, the Operator replaced the 112 horsepower hoist motor with a 250 horsepower hoist motor. This now allows the Operator to operate on a single rope rather than a double one and will increase the rate of hoisting as well. The changing of the motor required nearly two weeks rather than a planned two-to three-day job. Increased footage is now anticipated, as there are fewer water problems in the shaft as well as the improved hoisting facilities.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Office of Minerals Exploration
Building 53 Room 200

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November 9, 1970

Mr. John Larsen
Western States Minerals, Inc.
418 E. 7th E.
Riverton, Wyoming 82501

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

I plan to be in Utah during the latter part of this week and would like to make an interim inspection at the Larsen Shaft at Eureka Friday, November 13, 1970. I will arrive in Provo, Utah the afternoon of November 12th and will call Glen Larsen that evening.

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

cc: Glen Larsen, Provo, Utah

bcc: Chief, OME
OME-6646
OME chron
Mr. Hasler

PRESIDENT - GLEN LARSEN
SECRETARY AND
TREASURER - JOHN L. LARSEN

VICE PRESIDENT - LESLIE W. LARSEN
VICE PRESIDENT - LLOYD LARSEN

WESTERN STATES MINING AND CONTRACTING, INC.
CUSTOM MINING AND MINING CONTRACTORS
418 S. 7th E.
RIVERTON, WYOMING
TELEPHONE: 856-2796

OFFICIAL COPY
AUG 27 1970
gl 120
Bol 120
HK 120

OME Region III
RECEIVED
AUG 24 1970
Denver, Colorado

August 12, 1970

6646

J. William Hasler
Field Officer, Region III
Office of Minerals Exploration
Federal Center Bldg. 53 Rm. 200
Denver, Colorado 80220

Dear Bill:

Will get Roger Banghart to catch up shaft geology as soon as possible.

We have changed the address for Western States Mining, Inc., and Western States Minerals, Inc. to 418 S. 7th E. Two copies of the address are enclosed for your files, and we would appreciate future mailing sent to this address.

Might get to see you in Utah.

Sincerely,

John L. Larsen

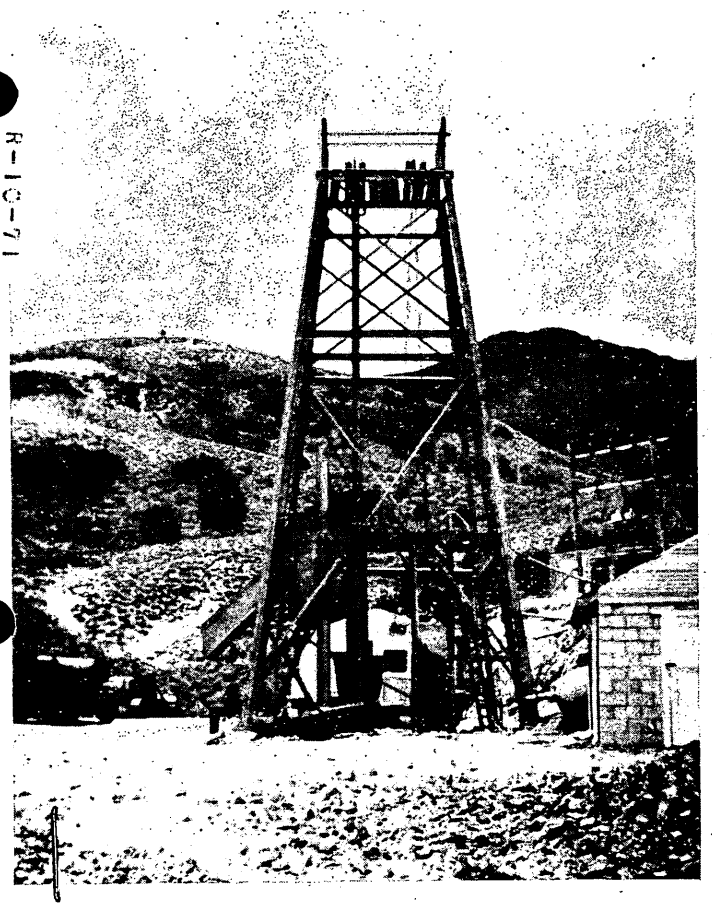
John L. Larsen

JLL/smh
Enclosure

The MINING RECORD
THE VOICE OF THE MINING INDUSTRY FOR EIGHTY-ONE YEARS
81, No. 32 Denver, Colorado, Wednesday, August 12, 1970 $10 a year, 25¢ a copy

U.S.G.S. OFFICE OF MINERAL EXPLORATION-ROOM 4450 DEPT OF INT
R-10-71

Century Nuclear Announces Crown Point Joint Venture



Properties of Century Nuclear's joint venture with Western States Mining Inc. on the Crown Point silver project is shown here.

RIVERTON, Wyo.—In Century Nuclear's annual report, released today, the company made its first public announcement regarding its participating in the Crown Point Silver joint venture.

The statement said, "Early this year Century Nuclear Inc. entered into a joint venture agreement with Western States Mining Inc., Western States Minerals Inc., and Vipont Mining Co. to explore a potential silver target on the Crown Point and East Crown Point properties, which are located in the Tintic Mining District at Eureka, Utah.

"The Federal Government's Office of Mineral Exploration is participating in this venture through an O.M.E. silver-copper-gold loan in the amount of $75,025. The Crown Point property lies between the old Iron Blossom and the new Trixie Mine along the Sioux-Ajax fault. The Iron Blossom replacement ore body on the Sioux-Ajax fault produced 645,337 tons of ore that averaged 26.3 ounces silver, [illegible] .10 ounces gold and

"SINCE THE founding of Century Nuclear Inc. in December, 1968, a principle goal of management has been to direct operations of the company toward the acquisition and disposition of mineral properties located in Wyoming and the surrounding states. During the past six months, Century Nuclear Inc. has become more operationally oriented and, therefore, an expanded corporate concept has evolved. As a result of this policy change, Century Nuclear Inc. is involved in oil and gas properties as well as the Crown Point limited partnership."

Larsen pointed out that "Initially a total of 661 unpatented lode mining claims were either conveyed to Century Nuclear Inc. by its organizers or acquired by staking. The company's initial working capital was acquired through the sale of 3,000,000 shares of its common stock to the public at $.10 per share, pursuant to a Notification under Regulation "A", filed with the U.S.

interest in over 6,714 unpatented lode mining claims, and is now involved in a joint venture on a silver prospect in Utah. Also the firm is investigating various types of ventures, whereby funds might be acquired to explore for minerals on its properties. Century Nuclear Inc. would act as general operating partner in the exploration program.

"In late 1969, and early 1970, Century Nuclear Inc. sold approximately 2,750 unpatented lode mining claims to companies such as Earth Resources-Marathon Oil (Great Divide Basin), and Phillips Petroleum Corp. and Western Nuclear Inc. (Powder River Basin). These claims were sold for substantial cash profits and a royalty was retained by the company. Total cash receipts for the claims sold was approximately $300,000.

"Utilizing these additional funds, Century Nuclear Inc. has made further acquisitions in both the Powder River Basin and the Great Divide Basin of Wyoming. Century Nuclear Inc. owns outright approximately

New Address:

418 S. 7th E.
Riverton, Wyoming 82501

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Pacific Mineral Resources Branch
Geologic Division
345 Middlefield Road
Menlo Park, California 94025

OME Region III
RECEIVED
SEP 8 X 1970
Denver, Colorado

September 4, 1970

Mr. J. William Hasler
Office of Minerals Exploration
U. S. Geological Survey
Denver, Colorado 80225

Dear Bill:

Except for the sample that is an intergrowth of quartz, dolomite, and sparse sulfides, all of the samples that you sent me from the Glen Larsen operation are typical of the Apex Conglomerate--the rubble zone at the base of the lavas in the East Tintic district. The larger, white-colored slab is lapilli tuff that has been argillized and pyritized. The other, conglomeratic, samples could be matched with rubble-zone material from any other part of the district. The fragments of dolomite, limestone, and chert that are embedded in the matrix of tuff and breccia are just about what we should expect to find in this area. They also show weak argillization and moderate pyritization. If, by chance, Glen has not located his shaft above a steep prelava gully, it should be entering the sedimentary rock section within 30-50 feet.

The sample of vein material is on the lean side when it comes to sulfide content, but I take the occurrence of such a vein as a strongly encouraging sign. Elsewhere in the Tintic and East Tintic districts veinlets and pods of carbonate and quartz mark the "outlet" side of siliceous replacement ore bodies; unfortunately, however, they are not an invariable sign of proximity to ore, only an indication of hydrothermal activity.

All in all, I think that these samples indicate that the play looks as good as it ever did, and perhaps even better. We'll just have to wait until the workings drift the Sioux-Ajax fault for a final analysis.

With best regards.

Sincerely yours,

Hal

Hal T. Morris
Geologist

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

August 31, 1970

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Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

An interim inspection was made by the Field Officer, Region III, on August 21, 1970 in company with Mr. Max Larsen, representing the Operator. The Larsen Shaft had been sunk to a depth of 830 feet and was in a gray to greenish gray altered volcanic bed that contained considerable limestone breccia. The limestone breccia included some massive pyrite, small amounts of chalcopyrite as well as some veins and pods of vuggy vein quartz. Several steeply dipping prominent fractures striking northeasterly across the shaft had caused some caving in the shaft that required cribbing. Most of the water in the shaft was being pumped out effectively at the time of the inspection.

Judging from the increased amount of limestone breccia in the bottom of the shaft a somewhat increased amount of sulfide mineralization, the Larsen shaft may be nearing the rubble zone that lies immediately above the sediments that contain the ore bodies in the area.

The Operator had gone on a three-shift basis with the hope of speeding up the shaft sinking process. Several rock specimens of the limestone breccia and the included volcanic rocks from the 830 foot level of the Larsen Shaft were sent to Mr. Hal Morris, U. S. Geological Survey, Menlo Park, California for observation.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Office of Minerals Exploration
Building 53 Room 200

OFFICIAL COPY

August 7, 1970

Mr. John L. Larsen
Western States Minerals, Inc.
418 South 7th East
Riverton, Wyoming 82501

Re: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

I have just processed your Operator's Monthly Voucher for the month of June 1970 and have recommended payment of the voucher. Your short narrative report accompanying the June 1970 voucher indicates that there is an increasing amount of limestone boulders in the bottom of the shaft at 775 feet, as well as some massive pyrite accompanied by copper staining, which is certainly encouraging. According to Roger Banghart's cross section, you are within a 100± feet from the Rubble Zone, and you could well be picking up rubble zone material.

Last December you sent me a copy of a lithologic log from the collar of the shaft to a depth of 445.5 feet, that was prepared by one of Kennecott Corporation's geologists. The shaft is now below the 775 foot level and some 330 feet deeper than the last portion mapped. It would be advisable to have Mr. Banghart come in, as I recommended in our conversation some time ago, map the shaft, and bring the geology up to date as soon as possible, especially since you are approaching the Rubble Zone. My present plans are to be in Utah the latter part of the week of August 16 - 22nd, and would like to make an interim inspection at that time.

Your narrative report was written on letterhead stationery of Western States Mining and Contracting, Inc. at 418 South 7th East Street, Riverton, Wyoming. Is this also the new address for Western States Minerals, Inc. whose address was 1111 Westview, Riverton, Wyoming, 82501? If the earlier address is correct, you should notify this office in duplicate of the change of address, for contract purposes.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

cc: Glen Larsen
Chief, OME ✓ OME-6646 OME chron Mr. Hasler chron

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

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June 9, 1970

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Colorado
Contract 2285

An interim inspection of the subject contract work was made May 27 and 28, 1970 by the Field Officer, accompanied by Mr. Glen Larsen representing the Operator.

Mr. Hal Morris, Geologist, U. S. Geological Survey was in the Tintic area during the time of my field inspection and had visited the subject property just prior to my inspection. We had a short visit together and discussed the merits of the project just prior to his leaving to return to Menlo Park after having completed some field checking in the area.

The Larsen shaft had been sunk to a depth of 660 feet, at the time of my inspection. The Operator is still experiencing some water problems, mostly mechanical, with pump failures, etc., consequently progress has been slower than was anticipated, but it is hoped progress will now improve.

Several thin quartz and barite stringers containing minor amounts of galena were penetrated at a depth of 625 feet. A zone of volcanics at the bottom of the shaft (660 feet) contained abundant fine grained pyrite in an extremely fine grained matrix, and some portions of the Packard rhyolite contained jasperoid (limestone breccia) fragments that indicates the Devonian Victoria formation may lie from 20 to as much as 100 feet below the present bottom of the Larsen shaft, according to Mr. Morris.

It is interesting to note that the quartz-barite stringers penetrated at a depth of 635 feet are found above the "Rubble Zone" which seldom allows much penetration of mineralized material through it, from below. It is encouraging to find mineralized stringers extending above the rubble zone and may indicate that considerable mineralized material may be in the sedimentary rock below the volcanics.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

DOS-6646
Correspondence file

UNITED STATES
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY
Pacific Mineral Resources Branch
Geologic Division
345 Middlefield Road
Menlo Park, California 94025

April 2, 1970

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Denver, Colorado

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Mr. J. William Hasler
Office of Minerals Exploration
U. S. Geological Survey
Room 200, Building 53, Federal Center
Denver, Colorado 80225

Dear Bill:

The November 14, 1968 report by Jim Loghry to the National Lead Company concerning the Glen Larsen venture on the Crown Point and East Crown Point claims, Utah Co., Utah, is reasonably accurate. He has obviously read the principal references on the East Tintic district and has had the further advantage of reading private reports by Roger Banghart and OME correspondence, and of talking with Larsen, Cec. Fitch, Clayton Roundy, and other informed people. However, I doubt that Loghry has looked at much of the geology himself, except for the near vicinity of the Larsen shaft.

I might comment on the following points:

(1) Loghry's estimate of 500,000 tons of potential ore could well be on the conservative side, but his estimate of $80 per ton value may be a trifle optimistic; perhaps $40-$60 would be safer.

(2) He also fails to note that the Sioux-Ajax fault may localize a wide monzonite porphyry dike in the area immediately south of the shaft. This could be either a detriment or a blessing, and we will all just have to wait until the area is examined in the proposed crosscut.

(3) Wisely, Loghry suggests that the operators should prepare themselves for a more extensive and more expensive exploration campaign than they now envision. As Loghry points out, the work proposed by Larsen is only the bare bones of the work necessary to evaluate this area, and I hope that

National Lead will maintain its interest and come up with some additional money--if the initial work does not turn up some ore.

I was in the East Tintic district two weeks ago, and went down the Larsen shaft with two Kennecott geologists on March 20th. The shaft was then about 590 feet deep. The contact of the Latite Ridge welded tuff and the Packard Quartz Latite was cut at about 440 feet. As expected, the Packard is full of water, and I was told that it takes an hour or so of pumping at 80 gpm to dewater the working area.

The Trixie mine continues to look pretty fair. About 250,000 tons of ore is indicated in drill holes. This ore should average $40-$50 per ton. (These figures have not yet been released, so please don't discuss them either inside or outside of the Survey.) Irregular shipments of siliceous ore from the footwall vein are being made to Anaconda.

I plan to be in Eureka from May 8 to June 15, or thereabout, and will plan to see the Larsen operation from time to time. If Glen's projections are correct, the Paleozoic rocks may be cut at about that time and I will want to see them. When they are cut, the water will cease to be a problem, so let's hope that they show up soon.

Best regards,

Hal

Hal T. Morris

PRESIDENT - GLEN LARSEN
SECRETARY AND
TREASURER - JOHN L. LARSEN

VICE PRESIDENT - LESLIE W. LARSEN
VICE PRESIDENT - LLOYD LARSEN

WESTERN STATES MINING AND CONTRACTING, INC.
CUSTOM MINING AND MINING CONTRACTORS
1111 WESTVIEW DRIVE
RIVERTON, WYOMING

TELEPHONE: 856-2796

OME Region III
RECEIVED
FEB 13 1969
Denver, Colorado

February 6, 1970

J. William Hassler
Field Officer, Region III
Office of Minerals Exploration
Building 53, Room 200
Federal Center
Denver, Colorado 80225

Dear Bill

I talked to Dad this morning on the telephone and he asked me to send a copy of a report concerning Crown Point prepared by Jim Loghry of National Lead.

Jim Loghry seemed to be very impressed with the property and National Lead would probably of been our partners instead of Vipont had we seen this report first.

Sincerely,

John L. Larsen

JLL:js

East Tintic Mining District, Utah

File

INTRODUCTION

The East Tintic Mining District is near Eureka, Utah, about 100 miles from Salt Lake City, south via Interstate 15 to Santaquin and west on State 5 and 60 to Eureka. Recorded production from it and the main Tintic District is $425 million, mostly from limestone replacement ore bodies, the values being largely in silver, lead, and gold. The East Tintic is credited with $110 million, most of which has come from blind ore bodies. Exploration by the USGS, Newmont and Kennecott in the last decade has resulted in the discovery of the large Burgin ore body, the Trixie ore body and one or more unannounced new finds. Alfred Ellerby, President of Vipont Mining has offered National Lead an opportunity to participate in an exploration program proposed by Western States Mining and Contracting, Inc. in the untested heart of the East Tintic District. WSMC is a small family corporation owned by John L. Larsen, President, his father Glen Larsen, and two other sons. Glen Larsen has mined in the Tintic District for many years and is a walking encyclopedia concerning its mines and geology. John L. Larsen is presently mining the small high grade U_3O_8 lenses left behind by the larger operators in Wyoming open pit mines. He was foreman at the Atlas Minerals Moab U_3O_8 mine.

On November 4, 1968 James Loghry visited the Crown Point property in the company of Alfred Ellerby, Glen Larsen and John Larsen. While on the property he briefly talked with Clayton Roundy, President of Crown Point Consolidated, and later discussed the Crown Point situation with Cecil A. Fitch, President of Chief Consolidated Mining Company.

SUMMARY

The projected intersections of the easterly Sioux-Ajax fault with northerly mineralized shear zones in the favorable Bluebell dolomite suggest the possibility of a long narrow replacement ore body on the Crown Point property, similar to the adjacent Iron Blossom zone. The potential of such a discovery would be 500,000 tons of $80 ore.

Western States Mining and Contracting, Inc. hold a 20 year lease on the 223 acre Crown Point property and have offered Vipont Mining Company a chance to participate in the exploration of it. They propose to sink a 1300 foot shaft, do 700 feet of drifting and diamond drill 4000 feet. They estimate it will cost their partner about $200,000 to participate in this project. This cost estimate requires a critical examination.

It is recommended that negotiations for a joint venture with Western States Mining and Contracting, Inc. be initiated promptly.

THE CROWN POINT PROPERTY

The Larsens have obtained a 20 year lease on a ragged L-shaped block of 16 patented claims, 223 acres, combining the Crown Point Consolidated Mining Company and the East Crown Point Consolidated Mining Company (owned by Chief Consolidated). The lease provides for royalty payments varying from 5% of less than $10 net smelter return per ton to 20% on $40 net smelter return per ton. Chief Con has an option to buy back within 5 years 50% interest in the East Crown Point Group by paying 50% of the total cost of exploration and development of the whole property.

The property is located in Sections 20, 28, and 29, T10S, R2W, Utah County, Utah. Claims to the south are held by Anaconda; those to the east, west, and north (with the exception of a few on the north) are held by Kennecott. Undoubtedly, Kennecott desires this strategically located property.

GEOLOGY AND POTENTIAL

More than ¾ ($110 million) of the Tintic district's recorded $145 million production has come from the Devonian-Silurian-Ordovician Bluebell dolomite. Workings on the 680 level (5863 elev.) of the Crown Point No. 3 shaft penetrated the lower portion of the Devonian Victoria Formation, indicating the Bluebell lies a short distance below. CP No. 1 rotary-diamond drill hole encountered Victoria Formation between 906 and 960 feet, 960 feet (5840 elev.) presumed to be the position of the Bluebell contact. The Bluebell was cored to 1078 feet. Altered dolomite was cut between 1000 and 1075 feet. The Bluebell is thought to be 550 feet thick.

The easterly Sioux-Ajax fault has localized ore in four mines - the Mammoth, Spy, Iron Blossom and the recent Trixie discovery. Where exposed, it is a normal fault dipping at + 80°N with a calculated 1500-1600 foot displacement. On the Crown Point claims the fault is covered by volcanics but its approximate position has been inferred and the south end of the property extends along 3700 feet of its strike length.

The fundamental ore controls of the district are northly steeply west dipping shear faults which localize numerous fissure veins and replacement veins south of the Sious-Ajax fault and have caused long horizontal manto-like replacement ore bodies on the north side. The relationship of the vein systems south of the Sioux-Ajax fault to the Godiva and Iron Blossom horizontal "pipes" on the north side is obvious. The presence of strong vein systems (Alaska, United, Tintic, New State, Treasure Hill, Shoebridge Bonanza, Showers, Fremont and others) suggest another ore body similar to the Iron Blossom may be concealed under the volcanics on the Crown Point property.

Much of the East Tintic District is covered by mid-Eocene pre-ore volcanics. Mineralization concealed by these volcanics is suggested by the following ore guides: hydrothermal alteration, weakly mineralized fissures and pebble dike intrusion breccias. About 80% of the Crown Point claims are covered with volcanics. The USGS map (Lovering, 1960) shows distinct northerly zones of strong pyrite alteration and a westerly zone. These pyrite zones may reflect important northerly ore zones and ore along the Sioux-Ajax fault.

Approximately 100 feet west of the Larsen shaft site, a limonitic pebble dike in altered (pyritic) volcanics about 1 foot wide, striking N25E dipping 85°E was observed. Glen Larsen pointed out pebbles of Tintic quartzite, evidence of the deep penetration of this structure. About five feet west of this dike is a limonitic, gougy fault zone about 30 feet wide with fractures varying N30-45°E, dipping 70°W to 90°. The west edge of this fault marks the west boundary of a 140 foot wide north trending zone of pyritic alteration - one of the three important alteration zones which may reflect ore in the favorable Bluebell Formation over 1000 feet down.

The geology of the 680 level (5863 elev.) of the Crown Point No. 3 Shaft mapped by Reed Welch (ASARCO) in 1938 (Banghart, Plate 5, 1967a) is encouraging. North trending pebble dikes, breccia zones, jasperoid and manganese mineralization and scattered galena on a NNE fracture in the Victoria Formation suggest the possibility of ore channels in the underlying more favor-

able Bluebell formation.

The geologic situation suggests the possibility of an ore body similar to the Iron Blossom horizontal replacement deposit extending north from the Sioux-Ajax fault and high angle chimney deposits in the fault zone. The Iron Blossom zone is 1000 feet west of the Crown Point property. North of the Sioux-Ajax fault, the Iron Blossom replacement ore body is 5000 feet long, 20-170 feet wide and 20-60 feet thick. Production was over 1 million tons of ore with an average value of more than $80 at today's prices. If a similar ore body is present under the Crown Point claims, at least ½ of it would be covered by the claims, so the suggested ore potential is 500,000 tons of $80 ore. Should ore extend north into the Iron King claims (Kennecott) it is possible we could mine it for Kennecott on a royalty basis. The Anaconda ground south of the Sioux-Ajax fault is less attractive. Any ore probably consists of replacement veins in pyrometasomatized Cambrian limestones or fissure veins in intrusives, so the size potential is smaller. However, such veins would probably widen near the Sioux-Ajax fault. If ore was found north of the fault, Anaconda would probably be amenable to our exploring and mining south of the fault.

The Larsen shaft workings could also serve as a drilling platform to test horizons below the Bluebell dolomite which are known to have produced ore in other parts of the district.

EXPLORATION - PAST AND PROPOSED

Drilling

Drillhole CP No. 1 cut no ore, but encountered some favorable alteration and mineralization. Collar elevation is about 6800 feet.

0-890: pyritic, argillized volcanics
890-906: rubble zone
906-960: Victoria formation
960-1078: Bluebell dolomite
1000-1075: altered (bleached limonitic) dolomite
1016: bleb of galena
1038-58: lost circulation; 1 foot core recovery — highly altered, brecciated limestone with much limonite, minor Mn dendrites, anomalous Pb-Zn values.
fault zone
1062-64: altered porphyry dike; anomalous Pb-Zn
1064-75: oxidized, fractured bleached limestone, much Fe staining, Mn dendrites, gouge, mud
1075-78: fresher, crystalline limestone

Drillhole CP No. 2 was designed to test a pyritic alteration zone on the southwest trend of the Zuma ore body. Collar elevation is approximately 6600 feet. The hole encountered the rubble zone below pyritic volcanics at 1174 feet, was stopped at 1178 feet. The thickness of volcanics is attributed to pre-volcanic erosion along the Sioux-Ajax fault (Banghart, 1967a).

Drillhole CP No. 3. All rotary. No log available; location unknown. Bear Creek reportedly analyzed sludge from hole. No record available.

The 3 holes reportedly cost $35,000 (J. L. Larsen, personal communication).

Shafts

The Crown Point No. 1 and the Minnie Moore shafts lie just west of the property. Minor production is reported from each. The Larsens report that the No. 1 shaft dump shows no mineralization, however. The No. 1 shaft is 400 deep. No other information is available. It is not known if the thrust fault in this area localized any ore.

The Crown Point No. 2 is collared in the Mississippian Gardison Limestone at the 6575 elevation. It was sunk to a depth of 1000 feet, penetrating the Victoria formation and the upper part of the Bluebell. The shaft has about 10,000 feet of underground workings with laterals on the 250, 400, 500, 550, 750 and 1000 foot levels (Crane, 1928). No geology is available and no production is reported. The north leg of the property is extensively explored by these workings, though it is possible ore is present in the Bluebell formation below the 5575 elevation.

The presence of mineralization in the Crown Point No. 3 shaft - 680 Level (5863 elev.) which might reflect ore channels in the Bluebell Formation below has been discussed.

According to the engineering map (Banghart, 1965b), the Larsen shaft was recently collared at an elevation of about 6800, at a point approximately 1720 feet west and 720 feet south of the NE corner of Section 29. This is supposed to be 250 feet west and 200 feet south of CP No. 1. The shaft is down 30 feet, the collar is concreted, and a steel headframe has been constructed. A second-hand hoist with 2000 foot capacity has been installed; second-hand motors have been purchased. A power line and transformer station will be installed.

John Larson estimates that WSMC has about $75,000 in the property, and this would be part of their ½ of the joint venture. He has been asked to substantiate these costs. Their costs would include drilling - $35,000, road construction, headframe-hoist house construction, hoist, motors, land acquisition costs. The company's experience in the district is worth a lot and they offer the cheapest means of exploring these claims by underground workings, the method this district seems to require.

The Larsens propose to 1 sink 1300 feet into the Bluebell formation 2) crosscut 200 feet south to the Sioux-Ajax fault 3) drift 500 feet east to locate possible ore channels projected downward and southerly from the 680 level of the Crown Point No. 3 shaft and 4) diamond drill ten 400 foot holes to explore the ore channels.

They have applied (9/5/68) for an OEE loan to pay for 25% of the sinking costs and 50% of the lateral work. They estimate this loan will amount to $75,000. In any joint venture this loan, if received, is to be considered as a part of their contribution to the project. Their original application for an

OME loan of $250,000 to sink a 1300 foot shaft in another part of the claims and do 2000 feet of drifting was rejected on the grounds that it was a prospecting venture, not an exploration venture, as defined by OME regulations (Johnson letter of August 25, 1967).

Because their request for the large OME loan was rejected, the Larsens (WSMC) invited Alfred Ellerby of Vipont to participate in a joint exploration venture. WSMC will do the work. They estimate it will cost Vipont around $200,000 to participate and acquire 50% of WSMC's interest in the property.

COMMENTS AND RECOMMENDATIONS

In the course of the project it may become desirable to sink through the entire Bluebell formation. Present information suggests that the shaft must be 1500 feet deep to do so.

Alteration and mineralization might be so encouraging as to require silling off and lateral exploration somewhere in the altered dolomite horizon cut in CP No. 1 between 1000 and 1075 feet. Another, lower level may also be required.

The proposed 200 foot south crosscut on the 1300 foot level is based on the premise that the Sioux-Ajax fault dips 70°N. If its dip proves to be 80°N as seen elsewhere in the district, the crosscut may need to be 400 feet or more to reach the fault.

Surface alteration and structures west of the shaft location seem to call for a west drift as well as an east drift.

Larsen's proposal of a 1300 foot shaft and 700 feet of lateral work plus 4000 feet of diamond drilling may prove to be only the bare bones of the exploration work needed to test this prospect. The project is likely to cost considerably more than the $200,000 estimated by the Larsens. However, it seems that WSMC will do the work far more cheaply than we could contract it or do it with our own people.

This is an interesting prospect with a good chance of finding ore and we should seriously consider this venture. It is recommended that negotiations be initiated (through Vipont) as soon as possible. Mr. Ellerby has suggested that we negotiate for a contract containing an option to buy out WSMC with a tax-free exchange of Vipont stock.

James D. Loghry

James D. Loghry
November 14, 1968

Banghart, R. C., 1967a: OME Exploration Program, Crown Point Claims, East Tintic District, Utah County, Utah, April, 1967; with maps, Plates 1-5. Appendix includes: Crane, G.W., 1928, General report on the property of the Crown Point Consolidated Mining Company; Bush, J.B., Drill Hole Log CP No. 1, July 1964.

Banghart, R.C., 1967b: Revised OME Exploration Program, Crown Point Claims, East Tintic District, Utah County, Utah, September, 1967, with revised Engineering Map.

Bush, J.B., et al, 1960, The Chief Oxide-Burgin Area Discoveries, East Tintic District, Utah: A Case History: Economic Geology, V. 55, p.1116-1147; 1507-1540.

Cook, D.R., Ed., 1957, Geology of the East Tintic Mountains and Ore Deposits of the Tintic Mining District: Utah Geological Society Guidebook to the Geology of Utah, No. 12.

Johnson, F. E., OME Chief, correspondence with J. L. Larsen, Aug., Sept., Nov., 1967.

Lindgren, W. and Loughlin, G. F., 1919, Geology and Ore Deposits of the Tintic Mining District, Utah: U.S. Geol. Survey Professional Paper 107.

Lovering, T.S. and others, 1949, Alteration as Related to Ore Deposits in the East Tintic District, Utah: Economic Geology, Monograph 1.

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Morris, H., 1964, Geology of Eureka Quadrangle, Utah: U.S. Geological Survey Bulletin 1142-K.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

O. M. E.
RECEIVED
MAR 30 1970
INITIALS DATE
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WE 1 20

March 26, 1970

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2282

During an interim examination on the subject property February 5, 1970 I was informed of an examination report by James D. Loghry dated November 14, 1968 on behalf of National Lead Company. I asked for and received a copy of the report for our files. Enclosed is a copy for your files.

I am sending a copy to Hal Morris for his files and information as well.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosure

PRESIDENT - GLEN LARSEN
SECRETARY AND
TREASURER - JOHN L. LARSEN

VICE PRESIDENT - LESLIE W. LARSEN
VICE PRESIDENT - LLOYD LARSEN

WESTERN STATES MINING AND CONTRACTING, INC.
CUSTOM MINING AND MINING CONTRACTORS
1111 WESTVIEW DRIVE
RIVERTON, WYOMING

TELEPHONE: 856-2796

OME Region III
RECEIVED
FEB 13 1969
Denver, Colorado

February 6, 1970

J. William Hassler
Field Officer, Region III
Office of Minerals Exploration
Building 53, Room 200
Federal Center
Denver, Colorado 80225

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Sincerely,

John L. Larsen

JLL:js

East Tintic Mining District, Utah

File

INTRODUCTION

The East Tintic Mining District is near Eureka, Utah, about 100 miles from Salt Lake City, south via Interstate 15 to Santaquin and west on State 5 and 70 to Eureka. Recorded production from it and the main Tintic District is $425 million, mostly from limestone replacement ore bodies, the values being largely in silver, lead, and gold. The East Tintic is credited with $110 million, most of which has come from blind ore bodies. Exploration by the USGS, Newmont and Kennecott in the last decade has resulted in the discovery of the large Burgin ore body, the Trixie ore body and one or more unannounced new finds. Alfred Ellerby, President of Vipont Mining has offered National Lead an opportunity to participate in an exploration program proposed by Western States Mining and Contracting, Inc. in the untested heart of the East Tintic District. WSMC is a small family corporation owned by John L. Larsen, President, his father Glen Larsen, and two other sons. Glen Larsen has mined in the Tintic District for many years and is a walking encyclopedia concerning its mines and geology. John L. Larsen is presently mining the small high grade U_3O_8 lenses left behind by the larger operators in Wyoming open pit mines. He was foreman at the Atlas Minerals Moab U_3O_8 mine.

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SUMMARY

The projected intersections of the easterly Sioux-Ajax fault with northerly mineralized shear zones in the favorable Bluebell dolomite suggest the possibility of a long narrow replacement ore body on the Crown Point property, similar to the adjacent Iron Blossom zone. The potential of such a discovery would be 500,000 tons of $80 ore.

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GEOLOGY AND POTENTIAL

More than ⅔ ($110 million) of the Tintic district's recorded $425 million production has come from the Devonian-Silurian-Ordovician Bluebell dolomite. Workings on the 680 level (5863 elev.) of the Crown Point No. 3 shaft penetrated the lower portion of the Devonian Victoria Formation, indicating the Bluebell lies a short distance below. CP No. 1 rotary-diamond drill hole encountered Victoria Formation between 906 and 960 feet, 960 feet (5840 elev.) presumed to be the position of the Bluebell contact. The Bluebell was cored to 1078 feet. Altered dolomite was cut between 1000 and 1075 feet. The Bluebell is thought to be 550 feet thick.

The easterly Sioux-Ajax fault has localized ore in four mines - the Mammoth, Spy, Iron Blossom and the recent Trixie discovery. Where exposed, it is a normal fault dipping at ± 80°N with a calculated 1500-1600 foot displacement. On the Crown Point claims the fault is covered by volcanics but its approximate position has been inferred and the south end of the property extends along 3700 feet of its strike length.

The fundamental ore controls of the district are northly steeply west dipping shear faults which localize numerous fissure veins and replacement veins south of the Sioux-Ajax fault and have caused long horizontal manto-like replacement ore bodies on the north side. The relationship of the vein systems south of the Sioux-Ajax fault to the Godiva and Iron Blossom horizontal "pipes" on the north side is obvious. The presence of strong vein systems (Alaska, United, Tintic, New State, Treasure Hill, Shoebridge Bonanza, Showers, Fremont and others) suggest another ore body similar to the Iron Blossom may be concealed under the volcanics on the Crown Point property.

Much of the East Tintic District is covered by mid-Eocene pre-ore volcanics. Mineralization concealed by these volcanics is suggested by the following ore guides: hydrothermal alteration, weakly mineralized fissures and pebble dike intrusion breccias. About 80% of the Crown Point claims are covered with volcanics. The USGS map (Lovering, 1960) shows distinct northerly zones of strong pyrite alteration and a westerly zone. These pyrite zones may reflect important northerly ore zones and ore along the Sioux-Ajax fault.

Approximately 100 feet west of the Larsen shaft site, a limonitic pebble dike in altered (pyritic) volcanics about 1 foot wide, striking N25E dipping 85°E was observed. Glen Larsen pointed out pebbles of Tintic quartzite, evidence of the deep penetration of this structure. About five feet west of this dike is a limonitic, gougy fault zone about 30 feet wide with fractures varying N30-45°E, dipping 70°W to 90°. The west edge of this fault marks the west boundary of a 140 foot wide north trending zone of pyritic alteration - one of the three important alteration zones which may reflect ore in the favorable Bluebell Formation over 1000 feet down.

The geology of the 680 level (5863 elev.) of the Crown Point No. 3 Shaft mapped by Reed Welch (ASARCO) in 1938 (Banghart, Plate 5, 1967a) is encouraging. North trending pebble dikes, breccia zones, jasperoid and manganese mineralization and scattered galena on a NNE fracture in the Victoria Formation suggest the possibility of ore channels in the underlying more favor-

able Bluebell formation.

The geologic situation suggests the possibility of an ore body similar to the Iron Blossom horizontal replacement deposit extending north from the Sioux-Ajax fault and high angle chimney deposits in the fault zone. The Iron Blossom zone is 1000 feet west of the Crown Point property. North of the Sioux-Ajax fault, the Iron Blossom replacement ore body is 5000 feet long, 20-170 feet wide and 20-60 feet thick. Production was over 1 million tons of ore with an average value of more than $80 at today's prices. If a similar ore body is present under the Crown Point claims, at least ½ of it would be covered by the claims, so the suggested ore potential is 500,000 tons of $80 ore. Should ore extend north into the Iron King claims (Kennecott) it is possible we could mine it for Kennecott on a royalty basis. The Anaconda ground south of the Sioux-Ajax fault is less attractive. Any ore probably consists of replacement veins in pyrometasomatized Cambrian limestones or fissure veins in intrusives, so the size potential is smaller. However, such veins would probably widen near the Sioux-Ajax fault. If ore was found north of the fault, Anaconda would probably be amenable to our exploring and mining south of the fault.

The Larsen shaft workings could also serve as a drilling platform to test horizons below the Bluebell dolomite which are known to have produced ore in other parts of the district.

EXPLORATION - PAST AND PROPOSED

Drilling

Drillhole CP No. 1 cut no ore, but encountered some favorable alteration and mineralization. Collar elevation is about 6800 feet.

0-890: pyritic, argillized volcanics
890-906: rubble zone
906-960: Victoria formation
960-1078: Bluebell dolomite
1004-1075: altered (bleached limonitic) dolomite
1016: bleb of galena
1038-58: lost circulation; 1 foot core recovery — highly altered, brecciated limestone with much limonite, minor Mn dendrites, anomalous Pb-Zn values.
fault zone
1062-64: altered porphyry dike; anomalous Pb-Zn
1064-75: oxidized, fractured bleached limestone, much Fe staining, Mn dendrites, gouge, mud
1075-78: fresher, crystalline limestone

Drillhole CP No. 2 was designed to test a pyritic alteration zone on the southwest trend of the Zuma ore body. Collar elevation is approximately 6600 feet. The hole encountered the rubble zone below pyritic volcanics at 1174 feet, was stopped at 1178 feet. The thickness of volcanics is attributed to pre-volcanic erosion along the Sioux-Ajax fault (Banghart, 1967a).

Drillhole CP No. 3. All rotary. No log available; location unknown. Bear Creek reportedly analyzed sludge from hole. No record available.

The 3 holes reportedly cost $35,000 (J. L. Larsen, personal communication).

Shafts

The Crown Point No. 1 and the Minnie Moore shafts lie just west of the property. Minor production is reported from each. The Larsens report that the No. 1 shaft dump shows no mineralization, however. The No. 1 shaft is 400 deep. No other information is available. It is not known if the thrust fault in this area localized any ore.

The Crown Point No. 2 is collared in the Mississippian Gardison Limestone at the 6575 elevation. It was sunk to a depth of 1000 feet, penetrating the Victoria formation and the upper part of the Bluebell. The shaft has about 10,000 feet of underground workings with laterals on the 250, 400, 500, 550, 750 and 1000 foot levels (Crane, 1928). No geology is available and no production is reported. The north leg of the property is extensively explored by these workings, though it is possible ore is present in the Bluebell formation below the 5575 elevation.

The presence of mineralization in the Crown Point No. 3 shaft - 680 Level (5863 elev.) which might reflect ore channels in the Bluebell Formation below has been discussed.

According to the engineering map (Banghart, 1965b), the Larsen shaft was recently collared at an elevation of about 6800, at a point approximately 1720 feet west and 720 feet south of the NE corner of Section 29. This is supposed to be 250 feet west and 200 feet south of CP No. 1. The shaft is down 30 feet, the collar is concreted, and a steel headframe has been constructed. A second-hand hoist with 2000 foot capacity has been installed; second-hand motors have been purchased. A power line and transformer station will be installed.

John Larsen estimates that WSMC has about $75,000 in the property, and this would be part of their ½ of the joint venture. He has been asked to substantiate these costs. Their costs would include drilling - $35,000, road construction, headframe-hoist house construction, hoist, motors, land acquisition costs. The company's experience in the district is worth a lot and they offer the cheapest means of exploring these claims by underground workings, the method this district seems to require.

The Larsens propose to 1 sink 1300 feet into the Bluebell formation 2) crosscut 200 feet south to the Sioux-Ajax fault 3) drift 500 feet east to locate possible ore channels projected downward and southerly from the 680 level of the Crown Point No. 3 shaft and 4) diamond drill ten 400 foot holes to explore the ore channels.

They have applied (9/5/68) for an OBE loan to pay for 25% of the sinking costs and 50% of the lateral work. They estimate this loan will amount to $75,000. In any joint venture this loan, if received, is to be considered as a part of their contribution to the project. Their original application for an

OME loan of $250,000 to sink a 1300 foot shaft in another part of the claims and do 2000 feet of drifting was rejected on the grounds that it was a prospecting venture, not an exploration venture, as defined by OME regulations (Johnson letter of August 25, 1967).

Because their request for the large OME loan was rejected, the Larsens (WSMC) invited Alfred Ellerby of Vipont to participate in a joint exploration venture. WSMC will do the work. They estimate it will cost Vipont around $200,000 to participate and acquire 50% of WSMC's interest in the property.

COMMENTS AND RECOMMENDATIONS

In the course of the project it may become desirable to sink through the entire Bluebell formation. Present information suggests that the shaft must be 1500 feet deep to do so.

Alteration and mineralization might be so encouraging as to require silling off and lateral exploration somewhere in the altered dolomite horizon cut in CP No. 1 between 1000 and 1075 feet. Another, lower level may also be required.

The proposed 200 foot south crosscut on the 1300 foot level is based on the premise that the Sioux-Ajax fault dips 70°N. If its dip proves to be 80°N as seen elsewhere in the district, the crosscut may need to be 400 feet or more to reach the fault.

Surface alteration and structures west of the shaft location seem to call for a west drift as well as an east drift.

Larsen's proposal of a 1300 foot shaft and 700 feet of lateral work plus 4000 feet of diamond drilling may prove to be only the bare bones of the exploration work needed to test this prospect. The project is likely to cost considerably more than the $200,000 estimated by the Larsens. However, it seems that WSMC will do the work far more cheaply than we could contract it or do it with our own people.

This is an interesting prospect with a good chance of finding ore and we should seriously consider this venture. It is recommended that negotiations be initiated (through Vipont) as soon as possible. Mr. Ellerby has suggested that we negotiate for a contract containing an option to buy out WSMC with a tax-free exchange of Vipont stock.

James D. Loghry

James D. Loghry
November 14, 1968

Banghart, R. C., 1967a: OME Exploration Program, Crown Point Claims, East Tintic District, Utah County, Utah, April, 1967; with maps, Plates 1-5. Appendix includes: Crane, G.W., 1928, General report on the property of the Crown Point Consolidated Mining Company; Bush, J.B., Drill Hole Log CP No. 1, July 1964.

Banghart, R.C., 1967b: Revised OME Exploration Program, Crown Point Claims, East Tintic District, Utah County, Utah, September, 1967, with revised Engineering Map.

Bush, J.B., et al, 1960, The Chief Oxide-Burgin Area Discoveries, East Tintic District, Utah: A Case History: Economic Geology, V. 55, p.1116-1147; 1507-1540.

Cook, D.R., Ed., 1957, Geology of the East Tintic Mountains and Ore Deposits of the Tintic Mining District: Utah Geological Society Guidebook to the Geology of Utah, No. 12.

Johnson, F. E., OME Chief, correspondence with J. L. Larsen, Aug., Sept., Nov., 1967.

Lindgren, W. and Loughlin, G. F., 1919, Geology and Ore Deposits of the Tintic Mining District, Utah: U.S. Geol. Survey Professional Paper 107.

Lovering, T.S. and others, 1949, Alteration as Related to Ore Deposits in the East Tintic District, Utah: Economic Geology, Monograph 1.

Lovering, T.S., Morris, H. T. and others, 1960, Geologic Map (Sheet 1) and Alteration Map (Sheet 2) of the East Tintic District, Utah. U.S. Geol. Survey Mineral Inv. Map, MF 230.

Morris, H., 1964, Geology of Eureka Quadrangle, Utah: U.S. Geological Survey Bulletin 1142-K.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

March 25, 1970

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Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2282

During an interim inspection of the subject property on February 5, 1970 the Crown Point Larsen shaft had been sunk to a total depth of 520 feet, and appears to be in the Packard Rhyolite.

Some water had been encountered in the shaft and the Operator was having some pumping problems, mostly mechanical. There was some 20-30 gallons of water per minute being pumped from the shaft at the time of the inspection. By the end of February 1970 the shaft had been sunk to a depth of 555 feet for an additional 35 feet, according to the Operator's Monthly Voucher report. An interim inspection will be made during April as the Operator had gone to two shifts per day in order to speed up the shaft sinking.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Office of Minerals Exploration
Building 53 Room 200

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C. E.
FEB 2 1970
INITIALS CODE
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January 29, 1970

Mr. John L. Larsen, President
Western States Minerals, Inc.
1111 Westview
Riverton, Wyoming 82501

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Properties
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

My present plans are to visit properties in Utah next week, and I will probably look at the above-stated property Thursday, February 5th. Mr. Glen Larsen will be so informed by a copy of this letter.

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

cc: Mr. Glen Larsen
Western States Mining Co.
489 North Third West
Provo, Utah 84601

cc: Chief, OME
OME-6646
OME chron
Mr. Hasler

Office of Minerals Exploration
Building 53 Room 200

January 8, 1970

OFFICIAL COPY
O. . N.
JAN 14 1970

Memorandum

To: Hal Morris

From: J. William Hasler

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
CrownPoint and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2282

Enclosed is a Xerox copy of a map showing the surveyed location of the Larsen-Crown Point shaft. The Survey was completed during December 1969. The shaft location is quite close to where Roger Banghardt's map shows the proposed shaft. I made an interim inspection of the shaft on December 26, 1969 with Glen Larsen. They were having some water problems with what I presume to be a perched water table in a breccia zone at a depth in the shaft of 440 feet. There was a flow of about 25-30 gallons of water per minute.

I would appreciate a map showing the location of other exploration drilling, the Trixie shaft and workings presently being done by Kennecott, and its relationship to the Sioux-Ajax fault zone and the Crown Point and East Crown Point properties. Please do not make any special effort, however, I will appreciate any interesting data or ideas you mighthave that would enhance the exploration project.

Best personal regards,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

cc: Chief, OME
OME chron
Mr. Hasler
OME-6646

PRESIDENT - GLEN LARSEN
SECRETARY AND
TREASURER - JOHN L. LARSEN

VICE PRESIDENT - LESLIE W. LARSEN
VICE PRESIDENT - LLOYD LARSEN

WESTERN STATES MINING AND CONTRACTING, INC.
CUSTOM MINING AND MINING CONTRACTORS
1111 WESTVIEW DRIVE
RIVERTON, WYOMING

TELEPHONE: 856-2796

OME Region III
RECEIVED
DEC 16 1969
Denver, Colorado

December 12, 1969

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J. William Hasler
Field Officer, Region III
Office of Minerals Exploration
Federal Center, Bldg. 53 Rm. 200
Denver, Colorado 80225

Dear Bill:

This is to inform you there has not, and will not be a voucher from Western States Minerals for the month of October.

Late preperation of previous vouchers eliminated the need for October voucher.

The shaft was completed to a depth of 410' as of December 1, 1969.

Sincerely,

John L. Larsen

JLL/smh

PRESIDENT - GLEN LARSEN
SECRETARY AND
TREASURER - JOHN L. LARSEN

VICE PRESIDENT - LESLIE W. LARSEN
VICE PRESIDENT - LLOYD LARSEN

WESTERN STATES MINING AND CONTRACTING, INC.
CUSTOM MINING AND MINING CONTRACTORS
1111 WESTVIEW DRIVE
RIVERTON, WYOMING

TELEPHONE: 856-2796

December 15, 1969

OME Region III
RECEIVED
DEC 17 1969
Denver, Colorado

6646

J. William Hasler
Field Officer, Region III
Office of Minerals Exploration
Federal Center, Bldg. 53 Rm. 200
Denver, Colorado 80225

Dear Bill:

Sorry about the mistake on the stationary. Will be more careful next time.

There has been no acquisition by any company of Western States Minerals, and there is no intended sale or acquisition. If there ever is, we will notify the Bureau before hand, and take the necessary steps before consumating the deal.

Hope you have a merry Christmas, and a Happy New Year.

Sincerely,

John L. Larsen
Western States Minerals

JLL/smh

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IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

December 17, 1969

OFFICIAL COPY
O. M. E.
RECEIVED
DEC 22 1969

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Transmitted herewith is a copy of the lithologic log of the Larsen-Crown Point Shaft as prepared by one of the Kennecott Corporation's geologists, assigned to the Burgin Mine Operations.

Mr. Larsen referred to this work in his narrative report accompanying the Operator's Monthly Progress Report for November, 1969.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

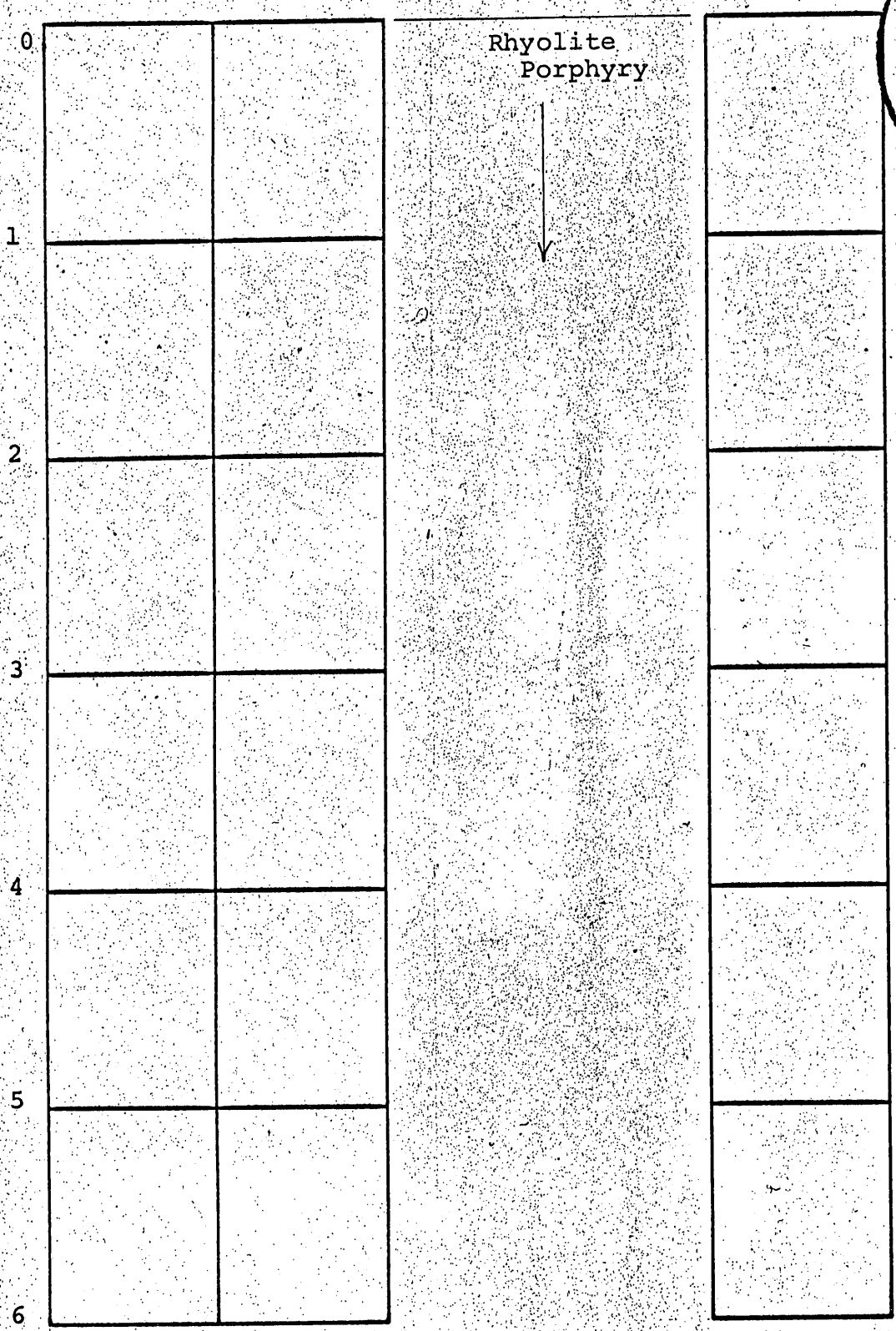
Enclosure

WESTERN STATES MINING & CONTRACTING, INC.

Larsen - Crown Point Shaft

Lithologic Log

OME Region III
RECEIVED
DEC 16 1969
Denver, Colorado



Unless otherwise indicated the south and east sides of the shaft will be mapped.

Scale: 1 inch equals 5 feet.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

December 15, 1969

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Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Properties
Utah and Juab Counties, Utah
Contract 2285

Enclosed are the original and two copies of the operator's ~~monthly~~ voucher with an included short narrative and a map showing the location of the Larsen-Crown Point shaft collar, plus a list of surface and shaft equipment.

I requested that the shaft be surveyed in, as the contract map and the maps showing the new proposed shaft location were only estimated. I felt it advisable to now have the shaft and proposed workings located accurately, in order to facilitate future work to be accomplished under the subject contract with respect to the local geology as well as with other exploration work presently in progress in the Trixie area by Kennecott Copper Corporation.

The Trixie area lies southeast of the East Crown Point shaft in the footwall of the Sioux-Ajax fault zone. There have been recent reports of significant discoveries of high grade mineralized material in the Trixie shaft workings as well as in diamond drill holes in the Trixie area (oral communication, Hall Morris, Thor Kiilsgaard, U. S. Geological Survey, and Mr. John Larsen, President, Western States Minerals, Inc.). Reported values of material assaying as high as 38 oz. Ag and 0.03 oz. Au have been mentioned. Mr. Larsen reports, verbally, that the ore grade material he saw from the Trixie area workings is similar to the ore mined from the Iron Blossom Mine.

Due to an extremely late preparation of the September 1969 Operator's Monthly Voucher (10/31/69) there was no voucher prepared for the month of October, nor will there be one. The Operator is submitting a letter to the effect. The total footage sunk in the Larsen Crown Point shaft as of the first of December 1969 is 410 feet. At an allowed cost of $135.50 per foot the total amount claimed and approved by me is $55,555.00, the Government's share on a 25% participation basis for the shaft sinking alone will be $13,888.75.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

List of Surface Equipment Crown Point

1 Vulcan Double Drum Hoist

2 Atlas Copco 425 CFM Electric Compressors

1 85' steel headframe

1 2 1/2 ton skip

1 Crydermon mucker

4 GD Jackhammers

1 20' by 40' shop & hoist building

1 10' by 10' Compressor building

1 18' by 24' Timber framing building

1 10 by 10 Powder magazine

3 75 KVA transformers

1 TD 9 Front end loader

1 Tandem dump truck

1 pipe machine

1 Drill Press

1 Automatic framing saw 7h.p.

1 20 h.p. cut off saw

1 20 h.p. Fan

1 200 amp Welding machine

1 set sxygen & accetlyene Welding torches

1 1968 4 wheel drive pickup

1 Automatic pressure tank and pump

1 1500 gal. water tank

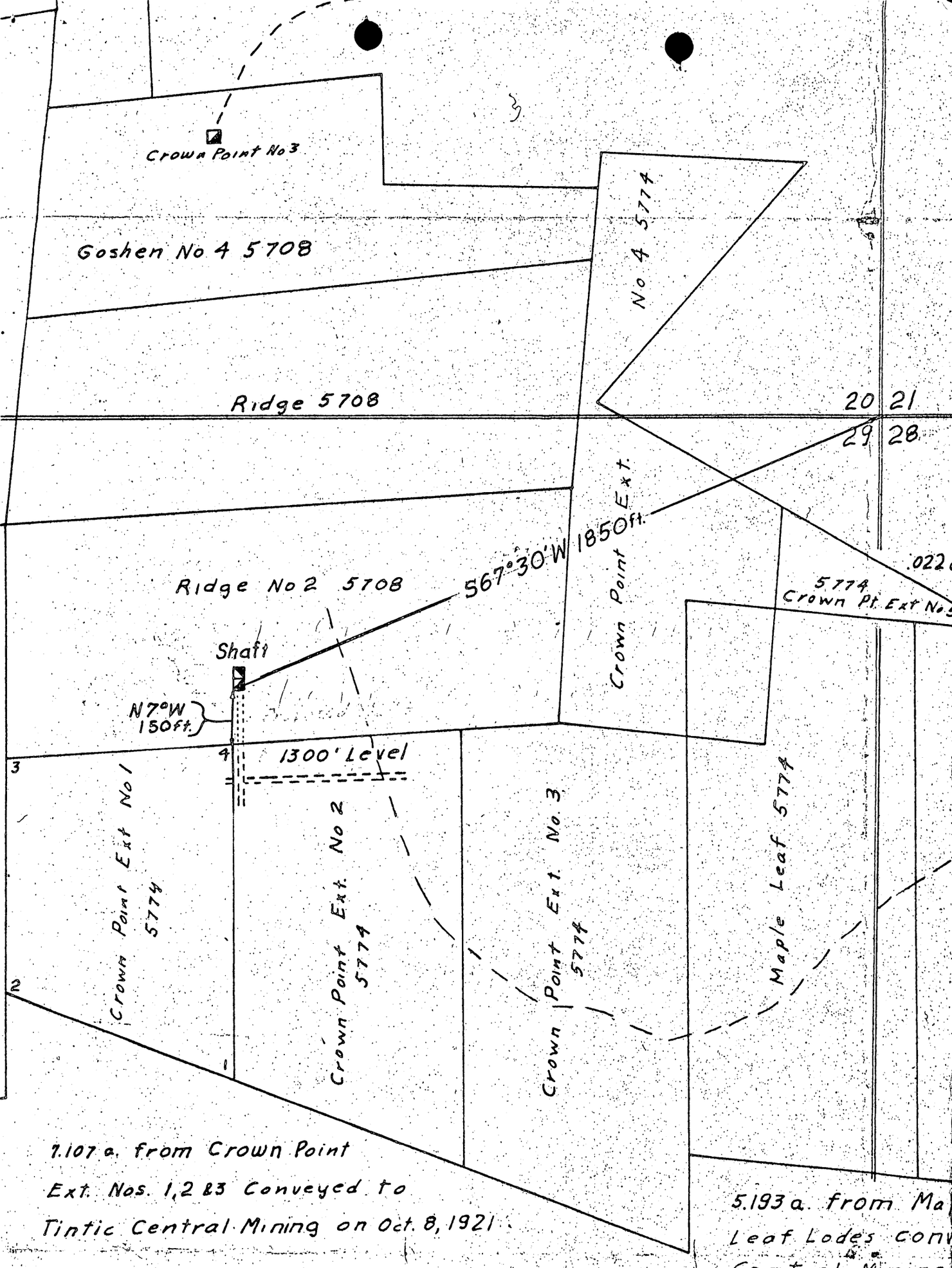
1 4' by 8' Air receiver

4 Timber rollers & slides

1 30,000 BTU space heater

2 Air tuggers

1 Complete set hand tools: Assorted pipe fitting and bolts. Electrical switches & hear for all equipment. Pipe and power cable for all equipment.



Larsen-Crown Point
Shaft Location

12-9-69 T10S, R2W OR

Office of Minerals Exploration
Building 53 Room 200

OFFICIAL COPY

December 12, 1969

OCT 17 1983

INITIALS

Mr. John L. Larsen, President
Western States Minerals, Inc.
1111 West View
Riverton, Wyoming 82501

Re: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point properties
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

Your letter dated December 4, 1969 containing your narrative report accompanying your operator's monthly voucher for the month of November is written on stationery belonging to Century Nuclear, Inc. of which you are president.

Will you kindly inform us, by letter, in duplicate, as to whether or not the Western States Minerals, Inc., which is under contract to the Office of Minerals Exploration has been superceded by Century Nuclear, Inc. or if they are two separate companies. If there has been a change in Western States Minerals, Inc. or a change in the corporate structure we must be so notified, and supplied with any legal document that may change the status of Western States Minerals, Inc. with reference to the above-captioned contract. Please refer to the subject contract Article 2(c).

Thank you for the map showing the surveyed location of the Larsen-Crown Point shaft, as well as the list of surface quipment. May I wish you a Merry Christmas and a Happy New Year.

cc: Chief, OME

cc: OME-6646
OME chron
Mr. Hasler

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

no voucher rec'd.

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Office of Minerals Exploration
Building 53 Room 200

September 9, 1969

Mr. John L. Larsen
1111 Westview Drive
Riverton, Wyoming 82501

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah
Contract 2285

Dear Mr. Larsen:

I received your letter dated September 2, 1969 narrating the activities on the Crown Point and East Crown Point claim, Utah and Juab Counties, Utah on September 3, 1969. The letter is to accompany your Voucher Form 9-1648 for the work completed during July 1969 under the subject contract.

You sent only an original and one copy of the letter as a narrative report, and three copies of the Voucher Form 9-1648. Please note on the reverse side of the Voucher Form 9-1648 enclosed under Operator's Monthly Report, last paragraph, that instructions are for you to submit the original and three copies of each of the two sections of this report to the regional OME Field Officer at the end of each month during the life of the contract. By not supplying us with the correct number of forms required the processing of your voucher is therefore delayed. I am sending the voucher forms to Washington recommended for payment, but I am duplicating the required number of letters to expedite payment to you. My workload is such that I cannot take care of these details if very many vouchers come in incomplete. Please follow instructions more closely, to prevent further delays in payment. I believe I sent ample voucher forms (9-1648) for your use. Should your supply get low, please inform us and we will send more.

I plan to be in Utah September 17, 18 and 19 and would like to examine the property at that time. I will contact your father when I arrive in Utah.

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

cc: Chief, OME
OME-6646
OME chron
Mr. Hasler

THE MINING RECORD Denver, Colorado, Wednesday August 27, 1969

Western States Minerals Developing Mine in Utah

1300-Foot Shaft, Drift Slated Within Next Year

EUREKA, Utah—Western States Minerals announces that they have commenced sinking a 1300-foot shaft on the Crown Point and East Crown Point properties, located in the Tintic Mining District near Eureka.

John Larsen, president of Western States Minerals, said that in addition to the 1300-foot shaft, a 500-foot drift will be driven to intersect the Sioux-Ajax fault, then 4000 feet of diamond drilling will be done to locate & block out ore bodies that could be located in this area.

A complete geochemical analysis has been completed on the properties. Larsen said this work indicates possible hidden ore zones similar to the hidden ore zones in the Iron Blossom, Trixie, Eureka Standard, and the Burgin. A drilling attempt was made on these properties with very poor core recovery (about 5 per cent) but enough information was obtained to conclude that an ore body could exist at depth in the bluebell limestone host rocks. The size and grade of this ore body is unknown, but if it is similar to surrounding mines, it could be a very profitable operation, Larsen believes.

GLENN LARSEN is manager of this project and has all surface work completed, including steel head frame, hoist house and hoist compressor building, dry and shop, timber framing buildings, etc., and the shaft presently is down 125 feet with satisfactory progress made. He hopes to complete the 1300-foot shaft in less than a year.

FINANCING of the project is by Western States Minerals, a $75,000 loan from the office of Minerals Exploration, and a joint agreement with Vipont Mining Co. of Lander, Wyo. Vipont is supplying up to $200,000 for 50 per cent of the net profits that will result from the operation. Cost of the total project will be approximately half a million dollars.

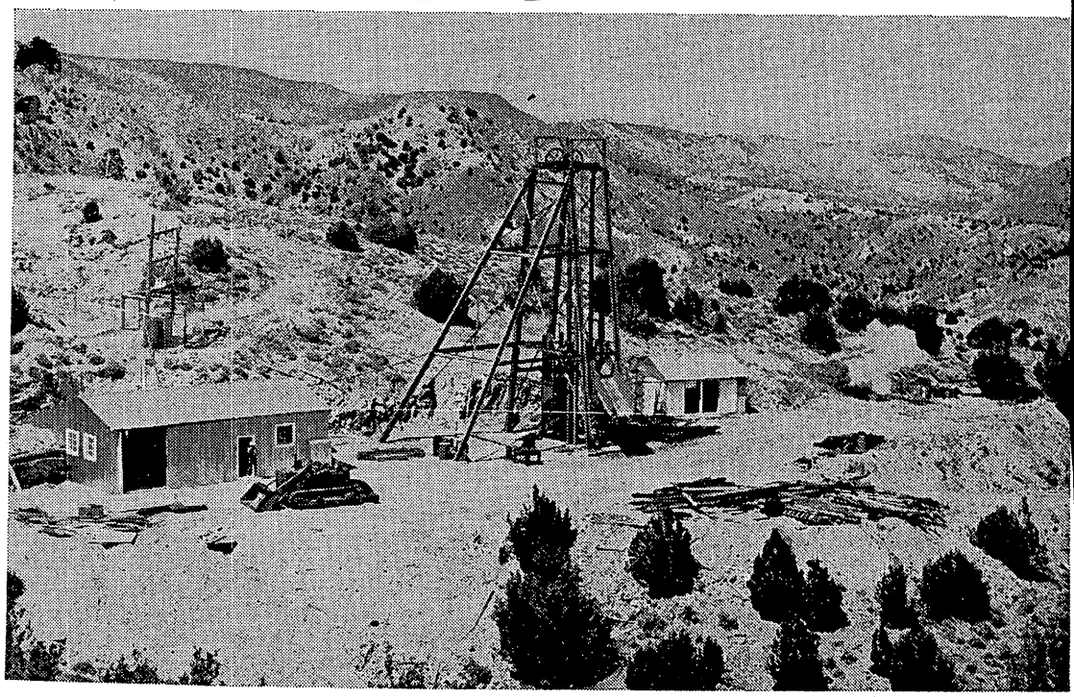
John Larsen said Kennecott Copper has just completed a 800-foot shaft on the adjoining property to the east, and recently cut valuable ores in a drift that they are running north from their property. It has been stated that the ore is high grade copper, gold and silver similar to the ores found in adjoining properties. Kennecott's shaft was sunk on the Trixie claims and is the newest discovery in the Tintic District.

Larsen remarked that it was a welcome feeling to know that with a little raise in the price of minerals, capital again becomes available to explore favorable targets. He said that in the past years Kennecott has discovered, and currently is producing the Burgin Mine with reserves estimated in excess of 250 million tons, and now the Trixie. Both of these mines are located on the Sioux-Ajax fault which has been a localizer for ore in other major mines in the district—Mammoth Mine, Iron Blossom, and Eureka Standard Mines. These mines have produced more than $200 million worth of ore.

The Crown Point and East Crown Point Mines are located in the famous Tintic Mining District which has been active as a producing district since the last century.

Glenn Larsen has been in business and worked in the mines in Tintic nearly all of this life. In addition to the work they are doing in Tintic, Glenn Larsen and his sons, Jack, Les, and Lloyd are engaged in other activities, most of which are in Wyoming.

WESTERN STATES Mining and Contracting, of which they are sole owners, is operating mines in Gas Hill and Crooks Gap, Wyo. They have staked more than 8,000 lode mining claims and have two drill rigs doing their own drilling and contract work for major companies.



SURFACE WORK is completed at the Western States Minerals property in the Tintic Mining District, Eureka, Utah.

John Larsen is president of Century Nuclear Inc., formed earlier this year. Western States Mining and Contracting is the major stockholder in this company. Century's primary goal has been to acquire properties in major areas in Wyoming, and then selling to major companies but reserving royalty. They have properties in the Powder River Basin, Wind River Basin, and Great Divide Basin. Larsen said a progress report will be issued in the near future.

Lloyd Larsen is in charge of all Wyoming mining operations, and Leslie Larsen is in charge of all property acquisitions.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

July 29, 1969

OFFICIAL COPY
O. M. E.
RECEIVED
JUL 30 1969

INITIALS	CODE
gla	130
bol	120M
HK	120

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Properties
Utah and Juab Counties, Utah
Contract 2285

Enclosed are the "Government's Copy" and the "Budget and Finance's Copy" of the subject property executed by the Operator.

The "Operator's Copy" has been sent to the Operator for signature and retention, and work will commence under the terms of the contract before August 1, 1969.

J. William Hasler
me

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

Office of Minerals Exploration
Building 53 Room 200

July 29, 1969

ORIGINAL COPY
O. M. E.
RECEIVED
JUL 30 1969
INITIALS

Mr. John L. Larsen, President
Western States Minerals, Inc.
1111 Westview
Riverton, Wyoming 82501

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Properties
Utah County, Utah
Contract 2285

Dear Mr. Larsen:

Enclosed please find the "Operator's Copy" of the above-stated contract, for your signature and retention.

Please inform us in a letter in duplicate of the date you actually begin work under the subject contract. This date can now be anytime between the date you signed the contract and August 1, 1969.

A supply of Form 9-1648 are enclosed for your use as the Operator's Monthly Voucher. Instructions are on the reverse side.

Sincerely yours,

J. William Hasler
mc

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

cc: Chief, OME
OME chron
Mr. Hasler
OME-6646

Law Offices of
WATT AND NORMAN
506 GILLETTE AVENUE
GILLETTE, WYO. 82716
682-9510
AREA CODE 307

July 22, 1969

Mr. J. William Hasler
Field Officer, Region III
Office of Minerals Exploration
Federal Center
Building 53, Room 200
Denver, Colorado 80225

Re: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah

Dear Mr. Hasler:

Please find enclosed three copies of contract pertaining to the above described mineral claims signed by Mr. John L. Larsen, President of Western State Minerals, Inc., and by myself.

Very truly yours,

Tim Watt

ch

Tim Watt

TW/ch

Office of Minerals Exploration
Building 53 Room 200

OFFICIAL COPY
O. M. E.
RECEIVED
JUL 16 1969
INITIALS CODE
A 30
gla 120 M
JHK 120

July 14, 1969

Mr. John Larsen, President
Western States Minerals, Inc.
1111 West View Drive
Riverton, Wyoming 82501

Re: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah

Dear Mr. Larsen:

Enclosed are the following copies of a proposed contract for the subject property: the "Government's Copy", the "Budget and Finance's Copy", and the Field Office's Copy". The contract consists of MME Form 50 (seven pages), Annex I (two pages), two Lien and Subordination Agreements, Exhibit A (six pages), Exhibit B (one page), and one map (Figure 1).

All copies of the contract have been signed for the Government. I have inserted the date for commencement of the work as August 1, 1969, as a result of our telephone conversation on the evening of July 13, 1969. The work can begin under the terms of the contract as specified any time before August 1, 1969 and after you have signed the contract for Western States Minerals, Inc.

If the contract is satisfactory to you, all copies sent you herein, should be signed by you, as President, or by an authorized representative of the company, and returned to this office. I will in turn send you the Operator's Copy for your signature, which you retain, for your use. Please duplicate an Operator's Copy and send it to Mr. Glen Larsen, in Provo, Utah for his use in doing the actual exploration work at Eureka, Utah. Please notify me by letter, in duplicate, of the date actual work under the contract begins, so that I can inform our Washington, D. C. office.

If any part of the proposed contract does not have your approval, the "Government's Copy", the "Budget and Finance's Copy" and the "Field

Office's Copy" should be returned to this office together with the proposed changes for consideration.

Please be advised that the 8-1/2 percent interest accrues from the dates on which individual payments are made by the Government and like the principal is repayable from royalty on production.

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

cc: Chief, OME
OME-6646
OME chron
Mr. Hasler

Form 7

OFFICIAL FILE COPY

Date	Surname	Code
7/8/69	Emerick	120
7/8/69	Kirkemo	120
7/9	Peterson	220
7/10	Cal	120
		120M

AIRMAIL

Memorandum

JUL 10 1969

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6646 (Silver-Copper-Gold)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah

Enclosed are the original and three copies of a proposed contract for the subject property. The contract consists of MME Form 50 (seven pages), Annex I (two pages), two Lien and Subordination Agreements, Exhibit A (six pages), Exhibit B (one page), and one map (Figure 1).

All copies of the contract have been signed for the Government. You should insert the date for commencement of the work. Also enclosed is an extra copy of the contract for field use.

If the proposed contract is satisfactory to you and the Applicant, all four copies should be signed by an authorized representative of the Applicant. Thereafter, please distribute the copies as usual.

Please advise the Applicant that the 8-1/2 percent interest accrues from the dates on which individual payments are made by the Government and like the principal is repayable from royalty on production.

If any part of the proposed contract does not have your approval or that of the Applicant, the original and all copies should be returned to this office together with the proposed changes for consideration.

Harold Kirkemo (gla)

Harold Kirkemo

Enclosures

cc: Director's Reading File
Economic Geology File
OME Docket
OME Reading File
Mr. Emerick
130

BSLong/1/gla 7/8/69

Office of Minerals Exploration
Building 53 Room 200

OFFICIAL COPY
O. M. E.
RECEIVED
APR 21 1969

INITIALS	CODE
	30
	20
	20

April 18, 1969

Mr. John L. Larsen, President
Western States Minerals, Inc.
1111 West View Drive
Riverton, Wyoming 82501

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah and Juab Counties, Utah

Dear Mr. Larsen:

Your letter dated April 11, 1969 informing us that you would still be interested in a possible contract sometime after July 1, 1969 should funds for such a contract become available, arrived in this office April 15, 1969.

May I refer you to Mr. Johnson's letter of November 20, 1968 in which the government would participate with you on the following basis:

Cost of sinking 1300-foot shaft to be shared by the Operator, 75 percent, and by OME, 25 percent.

Cost of driving 500 feet of crosscut and drift to be shared by the Operator, 50 percent, and by OME, 50 percent.

You stated that you are presently working on the Crown Point project, using your own funds. May I inform you that any work completed, or any funds expended before execution of any OME contract between the Government and an Operator are not allowable. Should a contract be executed sometime after July 1, 1969 we would participate in those costs only after the contract had been duly executed.

Should there be any agreement between Western States Minerals, Inc. and Collins Securities, or anyone providing you with private placement funds, we will require that you furnish us with two copies of such agreement or instrument.

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

cc: Chief, OME
OME-6646
OME chron
Mr. Hasler

Western States Minerals
1111 West View Drive
Riverton, Wyoming 82501
April 11, 1969

OME Region III
RECEIVED
APR 15 1969
Denver, Colorado

William Hasler
Building 53
Denver Federal Center
Denver, Colorado 80225

Dear Bill:

Thank you for making me aware that I had not answered questions in our letter from Mr. Johnson in Washington, dated January 31, 1969.

The question was asked whether or not we would still be interested in a contract if funds became available at a later date. Yes, we are interested. In fact we have been hoping that funds might be available before July 1. We have been working on the Crown Point project and using what funds we had available to commense our shaft sinking and we are now about ready to start. If there was any possible way the contract could be signed contingent on later available funds we would certainly be glad to do so.

Contacts have been made for additional funds, with a couple of different companies to help us supply capitol for our end of the cost. We have had favorable response, the best one from Collins Securities in Denver. They indicated they could make a private placement for us if we so desire. There are also other companies interested. However, no matter what the outcome of our discussions or negotiations with other people Western States Minerals will still be the applicant and mine operator.

Sincerely,

John L. Larsen
President

JLL:cl

Office of Minerals Exploration
Building 53 Room 200

OFFICIAL COPY
O. M. E.
RECEIVED
FEB 5 1969

INITIALS	CODE
	120
bal	120
	140
HK	120

February 3, 1969

Mr. John L. Larsen
Western States Minerals, Inc.
1111 West View Drive
Riverton, Wyoming 82501

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Properties
Utah County, Utah

Dear Mr. Larsen:

I have received a copy of a letter dated January 31, 1969 from Mr. Frank E. Johnson, Chief, Office of Minerals Exploration, acknowledging receipt of additional information requested at a previous date.

Also included was a copy of a letter by your Mr. A. R. Rogers. In the fifth paragraph of his letter he mentions my instructions to you that the new Lien and Subordination Agreement should be signed by the property owner rather than by you.

My instructions, during a telephone conversation with you at my home, were for you to reply in detail to Mr. Johnson's letter dated November 20, 1968, and supply the information as requested. Please refer to paragraph 4 on page 2 of the letter dated November 20, 1968 from Mr. Johnson: "An unsigned Lien and Subordination Agreements form dated May 13, 1967, for the Goshen No. 1, Minnie Moore, and other claims listed on page 1 of the Lease and Agreement mentioned above shows the Crown Point Consolidated Mining Company as the Operator. The name of the applicant, Western States Minerals, Inc., should be inserted here instead of the name of the lessor. The Lien and Subordination Agreements should be signed by the lessee, John L. Larsen, and his address inserted in the proper space. A new set of the Lien and Subordination Agreements form is enclosed for your use if necessary."

I am enclosing additional Lien and Subordination Agreements to be executed as requested by our Washington office. Please send the required number (5) of executed copies to Washington.

Sincerely yours,

cc: Chief, OME
OME-6646
OME chron
Mr. Hasler

J. William Hasler

J. William Hasler, Field Officer, Region III, OME

OFFICIAL FILE COPY

Date	Surname	Code
1/31/69	Kirkemo	120
		110
1/31	cac	220
		120M

AIRMAIL

JAN 31 1969

Mr. John L. Larsen
Western States Minerals, Inc.
1111 West View Drive
Riverton, Wyoming 82501

Re: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah County, Utah

Dear Mr. Larsen:

This is to acknowledge receipt of additional information sent to us by Mr. A. R. Rogers, Chief Geologist, in further support of your application for financial assistance to explore the subject property. We have not fully reviewed the new information but will do so in the near future. If we have further questions regarding your application, we will write you.

At this time OME funds for contracting purposes are limited to current contracts and to applications previously approved which can be provided for on present funds. Consequently, we would be unable to offer you a contract in the amount requested until sometime after July 1, 1969, the beginning of the new fiscal year, and then subject to the availability of the newly appropriated funds. Should this situation change, we would reappraise the schedule for preparing new contracts and would advise the applicants accordingly.

If the foregoing conditions are satisfactory to you, please advise so that we may prepare a contract for execution when expected funds become available.

Sincerely yours,

FRANK E. JOHNSON (gla)

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Economic Geology File
OME docket
OME Reading File
OME Region III w/cy letr. 1/7/69 and enclosures
Mr. Kirkemo

HKirkemo/gla 1-31-69

Kendall

1/13/69

As our finances now stand, if we could make a certain funding would not be needed until FY 1970

Depending on funds available in FY 70.

WJ

PRESIDENT - GLEN LARSEN
SECRETARY AND
TREASURER - JOHN L. LARSEN

VICE PRESIDENT - LESLIE W. LARSEN
VICE PRESIDENT - LLOYD LARSEN

WESTERN STATES MINING AND CONTRACTING, INC.
CUSTOM MINING AND MINING CONTRACTORS
1111 WESTVIEW DRIVE
RIVERTON, WYOMING

TELEPHONE: 856-2796

OFFICIAL COPY
O. M. E.
RECEIVED
JAN 13 1969

INITIALS	CODE
	130
gla	120
	110
	120

January 7,1969

Mr. Frank E. Johnson, Chief
Office of Minerals Exploration
Dept. Of Interior, Geological Survey
Washington, D.C. 20242

Re: OME-6646 (Silver)
Crown Point and East Crown Point claims
Utah County, Utah

Dear Mr. Johnson,

At the request of John L. Larsen I am writing to clear up the questions you raised in your letter of November 10, 1968.

First to the matter of costs. I have enclosed a re-revised copy of the first two pages of the revised application dated October 21, 1968. These show our current estimate of the costs, including your suggestions on drilling and the OME's share. The total is now $239,125 and OME's share is $75,025. I hope these meet with your approval.

Enclosed are two letters to the Riverton Banks asking for a loan of $75,025. Each has a letter of rejection accompanying it.

In regards to the lease from the East Crown Point Consolidated Mining Company I have enclosed copies of pages 14 and 15, with the signature of the lessor, to correct your copy of this lease. The Lien and Subordination Agreement from the same company has been dated and is enclosed herewith.

The lease from the Crown Point Consolidated Mining Company has been corrected by inserting the name of the lessee in the proper places. Copies of pages 1 and 10 are enclosed to correct your copy. A new Lien and Subordination Agreement from the same company has been executed and it and 4 copies are enclosed. In your letter you requested that this be signed by John L. Larsen as lessee, however, Mr. J.W. Hasler of the OME Denver office has informed us that it should be signed by the property owner and this was done. I hope this meets with your approval.

I believe this covers everything you mentioned in your letter and I hope it makes it all complete and correct to your satisfaction. If it does not please feel free to call on me for further assistance.

Yours very truly,

A R Rogers

A. R. Rogers
Chief Geologist

See enclosures filed left-hand side

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
11/19/68	Kirkemo	120
		110
11/20	cac	220
		120M

AIRMAIL

NOV 20 1968

Mr. John L. Larsen
Western States Minerals, Inc.
1111 West View Drive
Riverton, Wyoming 82501

Re: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah County, Utah

Dear Mr. Larsen:

Thank you for your letter and enclosures of October 21, 1968, to revise your application for financial assistance to explore the Crown Point and East Crown Point claims. This material was not received in this office until November 4, 1968. We have a number of questions regarding the information submitted.

In our letter to you dated September 10, 1968, we restated your proposed plan of financing as follows:

Cost of sinking 1300-foot shaft to be shared by the Operator, 75 percent, and by OME, 25 percent.

Cost of driving 500 feet of crosscut and drift to be shared by the Operator, 50 percent, and by OME, 50 percent.

In our discussion here in August, we considered that the Government's share of costs for diamond drilling also would be 50 percent.

In estimating the cost of shaft sinking and power line installation, you calculated the Government's share to be $59,383.33, or one-third of the total cost. However, under the proposal as stated above, the Government's share at 25 percent of the total cost would be $44,537.50.

We note also that the cost of diamond drilling is estimated at $8.00 per foot based on a bid submitted (Feb. 5, 1968 ?) by Boyles Brothers Drilling Company. Boyles states in its bid that over-all hole cost in this area has been in the range of $9.80 to $10.60 per foot and more if much quartzite is drilled. For this reason, the estimated cost per foot for drilling probably is too low.

You requested a loan of $277,550.00 from each of three banks in May 1967 and received negative replies from each bank. One of your letters to the banks was dated, but the other two were not. As the

total estimated cost of the proposed work is now somewhat less than originally estimated, please recalculate the estimated total cost and determine the amount that would be the Government's share according to the percentages first stated in this letter. New letters should be sent to the banks requesting a loan in the amount of the Government's share of the estimated total costs as calculated above, and include other information similar to that in your first letters. We suggest that you include a copy of your latest financial report. Please be sure to date your letters to the banks.

We note in the Mining Lease and Agreement between East Crown Point Consolidated Mining Company, lessor, and Western States Minerals, Inc., lessee, dated April 15, 1967, that the lessor did not sign the document as required on page 14 and that the Notary page for the lessor was not executed. Please furnish original or true copies of these pages to replace the invalid pages in our copy. The Lien and Subordination Agreements signed by the president of theEast Crown Point Consolidated Mining Company is not dated. All copies of the document are returned. Please insert the proper date.

The lessee is not identified on the first page of a Lease And Agreement with Crown Point Consolidated Mining Company, dated February 24, 1967. Presumably, it is John L. Larsen as he signed the agreement on page 14 as lessee. Please furnish a true copy of page one of this agreement to identify the lessee.

An unsigned Lien and Subordination Agreements form dated May 13, 1967, for the Goshen No. 1, Minnie Moore, and other claims listed on page 1 of the Lease And Agreement mentioned above shows Crown Point Consolidated Mining Company as the Operator. The name of the applicant, Western States Minerals, Inc., should be inserted here instead of the name of the lessor. The Lien and Subordination Agreements should be signed by the lessee, John L. Larsen, and his address inserted in the proper space. A new set of the Lien and Subordination Agreements form is enclosed for your use if necessary.

A copy of the material furnished us with your letter of October 21 will be sent to Mr. J. W. Hasler, OME Field Officer, Region III. He will contact you if he has additional questions.

We will continue processing your application upon receipt of the additional information herein requested.

Thank you for sending photographs of the work in progress on the property in September. The four photos are enclosed.

cc: Director's Reading File
Economic Geology File
OME docket
OME Reading File
OME Region III w/enclosures
Mr. Kirkemo
HKirkemo/gla 11-19-68
Enclosures

Sincerely yours,

FRANK E. JOHNSON (gla)

Frank E. Johnson
Chief, Office of
Minerals Exploration

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
9/10/68	Kirkemo	120
		110
		220
9/10	CMC	120M

AIRMAIL

SEP 10 1968

Mr. John L. Larsen
Western States Minerals, Inc.
1111 West View Drive
Riverton, Wyoming 82501

Re: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah County, Utah

Dear Mr. Larsen:

This is to acknowledge receipt on September 5, 1968, of your undated letter proposing to finance exploration of the subject property as follows:

Cost of sinking 1300-foot shaft to be shared by the Operator, 75 percent, and by OME, 25 percent.

Cost of driving 500 feet of crosscut and drift to be shared by the Operator, 50 percent, and by OME, 50 percent.

You state also that irrespective of any certification by the Government of possible production, the Operator would agree to enter into an agreement with the Government to provide for royalty payments.

As you know from our discussion with you here on August 30, 1968, our funds this Fiscal Year are limited, and we would have to defer a possible contract providing funds necessary to cover the Government's share of the estimated costs of this project until sufficient funds become available later this Fiscal Year or in the next Fiscal Year.

In the meantime, we suggest that you submit specific details on the revised proposed exploration and estimated costs for shaft sinking, drifting, crosscutting, and diamond drilling as discussed with me. If warranted, a proposed contract could then be prepared to be effective as soon as funds become available.

Sincerely yours,

FRANK E. JOHNSON (gla)

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Economic Geology File
OME docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/gla 9-10-68

see letter 10/21/68 + enclosures left-hand side

ORIGINAL COPY
O. M. E.
RECEIVED
SEP 5 1980

INITIALS	CODE
	~~120~~
gla	120
Calo.	110
HK	~~120~~

Mr. Frank Johnson
Office of Mineral Exploration
U. S. Geological Survey
Washington, D. C. 20242

Dear Mr. Johnson;

The following is a proposal on our O.M.E. 6646 Silver Application.

O.M.E. to pay 25% of the cost of the proposed 1300' shaft and 50% of the cost of the proposed 500' drift and crosscut.

Western States Minerals, Inc. would secure other financing to pay the additional 75% shaft cost and 50% drift cost.

In the event a discovery is not made at the completion of this work, we would also guarantee in writing that the O.M.E. would receive its royalty on any ore rpoduced from the property should additional work make a discovery.

We do hope your office will consider this new proposal favorably.

I enjoyed my visit with you at your office in Washington.

Respectfully yours,

John L. Larsen
lmc

John L. Larsen
WESTERN STATES MINERALS, INC.
1111 West View
Riverton, Wyoming

CC: Bill Hassler
Region 111
Building 52
Denver Federal Center
Denver, Colorado 80225

jll/lmc

SURNAME COPY

8/6/68 Kirkham 120

" Johnson 110

8/6 Jewett 220

120M

AIRMAIL

Western States Minerals, Inc.
/111 Westview
Riverton, Wyoming 82501

AUG 7 1968

Re: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah County, Utah

Gentlemen:

Your application for financial assistance to explore the subject claims and other information available to us have been reviewed.

Among the criteria and factors considered in studying an application are the geologic probability of making a significant discovery, the estimated cost of the exploration in relation to the size and grade of the potential deposit, the plan and method of conducting the exploration, and the availability of OME funds.

We have mentioned to you that a target for exploration is not well defined on the property, and that further prospecting would be necessary to define targets. Unfortunately, under regulations of the program, prospecting activities are not eligible for OME assistance. Until more information concerning a favorable geologic environment in the potential target area is available, it is not possible to judge whether the cost of exploration is warranted. The cost of the proposed program may be disproportionately high in comparison with the total value of ore expected in the target area.

We have considered with you alternate methods of exploring the property. As the favorable geological formations and structures are believed to lie at considerable depth, probably the most practical means of exploring the property is by crosscutting, drifting and/or drilling from a shaft sunk to the level of the favorable formation. Inasmuch as shaft sinking in this instance is not itself exploration and its estimated cost is about 75 percent of the total cost of the project, we could not participate in its cost to the same extent as for exploration from a shaft. Our suggestion that we would consider participating to the extent of 25 percent in the cost of shaft sinking was not acceptable to you.

Letter not received by John L. Larson Pres. as advised by Mrs. Johnson by phone 8/15/68 copy sent airmail 8/15/68

Because of the lack of funds, we were unable to execute new exploration contracts in the last two months of Fiscal Year 1968. As our funds for the present Fiscal Year are limited, OME contracts must be restricted to explore only specific target areas.

In summary, we cannot approve a contract to explore your property as proposed and, under the circumstances, we would have no alternative but to deny the application without prejudice to the property.

Should you be able to sink a shaft at your own expense and submit geological information to support an exploration program from the shaft, we would be glad to consider a revised application. If you choose this course of action, we will consider the present application as withdrawn. Please advise us of your decision.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Economic Geology File
OME docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/gla 8-5-68

OME
SURNAME COPY

8/1/68 Kirkham 120
" Johnson 110
Jewels 8/2 220
120M

OME-6646

Hon. Wallace F. Bennett
United States Senate
Washington, D. C. 20510

Dear Senator Bennett:

This is in reply to your letter dated July 23, 1968, to Mr. Frank E. Johnson, of our Office of Minerals Exploration, on behalf of Mrs. Joseph L. Wirthlin of Murray, Utah, concerning the application of Western States Minerals, Inc., for financial assistance to explore the Crown Point and East Crown Point properties in Utah County, Utah.

The applicant has proposed to explore the property by shaft sinking, crosscutting, drifting, and diamond drilling at a total estimated cost of $277,550.09, of which the Government's share at 75 percent would be nearly $210,000.00. The proposed shaft, 1300 feet deep and estimated to cost about $202,000.00, would constitute a major part of the expense.

As the Crown Point property is in a generally productive area, the proposal has merit, but in three respects it presents problems that have required long and careful study as well as extensive communication with the applicant. (1) The target for exploration is only vaguely defined, making the proposed venture more one of prospecting than of exploration. Under regulations, prospecting ventures are not eligible for OME assistance. (2) The shaft would constitute a very large expense and in itself is not exploration but only a means to make exploration possible. (3) The cost of the project would be very large in proportion to funds available for exploration loans.

On the basis of the assembled information, we concluded that the Government could not participate to the maximum of 75 percent in the costs of all phases of the proposed program, and particularly not in shaft sinking. As an alternative, OME proposed that the Government pay 25 percent of the cost of sinking the shaft and 75 percent of the cost of exploration from the completed shaft, with the applicant paying the balance. The applicant indicated, in reply, that he did not have sufficient funds to participate on the basis of more than 25 percent of the total costs.

As OME was without funds to make new exploration assistance contracts during the last two months of Fiscal 1968, final decision was postponed until the funding available for the OME program in Fiscal Year 1969 was known. It is now clear that the funding is limited and that assistance loans will have to be held rigorously to clear-cut exploration of specific target areas. Under these conditions, we cannot approve a contract as proposed by the applicant to explore this property. A letter formally notifying him of this decision is being sent to him.

180177

If the applicant should sink the shaft at his own expense and obtain additional geological information, we would be glad to consider a revised application for assistance to explore a target at depth.

Although the OME staff has from the outset recognized the proposed project as a "long-shot" of considerable attractiveness, neither Mr. Johnson nor Mr. Hasler has ever assured the applicant that a loan would be approved.

We regret that the large size and borderline character of the proposed project, and the limited resources of OME, combine to prevent approval of this application. Mrs. Wirthlin's letter to you is returned.

Sincerely yours,

Arthur A. Baker

Acting Director

Enclosure

cc: General Files
Director's chron
Division copy
Economic Geology File
OME docket
OME Reading File
OME Region III w/cys incoming correspondence
Mr. Kirkemo

HKirkemo/OTweto/gla/ogh/gla 8-1-68

UNITED STATES SENATE
Washington, D.C. 20510

July 23, 1968

Mr. Frank E. Johnson
Office of Minerals Explorations
Department of the Interior
Washington, D. C.

Dear Mr. Johnson:

Enclosed is a letter I have received from Mrs. Joseph L. Wirthlin of Murray, Utah, concerning a loan for the Crown Point Mining Property.

I would like to assure you of my interest and support for the application and to respectfully request that everything possible be done to expedite a favorable decision on this application.

Sincerely,

/s/ Wallace F. Bennett

Wallace F. Bennett

WFB/sh

Enclosure

c
o
p
y

180177

July 17, 1968

VIA AIR MAIL
SPECIAL DELIVERY

PERSONAL

Senator Wallace F. Bennett
1121 New Senate Office Building
Washington, D. C. 20006

Dear Senator Bennett:

Because of the great importance for us to receive information on the Government loans for the Crown Point Mining Property, we feel it wise to verify with you personally by letter the information given to your secretary on the phone on Wednesday, July 17. The Crown Point Mining Property is located in Eureka, and is surrounded by gold and silver producing mines, or mines which have produced gold and silver. Some of these properties you know: the Bergen, Trixie, and Dunmoch.

We have applied for a Government loan, and this has been approved by the mining experts as worthy of Government financial interest. Mr. William Hasler of Denver, and his office, approved the loan after examination of the property, and the information was sent to Washington to Mr. Frank E. Johnson of the Office of Minerals Explorations (OMEX). Mr. Johnson and Mr. Hasler gave us every assurance that the loan would be approved by July so that the work on the shaft could be continued. If you will kindly see if the loan has been approved, or if it will be considered in the near future, we would greatly appreciate your help and consideration when it comes before the Appropriations Committee.

Will you kindly send me any information you can obtain, and I will give it to Mr. Clayton Roundy, President of the Board, and to Mr. Glen Larsen, who is responsible for the development of the property, and who made the contacts with Messrs. Hasler and Johnson. The Senator and Representative of Wyoming know Mr. Larsen, who is developing mining properties there, and have been interested in his work and also in this loan.

With thanks and best wishes for your help in this matter, and also for your future success.

Sincerely,

Madeline

Mrs. Joseph L. Wirthlin
654 West 5300 South
Murray, Utah 84107

mw

Rec'd 4/11/68

TO: O.M.E. Washington, D.C.

Please duplicate additional copies of Plate 2, OMF 6646. This is the only copy we have. Would you please duplicate sufficient copies so that you ~~could~~ can send us three copies.

Most sincerely,
Jim Gualtieri

3 sent to R-III 4/18/68

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
U. S. Geological Survey
Denver Federal Center -- Building 53 -- Room 203
Denver, Colorado 80225

OFFICIAL COPY
O. M. E.
RECEIVED
MAR 22 1968

INITIALS	CODE
gla	130
JLJ	110
gla	120 m
	120

March 20, 1968

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Properties
Utah County, Utah

Transmitted herewith is a report of examination of the above-stated subject with substantiating data. Plates 1 and 2 are included. As there is only one copy of Plate No. 2 it will be necessary to reproduce the additional needed copies required for the Washington office, and it is requested that a sufficient number of copies be reproduced so that the Region III Field Office may be furnished three. Five additional copies of Plate 1 are being sent from this office under special cover.

James L. Gualtieri
for J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

UNITED STATES

DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, SECRETARY

U. S. GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION

REPORT OF EXAMINATION

REGION III

OME-6646 (Silver)

WESTERN STATES MINERALS, INC.

CROWN POINT AND EAST CROWN POINT PROPERTIES

UTAH COUNTY, UTAH

by

J. William Hasler,

Geologist

March, 1968

ON-SITE
EXAM.RPT.

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Plate 1. Revised engineering map Crown Point and East Crown Point Properties, Tintic mining district, Eureka, Utah--Larsen lease.

2. Claim map, Crown Point and East Crown Point properties, Tintic mining district, Eureka Utah -- Larsen lease.

Introduction and summary

The Western States Minerals, Inc., 1111 Westview, Riverton, Wyoming 82501 applied to the Office of Minerals Exploration on July 7, 1967 for financial assistance to explore for silver on the Crown Point and East Crown Point claims in the Tintic Mining district, Utah County, Utah. The application was received in this office on June 29, 1967, however, the application contained no date nor was the application signed by an official of the applicant company. The application was returned to the applicant for signature, and subsequently assigned Docket No. 6646 on August 2, 1967.

The application was reviewed by the Washington Office, as well as by Hal T. Morris, Chief, Branch of Base and Ferrous Metals, who has mapped and worked in the Tintic Mining district for many years and is thoroughly familiar with the geology and ore deposits in the district. A memorandum to the file, dated August 25, 1967, by Harold Kirkemo, Assistant Chief of Minerals Exploration reviewing the application summarized the following: "the property offers a good opportunity for prospecting. As now developed, there are no specific targets for exploration. The program outlined by the Applicant is a prospecting venture rather than one of exploration. The likelihood that the costs of the project are underestimated would lessen chances of completing the project as planned inasmuch as the upper limit of the Applicant's financial resources are believed to be committed to meet the present estimated cost. The Government's share of the proposed project also is near the maximum allowable for a single project."

The applicant was informed by Mr. Frank E. Johnson in a letter dated August 25, 1967, that "In general, the property offers a good opportunity to prospect for targets that may warrant subsequent exploration. The program described in the application would prospect rather than explore the block north of the Sioux Ajax fault. It is not possible to locate specific targets within this block from the information now available." The applicant was advised to submit an alternate program, that may be considered as exploring rather than prospecting. The applicant then submitted an alternate program dated September 28, 1967, prepared by their consulting geologist, Mr. Roger Banghart, of Ely, Nevada. Mr. Banghart's revised program constitutes essentially a relocation of the proposed shaft designed to intersect the north-south trending ore zone from the Crown Point No. 3 workings with considerably less crosscutting, and should directly penetrate the target area. The applicaton was referred to the field on November 13, 1967, however, due to a commitment for an interim examination in the Utah area, during the week of November 8, the Field Officer, Region III, obtained permission from Washington to make an on-site field examination of the subject property at that time. The applicant was contacted by telephone and the property was examined on November 9, 1967 in company with Messrs. John T. Larsen, President, Glen L. Larsen, Vice President of Western States Minerals, Inc. and Mr. Clayton Roundy. Mr. Roger Banghart, the applicant's consulting geologist was also present during the field examination. An unusually heavy

workload and backlog as well as the need of additional data from the applicant has prevented completion of the report of field examination until the present date.

An on-site field examination and discussion with the applicant, and especially the applicant's consulting geologist indicates that there is a good possibility of discovering sizeable reserves of silver as a result of the revised exploration program submitted by him on September 28, 1967, and it is suggested that consideration be given to explore for silver on the Crown Point and East Crown Point properties by the applicant. May I again cite items 1, 2, 3 and 4 from a letter dated October 10, 1967 from Hal T. Morris, Chief, Branch of Base and Ferrous Metals to me concerning the subject application, with which I fully agree. These items are as follows:

"1. The target area proposed by Banghart and the Larsens is about as specific as <u>any</u> that has ever been explored in the East Tintic district; in local viewpoint it easily qualifies as 'exploration' rather than 'prospecting'."

"2. Similar intersections of zones of sparsely mineralized fissures and pebble dikes with strong cross-breaking faults, particularly in areas of altered volcanic rocks and such a highly favorable host rock as the Bluebell Dolomite, are, in fact, regarded as prime geologic targets. Unfortunately, Banghart did not stress the north-trending fissure zone and its intersection with the Sioux-Ajax fault as strongly as he should."

"3. The rather unpredictable localization of replacement ore bodies in the Bluebell-Dolomite in the adjacent Tintic district also suggests that obvious localizing structures are not always necessary for the occurrence of rich and extensive replacement ore bodies in this receptive host rock. In fact, specific structural localization of many of the ore bodies in the nearby Iron Blossom ore zone is difficult to demonstrate."

"4. The occurrences of jasperoid, galena and manganese oxides in the Crown Point No. 3 mine were confirmed by G. W. Crane, a highly competent geologist who was resident in the Tintic district for the greater part of his professional life. These occurrences suggest leakage of ore solutions that were most apt to have deposited their ores in the underlying Bluebell if they flowed in any considerable volume. Only physical exploration will tell."

The applicant's revised exploration program indicates, as stated before, that at the new location (plate 1) the proposed shaft will extend 1300 feet below the surface to penetrate a prime target area consisting of the southward extension of mineralized ore channels previously mined from the 680 level of the Crown Point No. 3 shaft, and lower favorable zones in the Bluebell Formation. The proposed drift will be driven southward about 200 feet from the bottom of the shaft to further explore mineralized channels and penetrate the Sioux-Ajax fault zone (Section AA'; Plate 1).

The proposed crosscut will be driven about 500 feet from the drift eastward along the north wall of the Sioux-Ajax fault zone to explore lower, southerly extensions of the projected ore channels (Section BB', Plate 1). The diamond drilling proposed would further explore the ore channels along their strike and dip.

The target area, according to the applicant, "consists of the downward known ore channels from the unproductive Victoria Formation into the most favorable host rock in the district, the Bluebell Formation. In addition, these ore channels will be explored at their intersection with the Sioux-Ajax fault, which is one of the most important structures in the Tinctic district for localizing ore bodies."

"The structural intersection of the Sioux-Ajax fault with the north-trending ore channels in a most favorable host rock, the Bluebell formation, would lend itself to a program for finding flat ore channels in the Bluebell Formation and chimney-type ore bodies at the intersection with the Sioux-Ajax fault." According to the applicant's consulting geologist these features localize ore deposits and thus constitute a definite target area.

Neither the applicant nor its consulting geologist feel that extensive exploration by diamond drilling, either to test the Bluebell Formation at the site of the proposed shaft, or to explore the intersection of the Bluebell Formation with the Sioux-Ajax fault zone is advisable. Many serious complications have plagued a number of previous deep-drilling programs conducted from the surface by the applicant and other operators in the district with the consequence that no accurate assessment could be made of the drilled ground. For this reason the applicant would not like to commit itself to the drilling as was suggested by the Region III Field Officer at the request of the Office of Minerals Exploration, Washington, D. C.

The applicant feels that it has reduced its shaft sinking costs to an absolute minimum, and could not bear the financial burden if we were to participate on a basis of less than 75 percent. A figure of 25 percent has been mentioned in this connection. I feel the shaft costs in this instance would be considered exploration, not development, even though the shaft sinking amounts to 73 percent of the total project costs.

In conclusion, I recommend that the exploration program be approved and that a contract be prepared and executed to explore

for new and undiscovered reserves of silver as outlined, as I feel the chances of discovering new ore bodies of silver in and along the Sioux-Ajax fault zone are good.

The property

The Crown Point and East Crown Point property is located in the east central part of the Tintic Mining district, Utah County, Utah and lies in Sections 20, 28 and 29, T. 10 S., R. 2 W., Salt Lake Baseline and Meridian. The property may be reached by traveling 5 miles southeast of Eureka, Utah on graveled roads via the Knightsville road to Iron Blossom, or the Silver Pass road via Trixie claims. Most of the roads are passable by passenger vehicle, but pickup trucks or 4-wheel drive vehicles are more suitable (Plate 2 accompanying application).

The property consists of a unitized agreement combining the Crown Point Consolidated Mining Company and the East Crown Point Consolidated Mining Company.

A lease and agreement dated February 24, 1967 between the Crown Point Consolidated Mining Company and John L. Larsen includes the following patented lode mining claims situated in the Tintic Mining District, Juab and Utah Counties, Utah: (Plate 2)

Claim Name	Survey No.
Goshen #1	5708
Minnie Moore (Minney Moore 1/)	3805
Fraction	3835
Sunnywide (Sunny Side) 1/	3835

1/ Map spelling of claim name.

Claim Names -- Continued		Survey No.
Goshen #4	Cert. 01034	5708
Ridge	Cert. 01034	5708
Ridge #2	Cert. 01034	5708
Divide #2	Cert. 01034	5708
Castle Lode		5714

The survey of the claims is described as follows: Beginning at SE Corner of #2 Castle Lode Survey #5714, being in SE 1/4 of Sec. 20, T. 10 S., R. 2 W., Salt Lake Meridian; thence north 1° 54' west 1500 feet; west 408.2 feet; south 1499.2 feet; east 457.9 feet to beginning.

A mining lease and agreement dated April 15, 1967 by and between: East Crown Point Consolidated Mining Company, lessor and Western States Minerals, Inc., lessee include the following patented lode mining claims in the Tintic Mining district, Utah County, Utah.

Claim Name	Survey No.
Crown Point Extension No. 1	5744 amended
Crown Point Extension No. 2	5744 amended
Crown Point Extension No. 3	5744 amended
Crown Point Extension No. 4	5744 amended
Crown Point Extension No. 5	5744 amended
Maple Leaf	5744 amended
Maple Leaf Lode #1	5744 amended
Maple Leaf #2	5744 amended
Zuma Fraction #1	5744 amended

The survey number 5774 is shown on the plat on Exhibit B, accompanying the application, and is also shown on Plate 2 of the report prepared by Banghart, however, on the lease agreement the number is shown as 5744 amended.

Lien and subordination agreements have been executed by the applicant on all the claims listed above, with both the Crown Point Consolidated Mining Company and the East Crown Point Consolidated Mining Company. The executed lien and subordination agreements accompany this report of examination.

The applicant stated to me at the time of the field examination that all claims and portions thereof listed in the application are in good standing.

Included with this report of examination are five (5) copies each of two executed lien and subordination agreements.

Geology 2/

"The Eureka quadrangle, near the east-central margin of the Great Basin in central Utah, contains the principal productive mines of the Tintic and East Tintic mining districts. It includes the central part of the East Tintic Mountains and the western edge of the Goshen Valley."

"The rocks exposed in the quadrangle range in age from Precambrian to Quaternary; all systems of the Paleozoic sequence from Cambrian through Mississippian are represented, but no rocks of late Paleozoic and Mesozoic age are known. The Paleozoic rocks are chiefly migeosynclinal deposits (dominantly carbonates) whose thickness

2/ Morris, Hal T., 1964, Geology of the Eureka Quadrangle, Utah and Juab Counties, Utah: U. S. Geol. Survey Bull. 1142k, p. k 1.

exceeds 12,000 feet. Tertiary rocks include quartz latite and latite tuffs, lavas, and agglomerates and related intrusive rocks of middle Eocene age, and a prelava conglomerate of Eocene(?) age. The Quaternary deposits consist of talus, alluvium, colluvium and fanglomerate, but they also include thin lacustrine deposits of Lake Bonneville (Wisconsin) age."

"The Paleozoic rocks are assymmetrically folded and cut by thrust and transcurrent strike-slip faults and by transverse normal faults--all older than the volcanic rocks. The lavas are cut by north-northeast-trending normal faults of small displacement, and by longitudinal normal faults, probably of the Basin and Range system."

"The principal ore bodies in the quadrangle are large replacement deposits in the Paleozoic rocks, containing lead, zinc, silver, copper, and gold. Of less importance are high-grade argentiferous lead veins in the igneous rocks and auriferous copper veins in the sedimentary rocks. The replacement deposits are localized by faults and favorable stratigraphic units; they are the chief source of the ores from the Tintic and East Tintic mining districts, whose gross production exceeds $428 million."

"Mineral Deposits"3/

"From 1869 to 1955 the mineral deposits of the Eureka quadrangle produced metalliferous ores valued in excess of $428 million and nonmetallic mineral products valued at several million dollars. Continued production of halloysite clay from the Dragon mine is

3/ Morris, Hal T., 1964, Geology of the Eureka Quadrangle, Utah and Juab Counties, Utah: U. S. Geol. Survey Bull. 1142K, p. K22

is expected to add materially to the total value of nonmetallic products, and exploitation of the newly discovered lead-zinc-silver deposits in the Burgin mine and adjacent areas will substantially increase the overall value of the metalliferous ores."

"Metallic Mineral Deposits"

"The metallic mineral deposits in the quadrangle may be classified into three general groups: (a) narrow veins of pyritic silver, lead, and copper ores that cut the intrusive and adjacent volcanic rocks; (b) replacement veins that cut sedimentary rocks in both the main Tintic and East Tintic districts; and (c) extensive replacement ore bodies found exclusively in the Paleozoic rocks. The veins and replacement ore bodies are parts of virtually continuous ore zones that can be traced almost without interruption from one type to another, but which are sufficiently distinctive to justify individual description. Of these various deposits, the replacement ore bodies have accounted for more than 90 percent of the total value of the ores produced."

"Replacement veins"[4/]

"The veins in sedimentary rocks are similar to those in igneous rocks except to the extent that they replace their wallrocks and are transitional with replacement ore bodies. The replacement veins in the southern part of the main Tintic district cut pyrometasomatized carbonate rocks near the Silver City stock and merge with podlike and columnar replacement ore bodies near the Sioux-Ajax fault. The veins of the East Tintic district are found chiefly

4/ Morris, Hal T., 1964, Geology of the Eureka Quadrangle, Utah and Juab Counties, Utah: U. S. Geol. Survey Bull. 1142k, p. 24-25.

in the Tintic quartzite downrake from the main replacement ore bodies in the Ophir and younger formations. Most of the replacement veins follow minor faults that strike north-northeast, dip steeply west, and show relatively little displacement. The replacement veins are less than a thousand feet long, with the exception of the Dragon-Iron Blossom vein, which has been followed continuously for 5,600 feet. Veins that cut carbonate rocks are characterized by irregular walls and range in width from mere seams to 50 to 60 feet. They are largest where they intersect cross-trending fractures or more thoroughly brecciated dolomite beds, commonly developing columnar ore shoots. Veins cutting quartzite in the East Tintic district are somewhat more uniform in width, most of them being 2 to 8 feet wide. Ore shoots in these veins are localized chiefly at changes in strike or dip, or at intersections with other fractures. Only rarely the quartzite walls replaced to any extent."

"The principal ore minerals of the replacement veins are pyrite, enargite, tetrahedrite, galena, sphalerite, and bismuthinite, or their oxidation products. The chief gangue minerals are quartz and barite. Many of the baritic copper ore bodies in the replacement veins contain important quantities of gold, in contrast to similar ore shoots in veins that cut igneous rocks, which in general contain little or no gold. Gold in the oxidized ores is native, whereas that in it the primary ores is either native or is in various gold-silver tellurides. In the veins of the East Tintic district the gold-copper ore shoots are found almost exclusively between quartzite walls.

"This relation has been regarded by some as evidence of a lithologic control of ore deposition, but the occurrence of copper-gold ore shoots in the vein cutting carbonate rocks in the Iron Blossom No. 1 mine and elsewhere in the quadrangle casts some doubt on the validity of this interpretation."

"Replacement Deposits"5/

"All of the highly productive replacement deposits of the Tintic and East Tintic mining districts are within the Eureka quadrangle. The deposits of the Tintic mining district are along five linear zones or 'ore runs' that in general underlie Eureka Ridge and Godiva Mountain, extending northward from the Sioux-Ajax fault zone to points north and east of Eureka. The replacement deposits of the East Tintic district are centered near Dividend, and occur in several localized ore centers that lie within a zone of still unresolved dimensions that was actively being explored in 1962 and 1963."

"The ore bodies in both district replace several different types of sedimentary rocks of Paleozoic age, but are chiefly in areas of hydrothermally dolomitized limestone and recrystallized syngenetic dolomite. The deposits of the main Tintic district occur in all of the stratigraphic units between the Cole Canyon Dolomite and the Humbug Formation, the largest being in the Cole Canyon, Ajax, Fish Haven and Bluebell dolomites, the Fitchville Formation, and the Deseret Limestone. The ore bodies in the East

5/ Morris, Hal T., 1964, Geology of the Eureka Quadrangle and Juab Counties,Utah: U. S. Geol. Survey Bull. 1142k, p. 25-27

Tintic district replace parts of probably all of the carbonate units between the Tintic Quartzite and the Cole Canyon Dolomite, but most have been found in the limestone beds of the Ophir Formation."

"The linear ore zones of the main Tintic district consist of columnar and podlike ore bodies connected by pipelike, tabular, and irregular masses of ore, forming continuous ore 'runs' that have great horizontal persistence. These 'runs' have many features in common with the great limestone replacement chimney and manto ore deposits of north-central Mexico. In the Tintic district, however, owing to abundant cross faults and abrupt changes in the attitude of beds, many of the larger ore bodies have irregular branching shapes and in general cannot be classified as either chimneys or mantos. The ore bodies of the East Tintic district are similar in many respects to those of the main district, but these do not occur in persistent linear zones. However, the East Tintic ore bodies are generally elongated in the direction of the northeastward-trending fissures and veins with which they are associated."

Structural controls are apparent for some of the individual replacement ore bodies, are obscure for others, and seem to be lacking for at least a few. The East Tintic deposits are chiefly localized where zones of steep, north-northeastward-trending fissures intersect carbonate beds that were brecciated along faults. The replacement ore bodies of the main Tintic district are not obviously localized by fissures, but appear to have been deposited

by solutions that worked their way through many different types of openings, some of them not readily apparent. The largest mantolike ore body follows a coarse-grained bed in the upper part of the Deseret Limestone at the trough of the Tintic syncline; it apparently originates at a chimney of jasperoid and low-grade ore in the wide zone of the Sioux-Ajax fault and extends horizontally 5,000 feet northward to the Beck Tunnel No. 2 shaft following obscure tension fractures. The irregular ore bodies of the Chief No. 1 and adjacent mines show more obvious structural control and generally are found near faults at places where competent carbonate beds -- most commonly dolomite -- have been extensively brecciated. Mantolike projections extend from these ore bodies along beds, and veinlike, pipelike, and small irregular masses of ore extend from the main ore mass along faults and fissures. Like the larger ore bodies, the small connecting ore bodies of the main Tintic district are controlled by steep crosscutting faults, bedding-plane faults, fissures, and other local features, but the fundamentral controls of the major ore zones of the main Tintic district and the reason for the north-northeastward trend of these zones across major structures are unknown."

"The principal primary minerals of the replacement ore bodies are galena, sphalerite, enargite, and ubiquitous pyrite. Much of the galena is rich in silver, which probably occurs as blebs of argentite. Some native silver occurs in sulfide ore bodies as much as 900 feet below the water table and also must be considered

a primary mineral. Some small ore shoots near the water table contain wurtzite, pearceite, proustite, stephanite, freibergite, tetrahedrite and other sulfo-salt minerals; some of these minerals are also found with the native silver ores in the sulfide ore bodies well below the water table. Completely or partly oxidized ores extend to a maximum depth of about 1,900 feet in the main Tintic district and about 1,400 feet in the East Tintic district; they contain many secondary minerals, including cerargyrite, native silver, anglesite, cerussite, smithsonite, complex copper arsenates, and other minerals, some of which are valued for their rarity or spectacular appearance. Native gold occurs locally in some of the copper ores. The gangue minerals include jasperoid, quartz, barite, and minor dolomite and calcite. Jasperoid, the most abundant gangue mineral, is a mixture of chalcedony and fine-grained quartz, which apparently crystallized from gelatinous silica that replaced limestone and dolomite. Crushing of early jasperoid produced breccias which were the hosts for successive deposits of jasperoid, quartz, barite, and ore minerals. The last minerals deposited in the ore bodies were predominantly base-metal sulfides and sulfosalts and native silver."

Production[6/]

"The gross value of metal produced from the main Tintic district is estimated at $315,000,000 from approximately 12,000,000 tons of

6/ Cook, Douglas R., 1957, Ore deposits of the Main Tintic Mining District, in Guidebook to the Geology of Utah No. 12, Geology of the East Tintic Mountains and Ore Deposits of the Tintic Mining Districts: Utah Geol. Soc., p. 57.

ore. These figures, based on data from the U. S. Bureau of Mines and U. S. Geological Survey Professional Paper 107, are incomplete, with the true figures probably substantially higher."

The following percentages are computed from the total gross metal values of the district; silver accounts for 43.5 percent, lead for 28.5 percent, gold for 16.0 percent, copper for 10.0 percent and zinc for 2.0 percent. However, if the smelter schedules of 1957 are used to compute the net smelter return from this production, the following relative importance of the metals is obtained: silver accounts for 55.0 percent of the total value, lead for 18.0 percent, gold for 20.0 percent, copper for 5.0 percent and zinc for 2.0 percent. It is thus evident that silver and gold are of greatest importance if the net smelter values are considered rather than gross metal values."

Revised proposed exploration

The applicant proposes to explore for silver-copper-gold ore bodies in the Bluebell Dolomite (Devonian age) and Fish Haven (Ordovician age) formations north of the Sioux-Ajax fault zone in the east central part of the Tintic Mining district, Utah. The revised program was submitted September 28, 1967 at the request of the Government to explore definite target areas rather than to explore larger areas, even though their potential may be promising, as was indicated in the applicant's original proposal. The applicant's reasoning for the possibility of finding new and undiscovered

ore bodies of silver-copper-gold in the relocated area are summarized as follows:

Favorable structures

Fault zones -- the east trending Sioux-Ajax fault zone is the localizing element for four deposits mined in the Tintic district -- Mammoth, Spy, Iron Blossom, and Trixie. The Eureka Standard fault which is probably a continuation of the Sioux-Ajax fault zone is the localizing element for three deposits -- the Eureka Standard, Apex Standard, and Burgin.

Ore channels on the 680 level of the Crown Point No. 3 shaft have been discovered in the basal beds of the Victoria Formation. The ore channels as mapped consist of a system of north trending breccia zones and pebble dikes that contain an ore stage suite of minerals -- galena, jasperoid, and manganese oxide. The Tintic Quartzite boulders in the pebble dikes indicate the structures reach to great depths. Diamond drill hole CP-1, collared about 350 feet due south of the southernmost workings on the 680-foot level and about 850 feet north of the surface trace of the Sioux-Ajax fault zone, located minor galena and the "speckled bed" at the base of the Victoria Formation. The presence of galena in this hole indicates an extension of the 680 level ore channels to the south toward the Sioux-Ajax fault zone.

Favorable stratigraphic zones

Bluebell formation -- a full section of this highly receptive host rock is present below the 680 level of the Crown Point No. 3 shaft and between 950 feet and the bottom of the

proposed 1300 foot shaft. This formation has accounted for one-fourth of the district's production or about $110,000,000 (110 million).

The ore channels discovered on the 680-foot level of the Crown Point No. 3 shaft are in the basal beds of the Victoria Formation which overlies the Bluebell Formation. The Victoria Formation is not an important productive zone in the district, however the presence of minerals in the formation is significant for the mineralizing solutions which penetrated the Victoria had to transgress the Bluebell likely forming an ore deposit there. The revised exploration program is as follows:

1. Collar a 1300 foot shaft at a point 250 feet west and 200 feet south of diamond drill hole CP-1, approximately central to the target area. The shaft will penetrate the Bluebell Formation to a depth of about 380 feet. The shaft will consist of two compartments, 5' x 5' in clear of timber. Construction and installations attendant to the shaft will include site preparation, a power line, headframe, a building and hoist installation.

2. Drift about 200 feet south from the bottom of the shaft along a projected ore channel to reach the Sioux-Ajax fault zone. The drift dimension will be 5' x 7'.

3. Crosscut about 500 feet east along the north wall of the Sioux Ajax fault zone to locate the explore ore channels believed to project into this area. Crosscut dimension will be 5' x 7'. Total footage of drift and crosscut not to exceed 700 feet.

4. Diamond drill about ten holes, about 400 feet in length, from the proposed drift in an east-west fan pattern to explore north-south trending ore channels believed present above, below or at the level of the drift. Total drill footage not to exceed 4,000 feet.

Cost Estimate

Structures and Construction attendant to Shaft

Item 1 -- Surface

Headframe	$10,000.00	
Buildings	5,000.00	
Site Preparations	2,500.00	
Set Up Hoist	1,000.00	
Power Line	7,000.00	
		$25,500.00

Item 2 -- Shaft Sinking

Equipment & Material		
4" Aluminum Pipe	$ .90	air
2" Aluminum Pipe	.60	water
18" Vent Gas	2.00	per foot
Electricity	2.00	per foot
Blasting supplies	4.00	per foot
Hoist Rental	6.00	
Compressor Rental	10.00	
Mucking Machine	3.00	
Drill Bits & Steel	4.00	
Equipment repair	2.00	
Dump truck	3.00	
Water truck	3.00	
Timber	35.00	(explained in #6)
	75.50	per foot x 1,300 ft $98,150.00*

*Item No. 6 total is included in the shaft sinking cost noted above.

Item 3 -- Shaft Labor

1 hoistman
1 topman
3 miners
1 carpenter
6 men @ $30.00
Prorated as $180.00 for 3 feet or $60.00 per foot
@ 1300 feet $78,000.00

Total Estimated Cost for Shaft Sinking $201,650.00

Estimates of cost (Cont.)

Item 4 - Drifting and crosscutting 700 feet

Equipment and materials		
4" Aluminum pipe	$ .90 air	
2" Aluminum pipe	.60 water	
Rail, ties & spikes	2.70	
Drill bits & steel	3.00	
Blasting supplies	3.00	
Mucking machine	2.00	
Motor	2.00	
Hoisting muck	1.00	
Drilling equipment	2.50	
Compressor rental	5.00	
Hoist rental	3.00	
	$ 25.70 x 700 feet	$17,990.00

Item 5 -- Drift and crosscut labor

1 topman
1 hoistman
2 miners

4 men at $12.25/ft. for 700 feet $ 8,575.00

Total Estimated cost, drifting and crosscutting $26,565.00

Item 6 -- Estimates of materials and supplies required for proposed shaft: 36,23

Pieces	Size	Description	Required	Rate	Amount
520	8x8	#1 Mining Grade D.F.	38,827	$125.00	$ 4,853.38
2340	8x8	#1 Mining Grade D.F.	74,880	125.00	9,360.00
1400	2x12	#1 Mining Grade D.F.	124,000	125.00	15,500.00
2600'	4x6	Select Structural 545 Guides	5,200	170.00	884.00
1500		Mine Ladder			900.00
6000		Smooth Steel Rod			2,280.00
600	3/2x6	Lag screws	600	25.00	150.00
1300		4 common	1,200		169.00
7500		Mine Wedges			375.00
1500	3/4	Nuts			156.00
2500	3/4	Cut washers			62.50
2500	3/4	Cast Washers			200.00
4180	12"	2 x 12	8,323		1,040.00
2080	12"	8 x 8	11,092		1,386.50
9360	14'	2 x 2	1,360		68.00
1400'		1/4" cable			200.00
		Pipe Lgrs.-Cement-1 Beam			
		Power Cable			6,081.26
		Taxes			1,133.56
		This total included in shaft sinking costs			$44.799.20

Estimates of Costs (Cont.)

Item 7 -- Attendant Labor Costs

12.3% of Gross Labor for FICA	4.4%	
Workmen's Comp.	5.0%	
Employment Security	3.2	
(Estimate only as Utah WCD is computed on $4.84 per $100.00		$8,796.75

Item 8 -- Services of Consulting Geologist

10 days at $75.00	$750.00	
10 days per diem @ $16.00 per day	160.00	
		$ 910.00

Item 9 -- Drilling

Mobilization and demobilization	$200.00
Diamond Core Drilling 4,000 feet	$28,800.00

	NX	BX	AX
0 - 250 ft.	$6.60	$6.30	$6.00
250 - 500 ft.	6.90	6.60	6.30
500 - 750 ft.	7.20	6.90	6.60

Collar pipe NX or NC 10 holes -- 10 ft. each = 100 feet @ $7.40=	$ 740.00
Lost casing in completed hole 400 ft.	$ 1,200.00
NX @ $3.00/ft.	
BX @ $2.00/ft.	
Cement drill mud, additives and hole plugging agents	$ 2,000.00
Cementing and redrilling	
50 hours at $13.50 per hour	$ 675.00
Reaming and casing	
50 hours at $12.00/hr.	$ 600.00
$3.65/ft. all sizes	
Standby time	
50 hours @ $13.50/~~ft.~~ hr	$ 675.00
Cardboard Core boxes	
320 @ $1.00 each	$ 320.00
Total Estimated cost of diamond drilling	$35,210.00

Item 10 -- Personal Services

No funding for personal services ~~are~~ is asked except that referred to in Item 8; the applicant will apply no cost to OME supervision except for a consulting geologist. The applicant will apply no cost to OME for sampling and assaying in order to keep the overall cost of the project at the lowest possible figure.

SUMMARY OF COSTS

Shaft sinking	
Surface installations	$25,500.00
Materials and equipment	98,150.00
Labor	78,000.00
	$201,650.00
Drifting and crosscutting	
Materials and equipment	$17,990.00
Labor	$ 8,575.00
	$26,565.00
Consulting Geologist	$ 910.00
Diamond Drilling	
Ten holes estimated total footage 4,000 feet	$35,210.00
Total Estimated Cost	$264,335.00
Government participation at 75%	$198,251.25

Office of Minerals Exploration
Building 53 Room 203

OFFICIAL
COPY
O. M. E.
RECEIVED
FEB 26 1968
INITIALS | CODE
110
120
130
130

February 23, 1968

Mr. Jack Larsen
Western States Minerals, Inc.
1111 Westview
Riverton, Wyoming 82501

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Properties
Utah County, Utah

Dear Mr. Larsen:

This letter is to notify you that the bid from E. J. Longyear Company for diamond drilling pertaining to the subject application was received in this office February 20, 1968.

I believe I now have the necessary information that will enable me to complete my report of examination and will transmit it to Washington as quickly as possible.

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Chief, OME
cc: OME-6646
OME chron
Mr. Hasler

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
11/13/67	Kirkemo	120
		110
11/13	cac	220
		120M

NOV 13 1967

AIRMAIL

Mr. John L. Larsen
President
Western States Minerals, Inc.
1111 Westview
Riverton, Wyoming 82501

Re: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and
East Crown Point Claims
Utah County, Utah

Dear Mr. Larsen:

As you know from conferences with Mr. J. W. Hasler, Field Officer, OME Region III, we have reviewed the supplementary report and supporting maps for the proposed project to explore the subject claims. We have referred the application to Mr. Hasler who will notify you if additional information is needed, and possibly to make arrangements for a field examination.

Mr Hasler's new office address is:

Office of Minerals Exploration
Room 203, Building 53
Denver Federal Center
Denver, Colorado 80225

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
Mr. Kirkemo
Region III

HKirkemo/bsl 11/13/67

23263

MME Form 7
(2/63)

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Date	Surname	Code
11/13/67	[illegible]	120
		110
		220
		120M

AIRMAIL

Memorandum

NOV 2 8 1967

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and East Crown Point Claims
Utah County, Utah

This application is referred to you for further consideration and for your recommendation. We understand that you may have arranged for a field examination of the property November 9 or 10 inasmuch as you expected to be in that vicinity on an interim inspection.

As you know, we had an opportunity to discuss this proposal with Mr. Hal Morris here on November 2. From this discussion and from further study of the application we offer the following comments:

It is evident that specific exploration targets in the sense of fixed points or areas cannot be determined from the information now available. Two objectives need to be fixed before targets are defined - (a) the Sioux Ajax fault must be located, and (b) north-trending fissures and their intersections with the Sioux Ajax fault must be located. If the fault and/or the north-trending fissures are mineralized, exploration targets can be defined.

The depth to what the Applicant considers to be the favorable horizon in the Bluebell formation at the site of the proposed shaft is unknown. It would be desirable to drill a vertical hole at or near this site to determine the necessary depth, and at the same time, obtain information on the nature of the rock through which a shaft would be sunk. Both items of information would assist in estimating the cost of a project.

It would seem desirable also to locate the Sioux Ajax fault south of the proposed shaft by drilling an inclined hole or holes into or through the fault thereby ensuring that the site of the shaft is north of the fault.

23263

If the surface indications of a north-trending fissure shown at CP 1 on the map submitted with the Applicant's revised program of September 28, 1967 are sufficiently promising, perhaps some drilling on an easterly or westerly course across this fissure is warranted.

Mr. Kirkemo has discussed with you our thoughts regarding the expense of sinking the proposed shaft. The estimated cost ($201,650) of the shaft comprises nearly 73 percent of the total cost of the whole project. It has been OME policy to limit the Government's share in the cost of necessary development work and/or rehabilitation work on any project to about 25 percent of its total participation. You no doubt have discussed this problem with the Applicant.

The Applicant does not offer any reasons in the revised proposal for relocating the site of the shaft and for revising the plan of exploration from the shaft. If additional geological information is available, it was not offered.

We hope these comments will be useful to you in considering this application.

FRANK E. JOHNSON

Frank E. Johnson

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading File
Mr. Kirkemo
130

HKirkemo/bsl 11/13/67

Office of Minerals Exploration

October 6, 1967

OFFICIAL COPY
O. M. E.
RECEIVED
OCT 9 1967

INITIALS	CODE
B	130
Bill	120 M
HS	110
HK	130

Memorandum

To: Mr. Hal T. Morris

From: J. William Hasler

Subject: OME-6646 (Silver)
Western States Minerals
Crown Point and East Crown Point Claims
Utah County, Utah

Enclosed is my copy of a revised exploration program from Western States Minerals. The other copy has been transmitted to Washington. I have done no more than give it a cursory review and it still appears to be pretty much in the "prospect" stage rather than "exploring" for a definite known target area, however, would you please comment on the revised program and return the application plus your memorandum to me as soon as possible. I shall forward a copy of your memorandum to the Chief, Office of Minerals Exploration. Thank you for your time and interest.

Bill

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosure

cc: Chief, OME
Hasler chron
OME chron
6646

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
9/26/67	Kibemo	120
		110
9/26	Coe	220
9/27	Bee	120M

SEP 26 1967

AIRMAIL

Mr. John L. Larsen
President
Western States Minerals, Inc.
1111 Westview
Riverton, Wyoming 82501

Re: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and
East Crown Point Claims
Utah County, Utah

Dear Mr. Larsen:

We have not had a reply to our letter of August 25, 1967. Will you please inform us of your plans regarding the application. If you have decided not to pursue it further, will you please so inform us.

Sincerely yours,

FRANK E. JOHNSON

(pt)

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading File
OME Region III

GLAult/a 9-26-67

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
8/25/67	Kirkemo	120
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8/25	Coe	220
		120M

AIRMAIL

Mr. John L. Larsen
President
Western States Minerals, Inc.
1111 Westview
Riverton, Wyoming 82501

AUG 25 1967

Re: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and
East Crown Point Claims
Utah County, Utah

Dear Mr. Larsen:

We have given careful study to your application for financial assistance to explore the Crown Point claims.

In general, the property offers a good opportunity to prospect for targets that may warrant subsequent exploration. The program described in the application would prospect rather than explore the block north of the Sioux Ajax fault. It is not possible to locate specific targets within this block from the information now available. Geologic evidence obtained from workings in the Crown Point No. 3 mine and from drill holes CP 1 and CP 2 does not offer clues to the presence of ore channels or other mineralized structures in the area of the proposed project.

Under regulations of the OME program, prospecting ventures are not eligible for assistance. Exploration targets should be reasonably well located from previous work to meet the criteria that there is a geologic probability of a significant discovery being made, and that the estimated cost of the exploration in relation to the size and grade of the potential deposit warrants Government participation in the project. From the evidence available to us, these criteria are not satisfied with respect to the Crown Point claims.

Mr. J. W. Hasler, OME Field Officer, Region III, has discussed with you by phone our general views on your proposal, and at our suggestion inquired as to the possibilities of an alternate program which may be considered as exploring rather than prospecting the property. We wondered whether there were exploration possibilities from the Crown Point No. 3 mine. You mentioned that reentry into that mine would be a difficult and costly project.

23263

If you can suggest a project which would qualify under the OME program, we will be glad to give it prompt consideration.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/gla 8-25-67

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
8/25/67		120
"	Johnson	110
		220
		120M

August 25, 1967

Memorandum

To: The File

From: Assistant Chief, Office of Minerals Exploration

Subject: OME-6646 (Silver)
Western States Minerals, Inc.
Crown Point and
East Crown Point Claims
Utah County, Utah

Review of Application

The Applicant proposes to explore for silver-copper-gold ore bodies in the Bluebell Dolomite (Devonian age) and Fish Haven (Ordovician age) formations north of the Sioux Ajax fault in the east central portion of the Tintic Mining District, Utah. Specific exploration targets are not identified, but in general they are the intersections of north-northeasterly-trending mineralized fissures with the strong, easterly-trending Sioux Ajax normal fault (see H. Morris' letter to Hasler July 7, 1967), and north-striking ore channels in the Bluebell Formation (see page 10 of application). Information from mine workings in the nearby (700 feet to the northeast) Crown Point No. 3 mine, and two drill holes (CP No. 1, CP No. 2) indicate that the proposed project area is situated on the east limb of the main Tintic syncline, and that the Paleozoic formations are overlain with Tertiary volcanic rocks, 900 to 1100 feet thick.

Zones of hydrothermal alteration in the volcanic rocks are useful guides to mineralized zones in the underlying Paleozoic rocks in the Tintic District. Patches of strong pyritic alteration and several narrow [illegible] outlines of altered rocks are shown on a surface map of the project area.

The proposal is to (1) sink a two-compartment vertical shaft 1,300 feet thereby penetrating the Tertiary lavas and the Bluebell Dolomite Formation, (2) to establish a station and level at the 5,300-foot elevation, (3) to crosscut south on the 5,300-foot level about 500 feet to locate the Sioux Ajax fault, and (4) from this crosscut drive a crosscut westward about 1,300 feet to explore for north-striking ore channels in the hanging wall (north) side of the Sioux Ajax fault. A total of 2,000 feet of crosscutting and drifting is requested.

23263

This project is estimated to cost $277,550.00, of which the Government's share at 75 percent would be nearly $210,000.00.

Mr. H. T. Morris, Chief, Branch of Base and Ferrous Metals, U. S. Geological Survey, in his letter review of this proposal to J. W. Hasler, dated July 7, 1967, agrees in general with the Applicant's proposal though differing with him in the details of crosscutting. He remarks that the Crown Point areas has all the geologic attributes of a good prospect. However, he notes that the area is unexplored and that "far more money than is available under OME policies may be required to adequately explore such an extensive target."

The absence of specific targets necessary to qualify this proposal for OME consideration is evident in all of the reports and data available. A common opinion in all of the reports is the need to prospect for ore channels in the block north of the Sioux Ajax fault, and there appears to be no alternative choice but to sink through the thick cover of volcanic rocks and drive a prospect crosscut in search of possible channels.

The uncertainties of conditions which may be encountered in sinking the proposed shaft make the estimated cost of the shaft very speculative. Should excess water flow and/or difficult ground support situations develop possible OME funding could be dissipated before the objectives are reached. The financial resources of the Applicant are not unlimited, and contingencies beyond the estimated total cost of the project may be difficult to meet.

In summary, the property offers a good opportunity for prospecting. As now developed, there are no specific targets for exploration. The program outlined by the Applicant is a prospecting venture rather than one of exploration. The likelihood that the costs of the project are underestimated would lessen chances of completing the project as planned inasmuch as the upper limit of the Applicant's financial resources are believed to be committed to meet the present estimated cost. The Government's share of the proposed project also is near the maximum allowable for a single contract.

The Applicant should be advised of these general observations and given an opportunity to present an alternate program. However, it appears unlikely that an exploration program can be planned before the property has been prospected.

Harold Kirkemo

Harold Kirkemo

cc: Director's Reading File
Division File
Econ. Geol. File
OME Docket
OME Read.File
OME Region III
Mr. Kirkemo

HKirkemo/gla 8-25-67

P. S. The above memorandum was prepared without the knowledge that OME denied an application (OME-6370) by Glen L. Larsen in October 1964 to drill the Crown Point property.

August 2, 1967

Western States Minerals, Inc.
1111 Westview
Riverton, Wyoming 82501

Subject: OME-6646

Gentlemen:

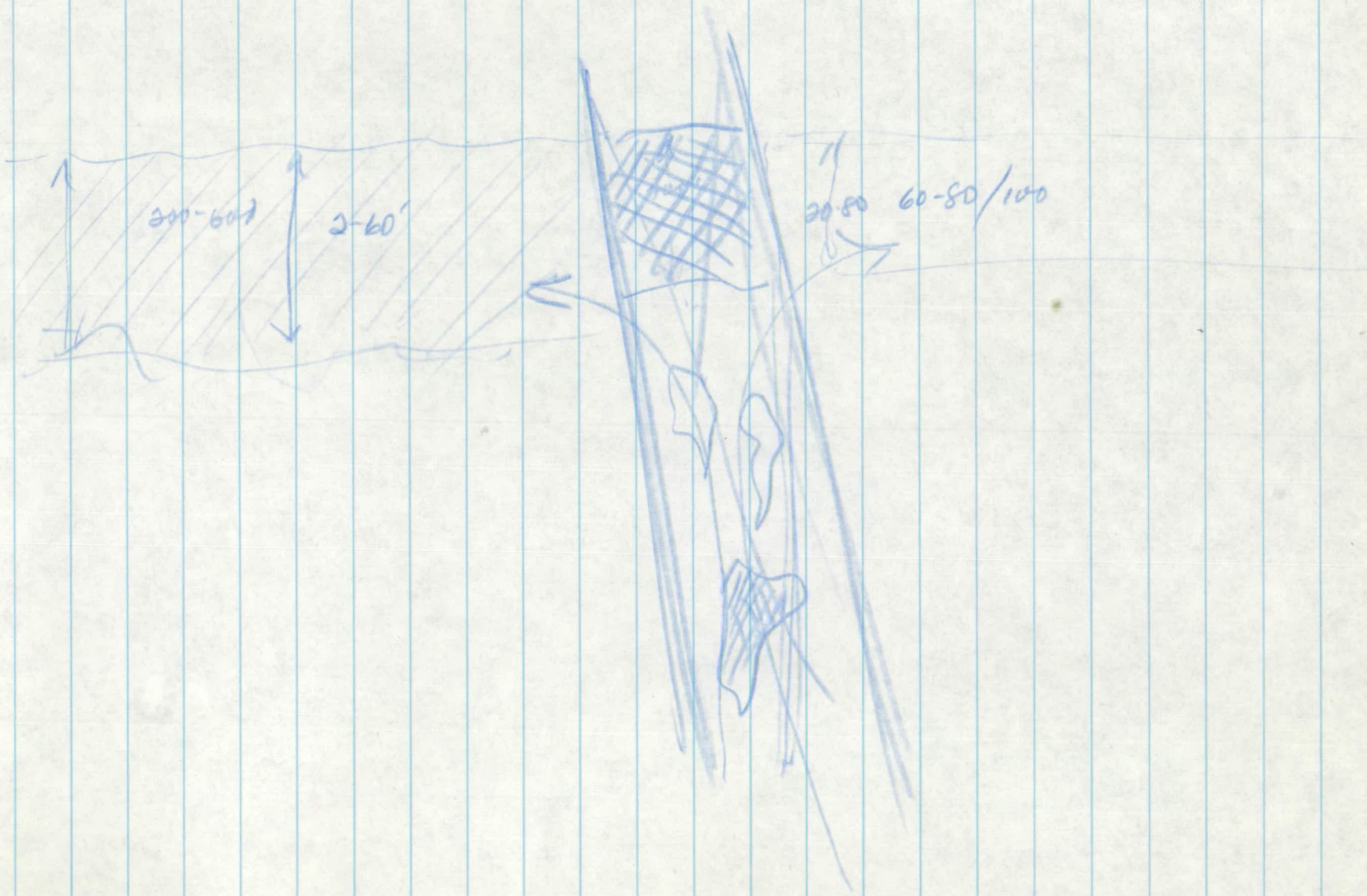
Your application for exploration assistance, dated July 7, 1967, submitted to our office at Denver, Colorado, has been assigned Docket No. OME-6646.

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

Sincerely yours,

Frank E. Johnson
Chief, Office of
Minerals Exploration

Copy to Region III



Hal Morris sketch

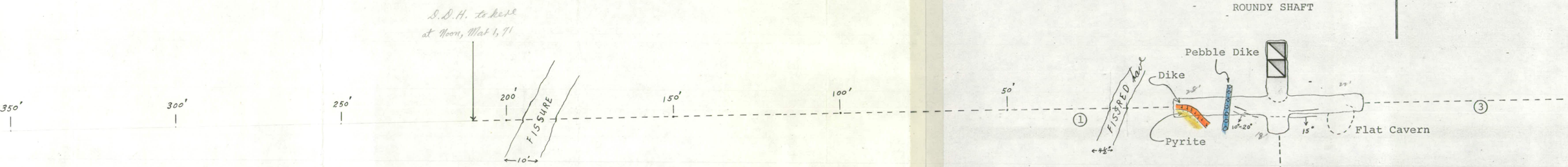
Hal Morris sketch

CROWN POINT LEASE

TINTIC DISTRICT

EUREKA, UTAH

MINE: CROWN POINT (ROUNDY SHAFT)
LEVEL: 1300 PLACE: Station
DATE: February 13, 1971
BY: R C B SCALE: 1" = 20'



ROUNDY SHAFT

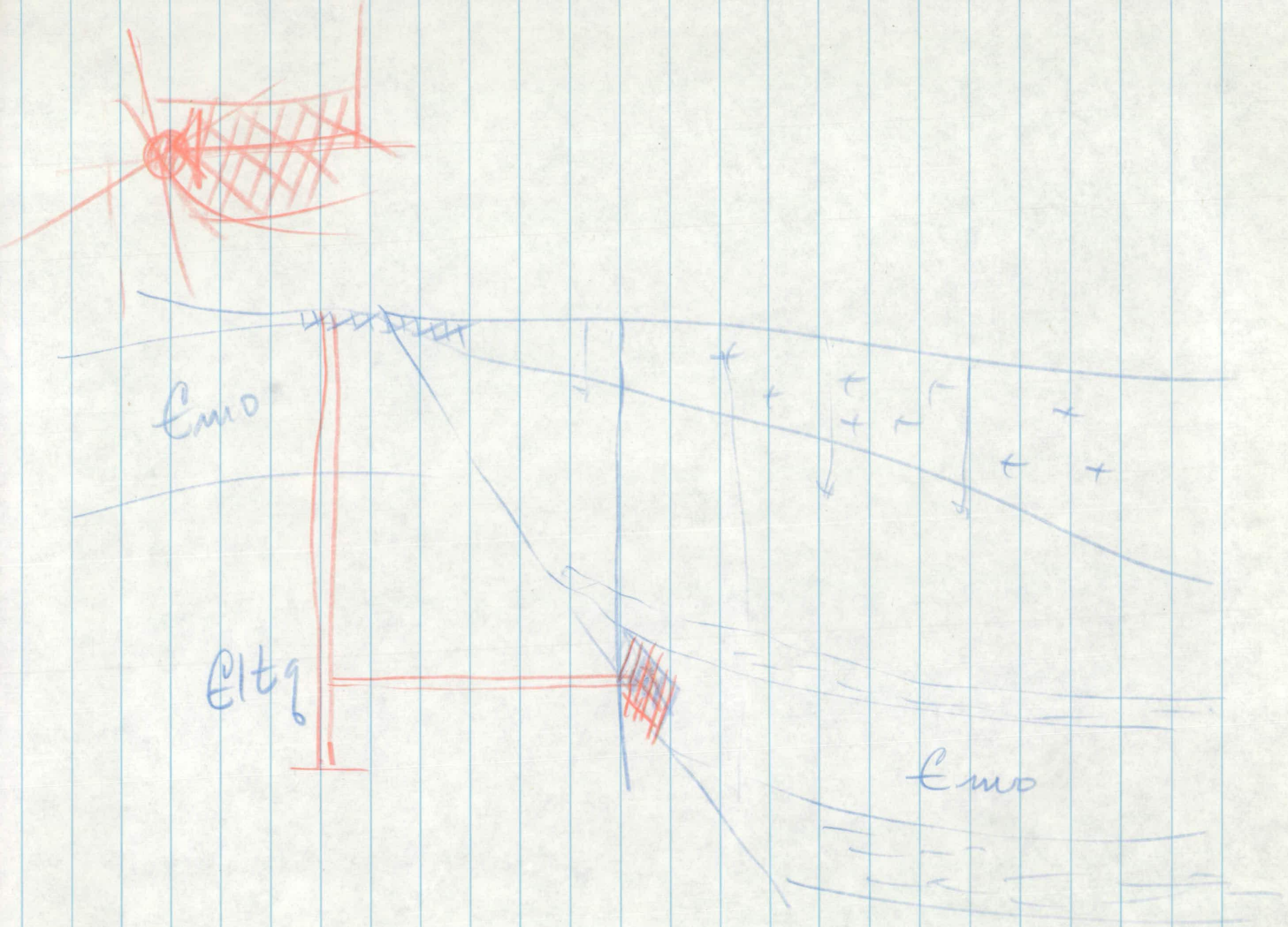
N

Station in Bluebell formation which is sanded, iron stained shattered limestone with calcite blebs and stringers and penecontemporanous breccias, walls of shaft and portions of station were sampled by Sam Smith, K.C.C. geologist and contained anomalous values in silver, lead, and zinc.

① ② ③ - 3 Proposed Diamond Drill Holes 500 Feet at +5%

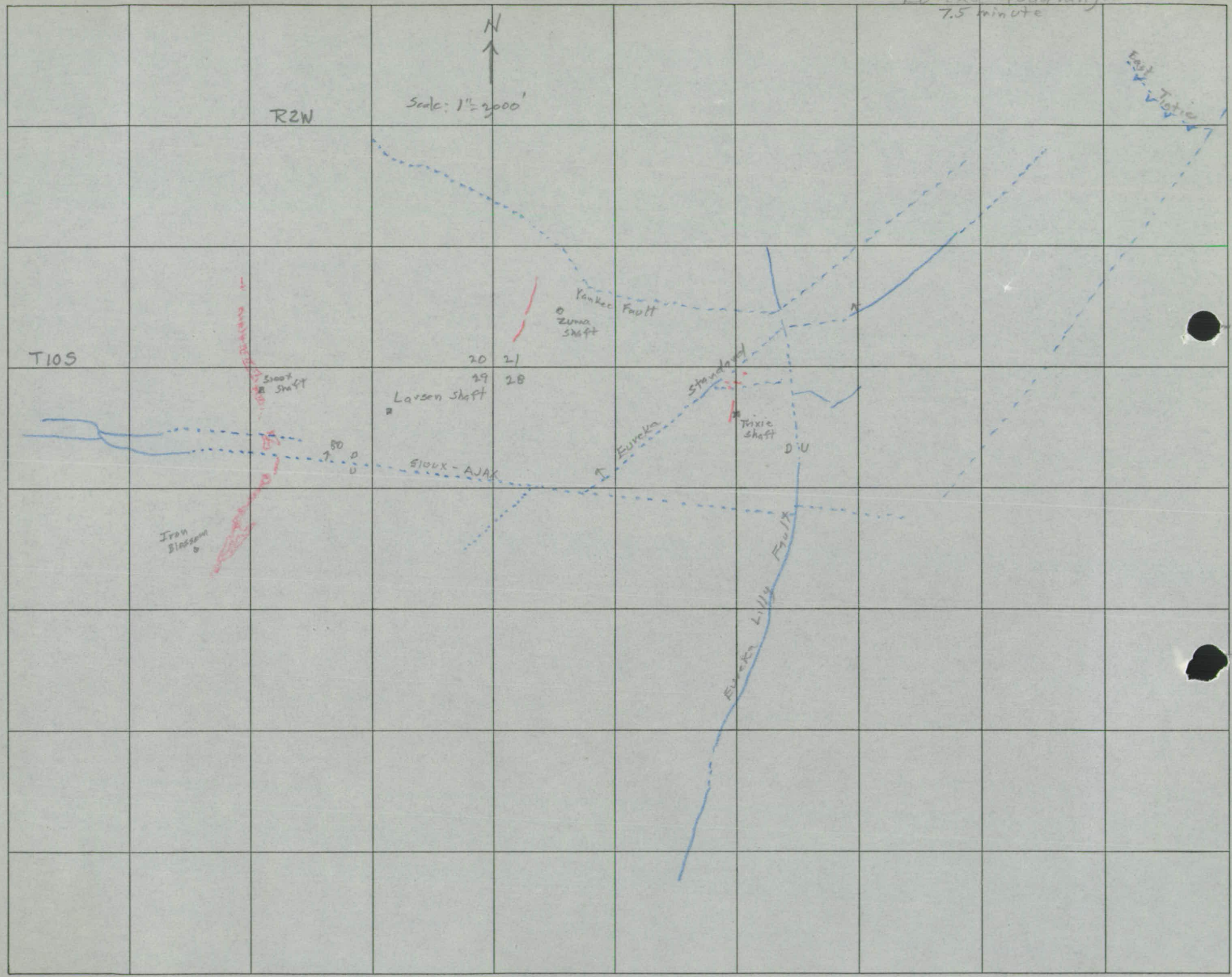
Hal Morris sketch

Hal Morris sketch

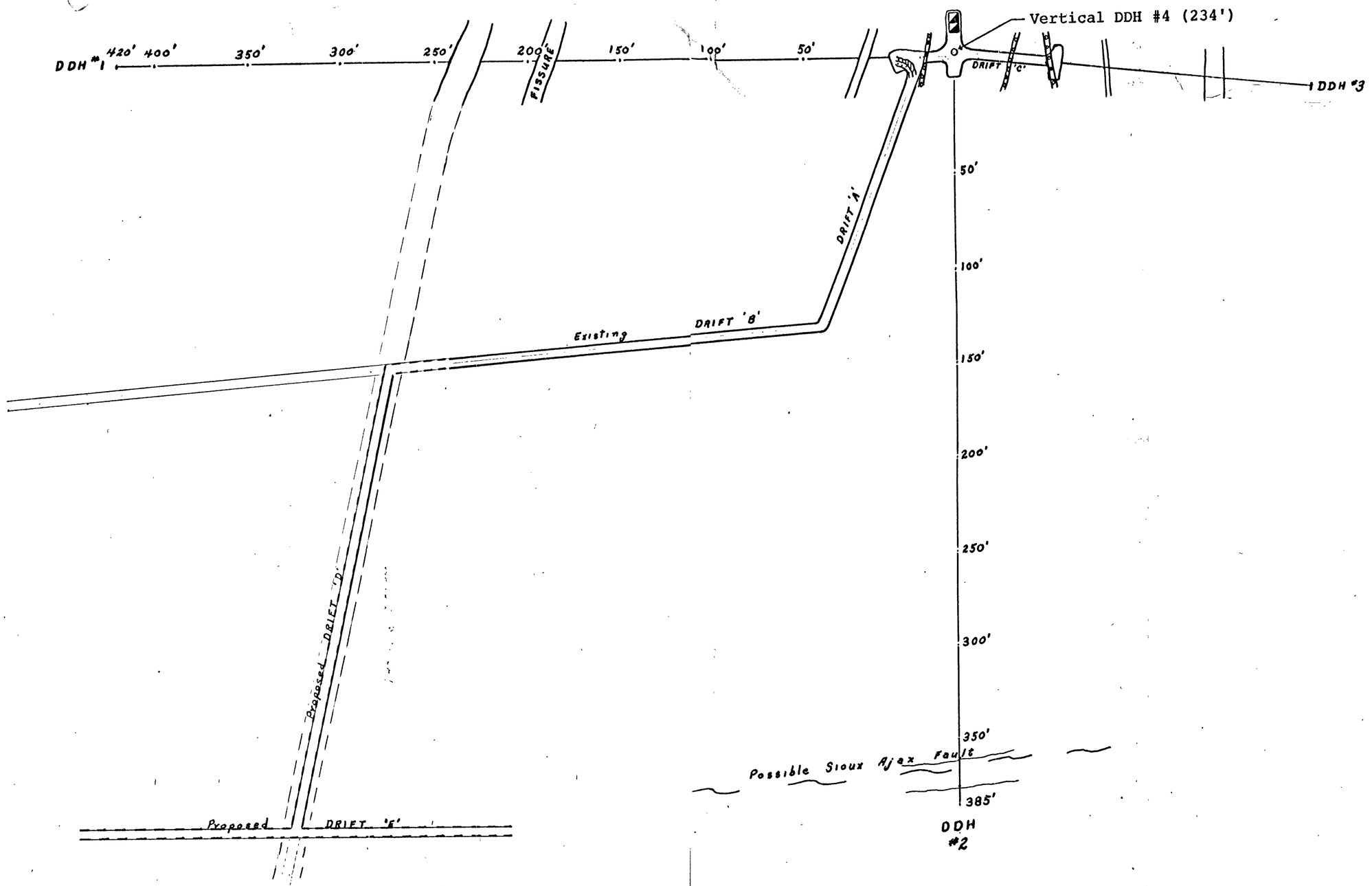


Val Morris sketch

Eureka Quadrangle
7.5 minute



K+E ALBANENE 195M TRACING PAPER 68130



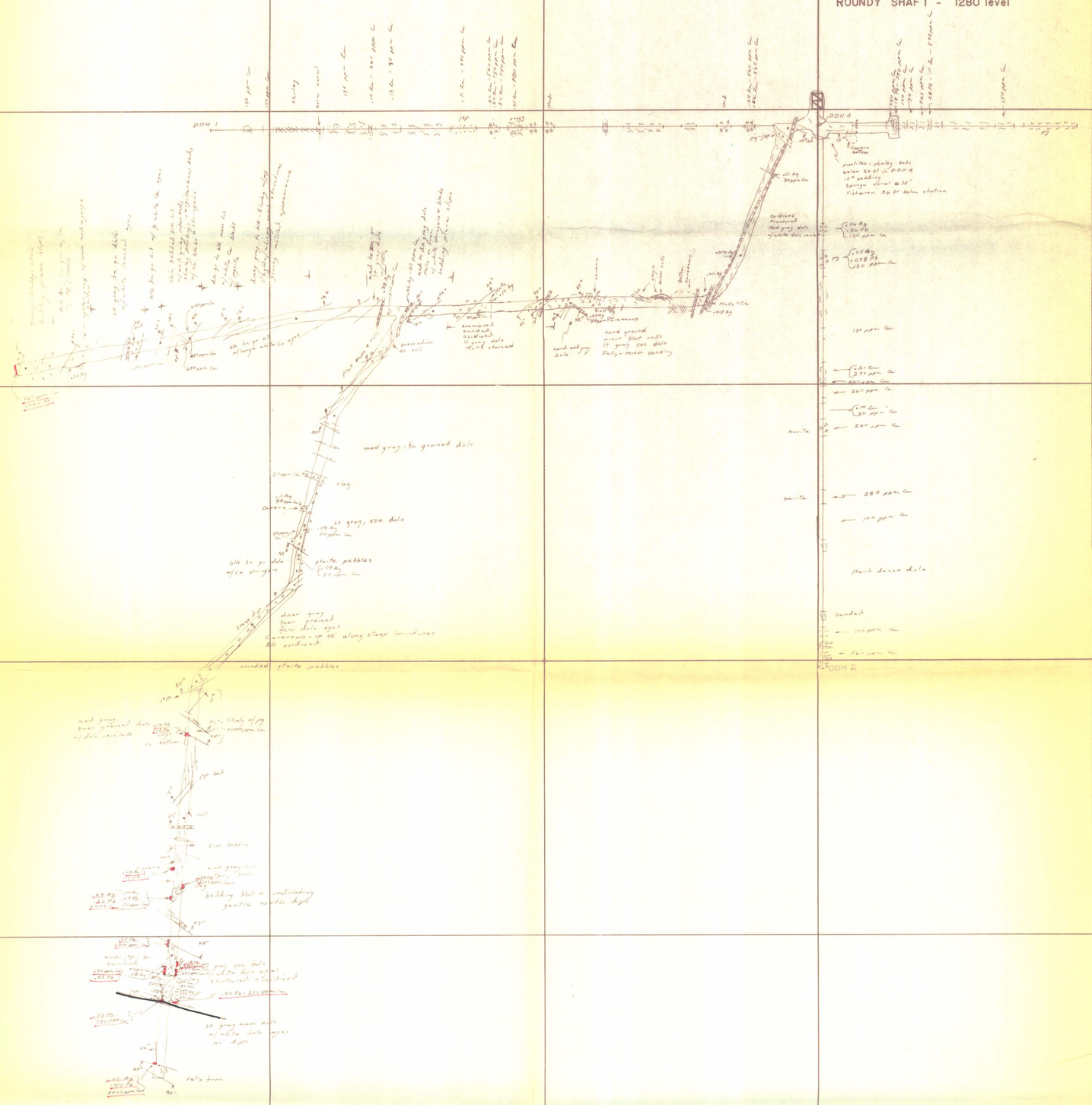
// Fissures or Mineralization

'D' Proposed Drift

'E' Proposed Drift to be located by operator and written OME consent on strongest fissure, towards Sioux Ajax Fault Zone.

LARSEN LEASE
OME 6646
Scale: 1" = 50'
May 18, 1971

OME 6646-LARSEN
CROWN POINT & EAST CROWN POINT LEASE
TINTIC MINING DISTRICT
UTAH CO., UTAH
1" = 40'
R.C.B.



CROWN POINT & EAST CROWN POINT LEASE
TINTIC MINING DISTRICT
UTAH CO., UTAH
1" = 40'
R.C.B.

R 2 W

IRON KING No 2

IRON KING No 1

N

BECK
50,839 TONS
Ag 4.7
Pb 20.6

ORIGINAL IRON KING

CROWN POINT No 2

IRON BLOSSOM ORE ZONE

CROWN POINT CONSOLIDATED MINING

MINNIE MOORE
4,953 TONS
Ag 10.7
Cu 2.9

COLORADO No 1
244,608 TONS
Ag 24.7
Pb 2.6

CROWN POINT
Pebble Dikes
Breccias Fissures
Jasperoid
Manganese Oxides

BURRISTON CANYON ROAD

1/2 Mi Eureka Std Mine
2 Mi Burgin Mine

ZUMA

CROWN POINT No 3

T 10 S

CROWN POINT No 1

20 21
29 28

GALENA IN THE VICTORIA QUARTZITE

GALENA
CP 1

SIOUX
76,226 TONS
Ag 12.4
Pb 16.5

PROPOSED SHAFT

B'

IRON BLOSSOM No 3
645,337 TONS
Au .01
Ag 26.3
Cu .06
Pb .35

1300 ft Level

CP 2

Elev. 6680
Bubble Zone penetrated
1/24 - 1/27

EUREKA STANDARD FAULT

TRIXIE

TRUMP

MANHATTAN
249 TONS
Ag 13.0
Cu 1.5
Pb 0.3

SIOUX AJAX FAULT

EAST CROWN POINT CONSOLIDATED MINING COMPANY

SOUTH STANDARD

DIAMOND DRILL HOLE NUMBER ① WEST
#1 - Fissure 14½-19½ Feet
#2 - Fissure 185-195 "
#3 - Fissure 225-242 "
#4 - End of D D Hole

DIAMOND DRILL HOLE NUMBER ② SOUTH
#1 - Edge of Porphyry 360' — 372' END OF HOLE 385'

UTAH COUNTY
JUAB COUNTY

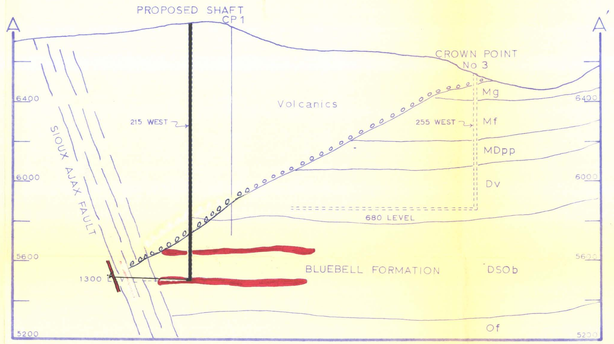
R 2 W

CROWN POINT & EAST CROWN POINT

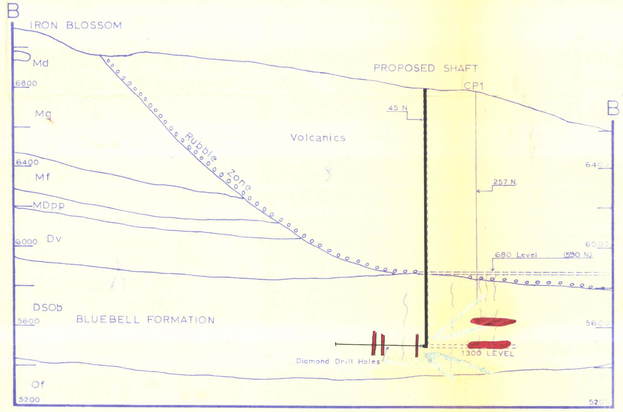
TINTIC MINING DISTRICT, EUREKA, UTAH
UTAH COUNTY, UTAH
WESTERN STATES MINING, INC

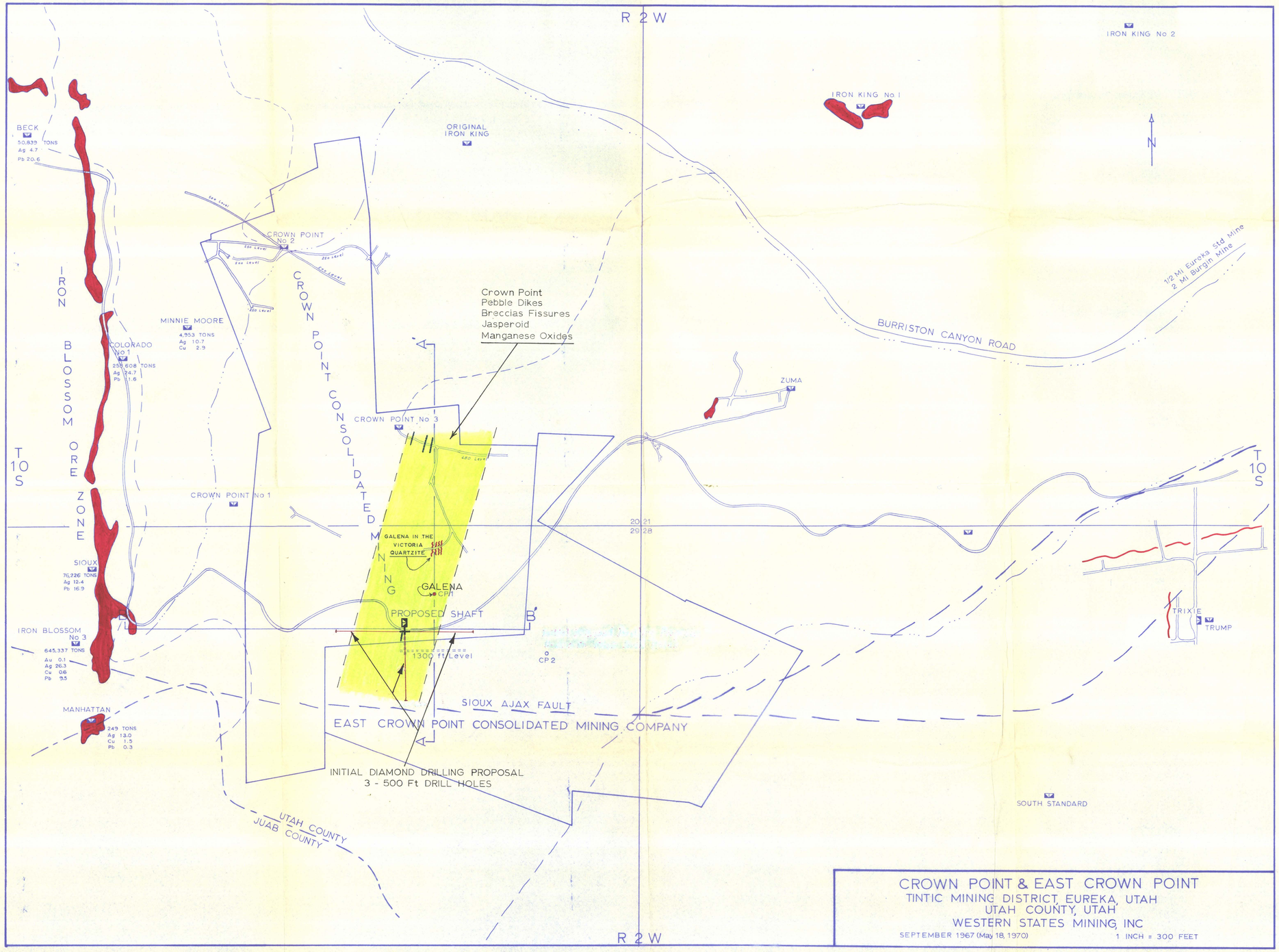
SEPTEMBER 1967 (May 18 1970)

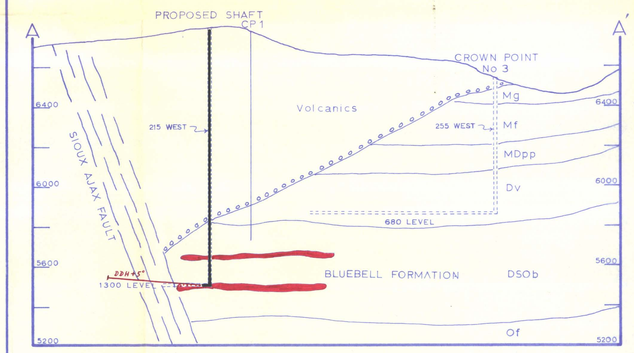
1 INCH = 300 FEET



CROSS SECTIONS
SCALE 1in 300ft

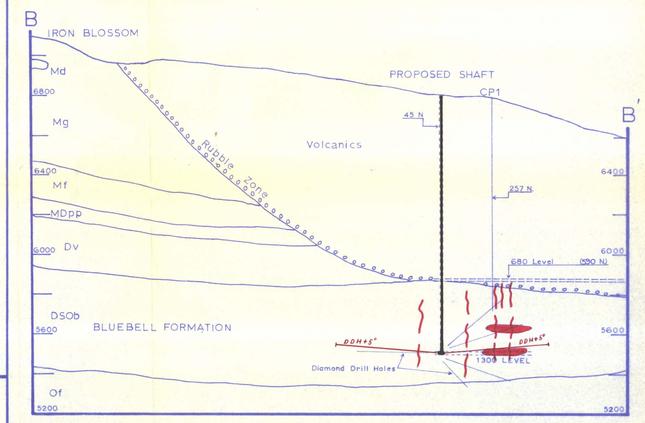






CROSS SECTIONS

SCALE 1in 300ft



CROWN POINT & EAST CROWN POINT

TINTIC MINING DISTRICT, EUREKA, UTAH

UTAH COUNTY, UTAH

WESTERN STATES MINING, INC

SEPTEMBER 1967 (May 18, 1970)

1 INCH = 300 FEET